DES
DEPARTMENT OF ENVIRONMENT AND SUSTAINABILITY
air quality desert conservation PROGRAM sustainability

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PART 70 OPERATING PERMIT TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR:
Operating Permit Renewal

PREPARED BY:
Broadbent and Associates Incorporated

FOR:
Gypsum Resources LLC

Source Name: Blue Diamond Hill Gypsum
Source ID: 17286

SOURCE LOCATION:
8360 Nevada Highway 159
Blue Diamond, Nevada 89004

SIC Code 1499: Miscellaneous Nonmetallic Minerals, Except Fuels
NAICS Code 212399: All Other Nonmetallic Mineral Mining

Application Received: May 12, 2022

TSD Date: **September 24, 2024**

Will Johnson

EXECUTIVE SUMMARY

Blue Diamond Hill Gypsum is a gypsum processing operation, located in Hydrographic Area of 212 (Las Vegas Valley). Hydrographic Area 212 is currently designated as an attainment area for all regulated air pollutants except ozone, for which it was classified as a moderate nonattainment area on January 5, 2023.

Blue Diamond Hill Gypsum is not a categorical source, as defined in AQR 12.2.2(j), and as a result, the fugitive emissions from stockpiles, haul roads, drilling, blasting, and overburden removal will not be taken into account, when calculating and/or determining the emissions for source status.

Without the fugitive emissions taken into account, Blue Diamond Hill Gypsum is a major Part 70 source of NO_x, a synthetic minor source of PM_{10}, a synthetic minor source of $PM_{2.5}$, and a minor source of CO, SO_2, VOC, and HAP.

Blue Diamond Hill Gypsum is also a source of greenhouse gases (GHG). DAQ will continue to require the sources to estimate their GHG potential to emit in terms of each individual pollutant (CO_2, CH_4, N_2O, SF_6 etc). The TSD includes these PTEs for informational purposes.

After a technical review of the application (submitted by Blue Diamond Hill Gypsum), DAQ is issuing a Part 70 Operating Permit Renewal. This will include a reconfiguration of various emission units at the mineral processing plant as well as incorporating the new emission units from the authority to construct, issued on August 16, 2023.

The aggregate equipment at Blue Diamond Hill Gypsum will be subject to the federal requirements of 40 CFR Part 60 Subpart OOO and the continuous-duty generators will be subject to federal requirements of 40 CFR Part 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.

Blue Diamond Hill Gypsum will continue to be designated as an existing Part 70 stationary source, with the Source PTE provided below in Table 1.

Table 1. Source PTE – Summary (tons per year)

Pollutants	PM_{10}	$PM_{2,}5$	NO_x	CO	SO_2	VOC	HAP	GHG
PTE (without fugitives)	32.54	8.77	100.76	34.83	0.12	12.89	0.19	10,233.57
PTE (with fugitives)	138.57	20.22	103.14	47.12	0.12	12.89	0.19	10,233.57

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I. ACRONYMS

Table I-1. List of Acronyms

Acronym	Term
ANFO	ammonium nitrate-fuel oil
AQR	Clark County Air Quality Regulation
ATC	Authority to Construct
BLM	Bureau of Land Management
CF	control factor
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CD	control device
DAQ	Division of Air Quality
DES	Clark County Department of Environment and Sustainability
DOM	date of manufacture
EF	emissions factor
EPA	U.S. Environmental Protection Agency
EU	emission unit
g/dscm	gram per dry standard cubic meter
gr/dscf	grains per dry standard cubic feet
GHG	greenhouse gas
HA	Hydrographic Area
HAP	hazardous air pollutant
hp	horsepower
kW	kilowatts
MMBtu/hr	Million British Thermal Units per Hour
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NO_X	nitrogen oxide(s)
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
PSD	prevention of significant deterioration
PTE	potential to emit
RACT	Reasonably Achievable Control Technology
SCC	Source Classification Code
SIC	Standard Industrial Classification
SIP	State Implementation Plan

Acronym	Term
SO_2	sulfur dioxide
SOP	standard operating procedure
TDS	Total Dissolved Solids
TPH	tons per hour
UTM	Universal Transverse Mercator
VGF	vibrating grizzly feeder
VMT	vehicle miles traveled
VOC	volatile organic compound

II. SOURCE DESCRIPTION

A. GENERAL

Permittee:	Blue Diamond Hill Gypsum LLC
Mailing Address:	8360 Nevada Highway 159 Blue
	Diamond, Nevada 89004 James
Responsible Official:	Rhodes
Phone Number:	(702) 493-8111

B. SOURCE DESCRIPTION

Blue Diamond Hill Gypsum is a gypsum processing operation, consisting of various aggregate equipment, a wash plant, an overburden process, drilling, blasting, stockpiles, paved haul roads, unpaved haul roads, continuous-duty generators, and a continuous-duty water pump. The source also has eight 13-hp diesel light stands, which will be designated as insignificant activities.

C. PERMITTING HISTORY

This is a Part 70 Operating Permit Renewal for Blue Diamond Hill Gypsum. Table II-C-1 shows the permitting history for Blue Diamond Hill Gypsum, with a sequential list of all issued permitting actions.

Table II-C-1. Permit History

Issuance Date	Description
November 13, 2017	Initial Part 70 Operating Permit
November 14, 2019	Significant Revision to Part 70 Operating Permit
September 8, 2020	Administrative Revision to Part 70 Operating Permit
January 26, 2022	Part 70 OP Reopening for Cause
May 4, 2022	Authority to Construct Permit
September 7, 2023	Authority to Construct Permit

D. PERMITTING ACTION

The permitting action for Blue Diamond Hill Gypsum is a Part 70 Operating Permit Renewal, which will include the following:

- incorporating the authority to construct (issued on August 16, 2023) which will include the addition of a wash plant (EU: A82, A83, A85, A86a, A86b, A86c, A86d) and four continuous-duty generators (EU: C12, C13, C14, C15)
- incorporating various reconfigurations to the mineral processing plant

- removing four continuous-duty generators (EUs: C06, C09, C10, and C11)
- updating the emissions for permit applicability and the source potential to emit, based on the changes in this permitting action

E. ALTERNATIVE OPERATING SCENARIO

None proposed.

III. EMISSIONS INFORMATION

A. LIST OF EMISSION UNITS

Table III-A-1 is a comprehensive list of the emission units at this stationary source and covered by this Part 70 Operating Permit.

Table III-A-1. Summary of Emission Units

EU	Rating	Description	Make	MN	SN
Gypsum Processing Plant					
A00		Truck Unloading			
A01	800 TPH	Loader to VGF			
		VGF [1]			
A02		VGF Underbelt			
A03		Reject Conveyor			
A39	350 TPH	Reject Screen [1]	Terex	TSV820338	TRXV8203 VDUEE1817
A04		Screen Underbelt			
A06		Recirc Conveyor (to VGF)			
A09		Reject Underbelt			
A33		Reject Stacker			
A05	760 TPH	Jaw Crusher (with underbelt) [1]	Terex	CRJ3255	TRX3255 JK0KMH1495
A07		Conveyor [1]			
A11		West Conveyor			
A08	800 TPH	West Screen [1]	Terex	TSV820338	TRXV8203 JDUHG2690
A12		West Underbelt			
A48		Cone Conveyor			

EU	Rating	Description	Make	MN	SN
A34	250 TPH	Cone Crusher [1]	Terex	MVP450x	
A35		Cone Underbelt			
A40		Recirc Conveyor #2			
A36a		Conveyor System (2 belts)			
A10a		Chute (enclosed)			
A36b		Conveyor System (5 belts)			
A38		Stacker 2"			
A41a		Conveyor System (2 belts)			
A41b		Conveyor System (5 belts)			
A79		Stacker 1/8"			
Wash Plant					
A82		Conveyor System (with 2 belts)			
A83	300 TPH	VSI Crusher (with underbelt) [1]			
A85		Loader			
A81a		Wash Plant	Superior	Aggredry	
A81b		Stacker			
A81c		Stacker			
A81d		Stacker			
A86a		Wash Plant			
A86b		Stacker			
A86c		Stacker			
A86d		Stacker			
Truck Loading					
E01		Loader to Hopper			
E02		Conveyor to Conveyor			
		Conveyor to Truck			
E03		Loader to Hopper			
E04		Conveyor to Conveyor			
		Conveyor to Truck			

EU	Rating	Description	Make	MN	SN
F01		Loader to Hopper			
F02		Conveyor to Conveyor			
		Conveyor to Truck			
Miscellaneous					
A001	Blasting				
A002	Overburden Removal				
A003	Drilling				
A32	Stockpiles – 25.0 acres				
B01	Unpaved Haul Road (RT = 4.00 miles) – BLM				
B02	Unpaved Haul Road (RT = 1.00 miles) – On-site				
B03	Unpaved Haul Road (RT = 0.80 miles) – Overburden				
B04	Unpaved Haul Road (RT = 1.20 miles) – Raw Material				
Power Generation					
C01	1,500 kW	Continuous-Duty Generator	Caterpillar	XQ1500	G4W00376
	2,206 hp	Diesel Engine DOM 2007	Caterpillar	3512	EBG00282
C07	60 kW	Continuous-Duty Water Pump	John Deere	4045DF150	N/A
	80 hp	Diesel Engine DOM 1998	Power Prime	98DV150	372870
C12	< 300 hp	Continuous-Duty Generator	Various	Various	Various
		Diesel Engine DOM 2007+	Various	Various	Various
C13	< 300 hp	Continuous-Duty Generator	Various	Various	Various
		Diesel Engine DOM 2007+	Various	Various	Various
C14	< 300 hp	Continuous-Duty Generator	Various	Various	Various
		Diesel Engine DOM 2007+	Various	Various	Various

EU	Rating	Description	Make	MN	SN
C15	≤ 500 hp	Continuous-Duty Generator	Various	Various	Various
		Diesel Engine DOM 2007+	Various	Various	Various

[1] Emission unit equipped with a baghouse.

The following units or activities listed in in Table II-A-2 are present at this source, but are deemed insignificant.

Table III-A-2. List of Insignificant Activities

Rating	Description	Make	Model
13 hp	Light Plant Diesel Engine DOM 2006	Kubota	D905BGES01
13 hp	Light Plant Diesel Engine DOM 2006	Kubota	D905BGES01
13 hp	Light Plant Diesel Engine DOM 2006	Kubota	D905BGES01
13 hp	Light Plant Diesel Engine DOM 2011	Mitsubishi	L3E
13 hp	Light Plant Diesel Engine DOM 2011	Mitsubishi	L3E
13 hp	Light Plant Diesel Engine DOM 2007	Mitsubishi	L3E
13 hp	Light Plant Diesel Engine DOM 2007	Mitsubishi	L3E
13 hp	Light Plant Diesel Engine DOM 2008	Mitsubishi	L3E

B. EMISSIONS FOR PERMIT APPLICABILITY

Major source (Title V) permitting applicability is determined by calculating the emissions for all proposed emission units using 8,760 hours of operation, including the new emission units added in this permitting action. The fugitive emissions from drilling, blasting, stockpiles, paved haul roads, unpaved haul roads, and overburden removal are not included in the emissions for permit applicability because Blue Diamond Hill Gypsum is not classified as a categorical source, as defined in AQR 12.2.2(j).

As per Table III-B-1, Blue Diamond Hill Gypsum exceeds the permitting thresholds for PM_{10}, $PM_{2.5}$, and NO_x, CO and VOC.

Table III-B-1. Emissions for Permit Applicability – Summary (tons per year)

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHG
A00	7,008,000 tons	280.32	21.02	0	0	0	0	0	0
A01	7,008,000 tons	280.32	21.02	0	0	0	0	0	0
A39	3,066,000 tons	122.64	9.20	0	0	0	0	0	0
A33	3,066,000 tons	61.32	16.86	0	0	0	0	0	0
A05	6,657,600 tons	432.74	83.22	0	0	0	0	0	0
A11	6,657,600 tons	33.29	9.99	0	0	0	0	0	0
A08	7,008,000 tons	280.32	21.02	0	0	0	0	0	0
A34	2,190,000 tons	142.35	27.38	0	0	0	0	0	0
A36a	6,657,600 tons	33.29	9.99	0	0	0	0	0	0
A36b	7,008,000 tons	35.04	10.51	0	0	0	0	0	0
A36b	7,008,000 tons	35.04	10.51	0	0	0	0	0	0
A36b	7,008,000 tons	35.04	10.51	0	0	0	0	0	0
A36b	7,008,000 tons	35.04	10.51	0	0	0	0	0	0
A36b	7,008,000 tons	35.04	10.51	0	0	0	0	0	0
A38	7,008,000 tons	140.16	38.54	0	0	0	0	0	0
A82	2,628,000 tons	13.14	3.94	0	0	0	0	0	0
A83	2,628,000 tons	170.82	32.85	0	0	0	0	0	0
A85	2,628,000 tons	52.56	7.88	0	0	0	0	0	0
C01	8,760 hours	0.85	0.85	140.17	18.53	0.12	3.41	0.11	10,848.50
C07	8,760 hours	0.77	0.77	10.86	2.34	0.01	0.88	0.01	393.43

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHG
C12	8,760 hours	0.43	0.43	8.63	7.56	0.02	3.30	0.04	1,475.31
C13	8,760 hours	0.43	0.43	8.63	7.56	0.02	3.30	0.04	1,475.31
C14	8,760 hours	0.43	0.43	8.63	7.56	0.02	3.30	0.04	1,475.31
C15	8,760 hours	0.72	0.72	14.39	12.60	0.03	5.51	0.06	2,458.86
E01	2,628,000 tons	52.56	7.88	0	0	0	0	0	0
E02	2,628,000 tons	13.14	3.94	0	0	0	0	0	0
E02	2,628,000 tons	13.14	3.94	0	0	0	0	0	0
IA	8,760 hours	0.05	0.05	0.50	0.19	0.01	0.14	0.01	464.24
IA	8,760 hours	0.05	0.05	0.50	0.19	0.01	0.14	0.01	464.24
IA	8,760 hours	0.05	0.05	0.50	0.19	0.01	0.14	0.01	464.24
IA	8,760 hours	0.02	0.02	0.50	0.07	0.01	0.14	0.01	464.24
IA	8,760 hours	0.02	0.02	0.50	0.07	0.01	0.14	0.01	464.24
IA	8,760 hours	0.02	0.02	0.50	0.07	0.01	0.14	0.01	464.24
IA	8,760 hours	0.02	0.02	0.50	0.07	0.01	0.14	0.01	464.24
IA	8,760 hours	0.02	0.02	0.50	0.07	0.01	0.14	0.01	464.24
Total Emissions		2,301.19	375.10	195.31	57.07	0.30	20.82	0.38	21,840.64

C. SOURCE PTE

The source PTE was calculated using the operational limits, proposed by the source. In addition, the source PTE will include fugitive emissions from drilling, blasting, stockpiles, paved haul roads, unpaved haul roads, and overburden removal.

With the PTE of the new emission units taken into account (see Table III-C-1), Blue Diamond Hill Gypsum will maintain its designation as a major source of NO_x, a synthetic minor source of PM_{10}, a synthetic minor source of $PM_{2.5}$, and a minor source of CO, SO_2, VOC, and HAP.

Any stationary source that actually emits a total of 25 tons or more of NO_x and/or 25 tons or more of VOCs is required to submit an annual emissions statement for both pollutants. The statement must provide actual annual NO_x and VOC emissions from all activities, including emission units, insignificant activities, and exempt activities, and will be separate from the emissions inventory (i.e., calculated annual emissions) report permittees submit each year. This requirement shall be a permit condition for any minor source with the potential to emit at least 20 tons of NO_x and/or VOCs, since those sources are the most likely to trigger it.

Table III-C-1. Source PTE – Summary (tons per year)

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHG
A00	1,280,000 tons	5.12	0.38	0	0	0	0	0	0
A01	1,280,000 tons	0.51	0.04	0	0	0	0	0	0
A39	560,000 tons	0.22	0.02	0	0	0	0	0	0
A33	560,000 tons	2.07	0.57	0	0	0	0	0	0
A05	1,280,000 tons	0.83	0.16	0	0	0	0	0	0
A11	1,280,000 tons	0.64	0.19	0	0	0	0	0	0
A08	1,280,000 tons	0.51	0.04	0	0	0	0	0	0
A34	400,000 tons	0.26	0.05	0	0	0	0	0	0
A36a	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A36b	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A36b	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A36b	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A36b	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A36b	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
A38	1,280,000 tons	4.74	1.30	0	0	0	0	0	0
A82	400,000 tons	0.20	0.06	0	0	0	0	0	0
A83	400,000 tons	0.26	0.05	0	0	0	0	0	0
A85	400,000 tons	0.80	0.12	0	0	0	0	0	0
A001	600 tons ANFO	2.88	0.17	2.38	12.29	0	0	0	0
A001	200 blasts								
A002	3,400,000 tons	13.60	2.04	0	0	0	0	0	0
A003	14,000 holes	4.76	0.28	0	0	0	0	0	0
A32	25.0 acres	7.57	1.14	0	0	0	0	0	0
B01	96,000 miles	36.34	3.68	0	0	0	0	0	0
B02	24,000 miles	9.08	0.92	0	0	0	0	0	0
B03	33,600 miles	12.72	1.29	0	0	0	0	0	0
B04	50,400 miles	19.08	1.93	0	0	0	0	0	0

EU	Condition	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	GHG
C01	4,200 hours	0.41	0.41	67.20	8.89	0.06	1.63	0.05	5,201.33
C07	4,200 hours	0.37	0.37	5.21	1.12	0.01	0.42	0.01	188.64
C12	6,500 hours	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1,094.69
C13	6,500 hours	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1,094.69
C14	8,760 hours	0.43	0.43	8.63	7.56	0.02	3.30	0.04	1,475.31
C15	4,200 hours	0.35	0.35	6.90	6.04	0.01	2.64	0.03	1,178.91
E01	1,280,000 tons	4.74	0.71	0	0	0	0	0	0
E02	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
E02	1,280,000 tons	1.18	0.36	0	0	0	0	0	0
Total Emissions		138.57	20.22	103.14	47.12	0.12	12.89	0.19	10,233.57

D. EMISSIONS INCREASE

For this Part 70 Operating Permit Renewal (and in accordance AQR 12.3), every criteria pollutant has an emission increase that is below each respective major source threshold for significance (see Table III-D-1). As a result, Blue Diamond Hill Gypsum will not be required to submit a RACT analysis for this permitting action.

Table III-D-1. Emissions Increase (including fugitives)

	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	H_2S	Pb
Significant Threshold 12.3.2(dd)	15	10	40	100	40	40	5	0.6
Renewal Permit	138.57	20.22	103.14	47.12	0.12	12.89	0	0
Existing Permit (including 9/7/2023 ATC)	151.92	24.16	100.72	31.96	0.13	13.07	0	0
Total Δ PTE	-13.35	-3.94	2.42	15.16	-0.01	-0.18	0	0
Significant Threshold Exceeded	No	No	No	No	No	No	No	No

E. OPERATIONAL LIMITS

The permittee shall not exceed the operational limits, provided below in Table III-E-1.

Table III-E-1. Operational Limits

EU	Description	Throughput	Frequency
A Series	Gypsum Processing Plant	1,280,000 tons	in any consecutive 12 months
A Series	Wash Plant	400,000 tons	in any consecutive 12 months
E Series	Truck Loading	1,280,000 tons	in any consecutive 12 months
F Series			
A001	Blasting	200 blasts	in any consecutive 12 months
A002	Overburden Removal	3,400,000 tons	in any consecutive 12 months
A003	Drilling	14,000 holes	in any consecutive 12 months
A32	Stockpiles	25 acres	at any given time
B01-B04	Unpaved Haul Road	204,000 miles	in any consecutive 12 months
C01	Continuous-Duty Generator	4,200 hours	in any consecutive 12 months
C07	Continuous-Duty Generator	4,200 hours	in any consecutive 12 months
C12	Continuous-Duty Generator	6,500 hours	in any consecutive 12 months
C13	Continuous-Duty Generator	6,500 hours	in any consecutive 12 months
C14	Continuous-Duty Generator	8,760 hours	in any consecutive 12 months
C15	Continuous-Duty Generator	4,200 hours	in any consecutive 12 months

F. CONTROL TECHNOLOGY

Gypsum Processing Operation

Blue Diamond Hill Gypsum will maintain a minimum moisture content of 1.5% which will maintain at least 81.5 percent control on PM_{10} emissions while the gypsum processing equipment is in operation.

Mineral Processing Equipment

Blue Diamond Hill Gypsum will maintain sufficient moisture content which will maintain at least 90 percent control on PM_{10} emissions while the mineral processing equipment is in operation.

Unpaved Haul Roads

Blue Diamond Hill Gypsum will apply sufficient water as well as a chemical suppressant on unpaved haul roads, to control fugitive dust emissions at least 90%.

Baghouse

EUs: A05, A07, A08, A34, and A83 are each equipped with a baghouse, controlling particulate emissions while the respective emission units are in operation (see Table III-F-1). The baghouse will maintain a particulate control efficiency of at least 99.0 percent.

EUs: A01 and A39 are each equipped with a baghouse, controlling particulate emissions while the respective emission units are in operation (see Table III-F-1). The baghouse will maintain a particulate control efficiency of at least 99 percent.

Table III-F-1. Summary of Add-On Control Devices

EU	Device Type	Manufacturer	MN	Pollutant
A05, A07, A08, A34, A83	Baghouse 1	Southern Felt	120TA12	PM_{10} / $PM_{2.5}$
A01, A39	Baghouse 2	Southern Felt	80TA12	PM_{10} / $PM_{2.5}$

G. MONITORING

Standard monitoring requirements for opacity, mineral processing equipment, gypsum processing equipment (baghouse), and engines will be included in the Part 70 Operating Permit.

In addition, Blue Diamond Hill Gypsum will monitor, each day of operation, the throughput of the mineral processing equipment and the gypsum processing equipment.

H. PERFORMANCE TESTING

Blue Diamond Hill Gypsum will be subject to the performance testing requirements, outlined in the federal requirements of 40 CFR Part 60 Subpart OOO. This will include performance testing on the mineral processing equipment as well as the baghouses.

The emission limits for the baghouses will be based on the calculations, provided below in Table III-H-1, Table III-H-2, Table III-H-3, and Table III-H-4.

Table III-H-1. PM_{10} Emission Limits for Baghouse 1

EU	Description	Rating	EF	CF	lb/hr
A01	VGF	800 TPH	0.08 lb/ton	0.01	0.64
A39	Reject Screen	350 TPH	0.08 lb/ton	0.01	0.28
Emission Limit for PM_{10}					0.92

Table III-H-2. $PM_{2.5}$ Emission Limits for Baghouse 1

EU	Description	Rating	EF	CF	lb/hr
A01	VGF	800 TPH	0.006 lb/ton	0.01	0.05
A39	Reject Screen	350 TPH	0.006 lb/ton	0.01	0.02
Emission Limit for $PM_{2.5}$					0.07

Table III-H-3. PM_{10} Emission Limits for Baghouse 2

EU	Description	Rating	EF	CF	lb/hr
A05	Crusher	760 TPH	0.13 lb/ton	0.01	0.99
A08	Screen	800 TPH	0.08 lb/ton	0.01	0.64
A34	Crusher	250 TPH	0.13 lb/ton	0.01	0.33
A83	Crusher	300 TPH	0.13 lb/ton	0.01	0.39
Emission Limit for PM_{10}					2.43

Table III-H-4. $PM_{2.5}$ Emission Limits for Baghouse 2

EU	Description	Rating	EF	CF	lb/hr
A05	Crusher	760 TPH	0.025 lb/ton	0.01	0.19
A08	Screen	800 TPH	0.006 lb/ton	0.01	0.05
A34	Crusher	250 TPH	0.025 lb/ton	0.01	0.06
A83	Crusher	300 TPH	0.025 lb/ton	0.01	0.08
Emission Limit for $PM_{2.5}$					0.40

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

DAQ has determined that the following public laws, statutes, and associated regulations are applicable:

1. The Clean Air Act, as amended (42 U.S.C. § 7401, et seq.);

2. Title 40 of the CFRs, including 40 CFR Part 70 and others;

3. Chapter 445 of the Nevada Revised Statutes, Sections 401 through 601;

4. Portions of the AQRs included in the state implementation plan (SIP) for Clark County Nevada. SIP requirements are federally enforceable. All requirements from ATC permits issued by DAQ are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and

5. Portions of the AQRs not included in the SIP. These locally applicable requirements are locally enforceable only.

B. FEDERALLY APPLICABLE REGULATIONS

1. Blue Diamond Hill Gypsum will be subject the federal requirements of 40 CFR Part 60 Subpart IIII because the continuous-duty generators (EUs: C01, C12, C13, C14, and C15) were each manufactured after the date of applicability – April 1, 2006.

a. Blue Diamond Hill Gypsum shall comply with the emissions standards in 40 CFR Part 89.112–113 for the applicable compression ignition engines (EUs: C01, C12, C13, C14, and C15) for the same model year and maximum engine power, provided in Table IV-B-1.

Table IV-B-1. Emissions Standards for Continuous-Duty Generators

EU	Power	PM	NO_x	CO	NMHC
C01	kW > 560	0.20	6.08	3.50	0.32
C12	130 ≤ kW < 225	0.20	3.80	3.50	0.20
C13	130 ≤ kW < 225	0.20	3.80	3.50	0.20
C14	130 ≤ kW < 225	0.20	3.80	3.50	0.20
C15	225 ≤ kW < 450	0.20	3.80	3.50	0.20

2. Blue Diamond Hill Gypsum will be subject to the federal requirements of 40 CFR Part 63 Subpart ZZZZ because the continuous-duty generators (EUs: C01, C12, C13, C14, and C15) and the continuous-duty water pump (EU: C07) constitute a stationary RICE, located at an area source of HAP emissions.

    a. The continuous-duty generators (EUs: C01, C12, C13, C14, and C15) and the continuous-duty water pump (EU: C07) will meet all of the federal requirements of 40 CFR Part 60 Subpart ZZZZ, by adhering to the federal requirements of 40 CFR Part 60 Subpart IIII.

3. Blue Diamond Hill Gypsum will be subject to the federal requirements of 40 CFR Part 60 Subpart OOO (EUs: A05, A06, A07, A11, A08, A12, A48, A34, A35, A40, A36a, A36b, A41a, and A41b) because the source meets the following criteria:

    a. Blue Diamond Hill Gypsum is a fixed sand and gravel plant and/or crushed stone plant with a capacity, as defined in §60.671, of 25 tons per hour or more.

4. Blue Diamond Hill Gypsum will not be subject to the federal requirements of 40 CFR Part 60 Subpart JJJJ because the continuous-duty generators (EUs: C01, C07, C12, C13, C14, and C15) are not spark ignition stationary RICE (reciprocating internal combustion engines).

V. COMPLIANCE

A. COMPLIANCE CERTIFICATION

Monitoring, recordkeeping, and reporting requirements for the gypsum processing operation (EU: A Series), the wash plant (EU: A Series), the truck loading (EUs: E01, E02, E03, E04, F01, and F02), blasting (EU: A001), overburden (EU: A002), drilling (EU: A003), stockpiles (EU: A32), unpaved haul roads (EUs: B01-B04), the continuous-duty water pump (EU: C07), and the continuous-duty generators (EUs: C01, C12, C13, C14, and C15) will be included in the Part 70 Operating Permit and are summarized below in Section V-B.

B. SUMMARY OF MONITORING FOR COMPLIANCE

Blue Diamond Hill Gypsum will monitor, record, and report the following items in the Part 70 Operating Permit:

Opacity

- opacity of the entire facility while it is in operation

Moisture

- moisture content of emission units (where applicable)

Daily, Monthly, and Annual Throughput

- gypsum processing operation (EU: A-Series)
- wash plant (EU: A-Series)
- truck loading (EUs: E01, E02, E03, E04, F01, and F02)
- blasting (EU: A001)
- overburden (EU: A002)
- drilling (EU: A003)
- stockpiles (EU: A32)
- unpaved haul roads (EUs: B01-B04)
- continuous-duty water pump (EU: C07)
- continuous-duty generators (EUs: C01, C12, C13, C14, and C15)

Baghouse

- pressure differential on baghouse, controlling (EUs: A05, A07, A08, A34, and A83)
- pressure differential on baghouse, controlling (EUs: A01 and A39)

Engines

- sulfur content of the diesel fuel, used in the continuous-duty water pump (EU: C07) and the continuous-duty generators (EUs: C01, C06, C12, C13, C14, and C15)

VI. EMISSION REDUCTION CREDITS (OFFSETS)

The source has no federal offset requirements. *[AQR 12.7]*

VII. MODELING

Facility Location: 644600, 3993340 (Universal Transverse Mercator (UTM) NAD83)

Blue Diamond Hill Gypsum is a major source in Hydrographic Area 212 (Las Vegas Valley). Permitted emission units include gypsum processing operations. Since minor source baseline dates for NO_X (October 21, 1988) and SO_2 (June 29, 1979) have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

Air Quality modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (2011 to 2015) of meteorological data from the McCarran Station were used in the model. United States Geological Survey (USGS) National Elevation Dataset (NED) terrain data was used to calculate elevations. Table VII-A-1 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table VII-A-1. PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption (µg/m^3)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	0.30[1]	643750	3993134
SO_2	24-hour	0.08[1]	643750	3993283
SO_2	Annual	0.03	644361	3994272
NO_X	Annual	7.19	644312	3994272

[1] Highest Second High Concentration

VIII. ENVIRONMENTAL JUSTICE

Blue Diamond Hill Gypsum is located in the Las Vegas Valley and approximately 2.5 miles from the nearest residence in Southwest Las Vegas. The nearest residence on tribal land (Paiute) is over 40 miles away from Blue Diamond Hill Gypsum.

Using the EPA's Environmental Justice Screening and Mapping Tool (EJScreen), this permitting action (ATC) will not have an adverse effect on an underserved community when compared to the general population of Las Vegas / Clark County.

In addition, Blue Diamond Hill Gypsum was analyzed, using a radius of 5 miles. With this variable taken into account, EJScreen did not produce any demographic data (ie indexes). This suggests the communities in this area are small in population and widely dispersed.

A screenshot of the demographic index is shown in Attachment 17 and a graph of the environmental justice indexes, comparing the tribal land with the general United States, is provided in Attachment 18. The graph (in Attachment 5) shows that ozone and diesel particulate matter are the two highest risk factors, with percentiles in the 70s for the two indexes.

IX. PUBLIC PARTICIPATION

This permitting action will be published in the local newspaper for the general public to view and comment, pursuant to AQR 12.5.2.17 – renewals.

X. ATTACHMENTS

See calculation sheets as attachments on next page.

Attachment 1. PM10 and PM2.5 Emissions for Permit Applicability

	PM10 Emissions for Permit Applicability							PM2.5 Emissions for Permit Applicability				
	tph	tpy	EF	CF	tpy			tph	tpy	EF	CF	tpy
A00	800	7008000	0.08	1	280.32		A00	800	7008000	0.006	1	21.02
A01	800	7008000	0.08	1	280.32		A01	800	7008000	0.006	1	21.02
A02	0	0	0	1	0		A02	0	0	0	1	0
A03	0	0	0	1	0		A03	0	0	0	1	0
A39	350	3066000	0.08	1	122.64		A39	350	3066000	0.006	1	9.2
A04	0	0	0	1	0		A04	0	0	0	1	0
A06	0	0	0	1	0		A06	0	0	0	1	0
A09	0	0	0	1	0		A09	0	0	0	1	0
A33	350	3066000	0.04	1	61.32		A33	350	3066000	0.011	1	16.86
A05	760	6657600	0.13	1	432.74		A05	760	6657600	0.025	1	83.22
A07	0	0	0	1	0		A07	0	0	0	1	0
A11	760	6657600	0.01	1	33.29		A11	760	6657600	0.003	1	9.99
A08	800	7008000	0.08	1	280.32		A08	800	7008000	0.006	1	21.02
A12	0	0	0	1	0		A12	0	0	0	1	0
A48	250	2190000	0	1	0		A48	250	2190000	0	1	0
A34	250	2190000	0.13	1	142.35		A34	250	2190000	0.025	1	27.38
A35	0	0	0	1	0		A35	0	0	0	1	0
A40	250	2190000	0	1	0		A40	250	2190000	0	1	0
A36a	760	6657600	0	1	0		A36a	760	6657600	0	1	0
A36a	760	6657600	0.01	1	33.29		A36a	760	6657600	0.003	1	9.99
A10a	0	0	0	1	0		A10a	0	0	0	0	0
A36b	800	7008000	0.01	1	35.04		A36b	800	7008000	0.003	1	10.51
A36b	800	7008000	0.01	1	35.04		A36b	800	7008000	0.003	1	10.51
A36b	800	7008000	0.01	1	35.04		A36b	800	7008000	0.003	1	10.51
A36b	800	7008000	0.01	1	35.04		A36b	800	7008000	0.003	1	10.51
A36b	800	7008000	0.01	1	35.04		A36b	800	7008000	0.003	1	10.51
A38	800	7008000	0.04	1	140.16		A38	800	7008000	0.011	1	38.54
A41a	0	0	0	1	0		A41a	0	0	0	1	0
A41a	0	0	0	1	0		A41a	0	0	0	1	0
A41b	0	0	0	1	0		A41b	0	0	0	1	0
A41b	0	0	0	1	0		A41b	0	0	0	1	0
A41b	0	0	0	1	0		A41b	0	0	0	1	0
A41b	0	0	0	1	0		A41b	0	0	0	1	0
A41b	0	0	0	1	0		A41b	0	0	0	1	0
A79	0	0	0	1	0		A79	0	0	0	1	0
A82	300	2628000	0.01	1	13.14		A82	300	2628000	0.003	1	3.94
A82	300	2628000	0	1	0		A82	300	2628000	0	1	0
A83	300	2628000	0.13	1	170.82		A83	300	2628000	0.025	1	32.85
A85	300	2628000	0.04	1	52.56		A85	300	2628000	0.006	1	7.88
A81a	0	0	0	1	0		A81a	0	0	0	1	0
A81b	0	0	0	1	0		A81b	0	0	0	1	0
A81c	0	0	0	1	0		A81c	0	0	0	1	0
A81d	0	0	0	1	0		A81d	0	0	0	1	0
A86a	0	0	0	1	0		A86a	0	0	0	1	0
A86b	0	0	0	1	0		A86b	0	0	0	1	0
A86c	0	0	0	1	0		A86c	0	0	0	1	0
A86d	0	0	0	1	0		A86d	0	0	0	1	0
E01	300	2628000	0.04	1	52.56		E01	300	2628000	0.006	1	7.88
E02	300	2628000	0.01	1	13.14		E02	300	2628000	0.003	1	3.94
E02	300	2628000	0.01	1	13.14		E02	300	2628000	0.003	1	3.94
E03	0	0	0	1	0		E03	0	0	0	1	0
E04	0	0	0	1	0		E04	0	0	0	1	0
E04	0	0	0	1	0		E04	0	0	0	1	0
F01	0	0	0	1	0		F01	0	0	0	1	0
F02	0	0	0	1	0		F02	0	0	0	1	0
F02	0	0	0	1	0		F02	0	0	0	1	0
					2297.31							371.22

Attachment 2. Emissions for Permit Applicability – Summary

	Emissions for Permit Applicability - Summary							
	PM10	PM2.5	Nox	CO	SO2	VOC	HAP	GHG
Various	2297.31	371.22	0	0	0	0	0	0
A001	0	0	0	0	0	0	0	0
A002	0	0	0	0	0	0	0	0
A003	0	0	0	0	0	0	0	0
A32	0	0	0	0	0	0	0	0
B01	0	0	0	0	0	0	0	0
B02	0	0	0	0	0	0	0	0
B03	0	0	0	0	0	0	0	0
B04	0	0	0	0	0	0	0	0
C01	0.85	0.85	140.17	18.53	0.12	3.41	0.11	10848.5
C06	0	0	0	0	0	0	0	0
C07	0.77	0.77	10.86	2.34	0.01	0.88	0.01	393.43
C12	0.43	0.43	8.63	7.56	0.02	3.3	0.04	1475.31
C13	0.43	0.43	8.63	7.56	0.02	3.3	0.04	1475.31
C14	0.43	0.43	8.63	7.56	0.02	3.3	0.04	1475.31
C15	0.72	0.72	14.39	12.6	0.03	5.51	0.06	2458.863
	2300.94	374.85	191.31	56.15	0.22	19.7	0.3	18126.72
IA	0.05	0.05	0.5	0.19	0.01	0.14	0.01	464.24
IA	0.05	0.05	0.5	0.19	0.01	0.14	0.01	464.24
IA	0.05	0.05	0.5	0.19	0.01	0.14	0.01	464.24
IA	0.02	0.02	0.5	0.07	0.01	0.14	0.01	464.24
IA	0.02	0.02	0.5	0.07	0.01	0.14	0.01	464.24
IA	0.02	0.02	0.5	0.07	0.01	0.14	0.01	464.24
IA	0.02	0.02	0.5	0.07	0.01	0.14	0.01	464.24
IA	0.02	0.02	0.5	0.07	0.01	0.14	0.01	464.24
	2301.19	375.1	195.31	57.07	0.3	20.82	0.38	21840.64

Attachment 3. Source PTE of PM10 and PM2.5

	Source PTE of PM10						Source PTE of PM2.5			
	tpy	EF	CF	tpy			tpy	EF	CF	tpy
A00	1280000	0.08	0.1	5.12		A00	1280000	0.006	0.1	0.38
A01	1280000	0.08	0.01	0.51		A01	1280000	0.006	0.01	0.04
A02	560000	0	0.1	0		A02	560000	0	0.1	0
A03	560000	0	0.1	0		A03	560000	0	0.1	0
A39	560000	0.08	0.01	0.22		A39	560000	0.006	0.01	0.02
A04	560000	0	0.1	0		A04	560000	0	0.1	0
A06	560000	0	0.1	0		A06	560000	0	0.1	0
A09	560000	0	0.185	0		A09	560000	0	0.185	0
A33	560000	0.04	0.185	2.07		A33	560000	0.011	0.185	0.57
A05	1280000	0.13	0.01	0.83		A05	1280000	0.025	0.01	0.16
A07	1280000	0	0.1	0		A07	1280000	0	0.1	0
A11	1280000	0.01	0.1	0.64		A11	1280000	0.003	0.1	0.19
A08	1280000	0.08	0.01	0.51		A08	1280000	0.006	0.01	0.04
A12	400000	0	0.1	0		A12	400000	0	0.1	0
A48	400000	0	0.1	0		A48	400000	0	0.1	0
A34	400000	0.13	0.01	0.26		A34	400000	0.025	0.01	0.05
A35	400000	0	0.1	0		A35	400000	0	0.1	0
A40	400000	0	0.1	0		A40	400000	0	0.1	0
A36a	1280000	0	0.185	0		A36a	1280000	0	0.185	0
A36a	1280000	0.01	0.185	1.18		A36a	1280000	0.003	0.185	0.36
A10a	1280000	0	0.01	0		A10a	1280000	0	0.01	0
A36b	1280000	0.01	0.185	1.18		A36b	1280000	0.003	0.185	0.36
A36b	1280000	0.01	0.185	1.18		A36b	1280000	0.003	0.185	0.36
A36b	1280000	0.01	0.185	1.18		A36b	1280000	0.003	0.185	0.36
A36b	1280000	0.01	0.185	1.18		A36b	1280000	0.003	0.185	0.36
A36b	1280000	0.01	0.185	1.18		A36b	1280000	0.003	0.185	0.36
A38	1280000	0.04	0.185	4.74		A38	1280000	0.011	0.185	1.3
A41a	0	0	0.185	0		A41a	0	0	0.185	0
A41a	0	0	0.185	0		A41a	0	0	0.185	0
A41b	400000	0	0.185	0		A41b	400000	0	0.185	0
A41b	400000	0	0.185	0		A41b	400000	0	0.185	0
A41b	400000	0	0.185	0		A41b	400000	0	0.185	0
A41b	400000	0	0.185	0		A41b	400000	0	0.185	0
A41b	400000	0	0.185	0		A41b	400000	0	0.185	0
A79	0	0	0.185	0		A79	0	0	0.185	0
A82	400000	0.01	0.1	0.2		A82	400000	0.003	0.1	0.06
A82	400000	0	0.01	0		A82	400000	0	0.01	0
A83	400000	0.13	0.01	0.26		A83	400000	0.025	0.01	0.05
A85	400000	0.04	0.1	0.8		A85	400000	0.006	0.1	0.12
A81a	400000	0	0.1	0		A81a	400000	0	0.1	0
A81b	400000	0	0.1	0		A81b	400000	0	0.1	0
A81c	400000	0	0.1	0		A81c	400000	0	0.1	0
A81d	400000	0	0.1	0		A81d	400000	0	0.1	0
A86a	400000	0	0.1	0		A86a	400000	0	0.1	0
A86b	400000	0	0.1	0		A86b	400000	0	0.1	0
A86c	400000	0	0.1	0		A86c	400000	0	0.1	0
A86d	400000	0	0.1	0		A86d	400000	0	0.1	0
E01	1280000	0.04	0.185	4.74		E01	1280000	0.006	0.185	0.71
E02	1280000	0.01	0.185	1.18		E02	1280000	0.003	0.185	0.36
E02	1280000	0.01	0.185	1.18		E02	1280000	0.003	0.185	0.36
E03	1280000	0	0.1	0		E03	1280000	0	0.1	0
E04	1280000	0	0.1	0		E04	1280000	0	0.1	0
E04	1280000	0	0.1	0		E04	1280000	0	0.1	0
F01	1280000	0	0.1	0		F01	1280000	0	0.1	0
F02	1280000	0	0.1	0		F02	1280000	0	0.1	0
F02	1280000	0	0.1	0		F02	1280000	0	0.1	0
				30.34						6.57

Attachment 4. Source PTE with Fugitives – Summary

	Source PTE - Summary							
	PM10	PM2.5	Nox	CO	SO2	VOC	HAP	GHG
Various	30.34	6.57	0	0	0	0	0	0
A001	2.88	0.17	2.38	12.29	0	0	0	0
A002	13.6	2.04	0	0	0	0	0	0
A003	4.76	0.28	0	0	0	0	0	0
A32	7.57	1.14	0	0	0	0	0	0
B01	36.34	3.68	0	0	0	0	0	0
B02	9.08	0.92	0	0	0	0	0	0
B03	12.72	1.29	0	0	0	0	0	0
B04	19.08	1.93	0	0	0	0	0	0
C01	0.41	0.41	67.2	8.89	0.06	1.63	0.05	5201.33
C06	0	0	0	0	0	0	0	0
C07	0.37	0.37	5.21	1.12	0.01	0.42	0.01	188.64
C12	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1094.69
C13	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1094.69
C14	0.43	0.43	8.63	7.56	0.02	3.3	0.04	1475.31
C15	0.35	0.35	6.9	6.04	0.01	2.64	0.03	1178.91
	138.57	20.22	103.14	47.12	0.12	12.89	0.19	10233.57

Attachment 5. Source PTE without Fugitives – Summary

	Source PTE - Summary							
	PM10	PM2.5	Nox	CO	SO2	VOC	HAP	GHG
Various	30.34	6.57	0	0	0	0	0	0
A001			0	0	0	0	0	0
A002			0	0	0	0	0	0
A003			0	0	0	0	0	0
A32			0	0	0	0	0	0
B01			0	0	0	0	0	0
B02			0	0	0	0	0	0
B03			0	0	0	0	0	0
B04			0	0	0	0	0	0
C01	0.41	0.41	67.2	8.89	0.06	1.63	0.05	5201.33
C06	0	0	0	0	0	0	0	0
C07	0.37	0.37	5.21	1.12	0.01	0.42	0.01	188.64
C12	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1094.69
C13	0.32	0.32	6.41	5.61	0.01	2.45	0.03	1094.69
C14	0.43	0.43	8.63	7.56	0.02	3.3	0.04	1475.31
C15	0.35	0.35	6.9	6.04	0.01	2.64	0.03	1178.91
	32.54	8.77	100.76	34.83	0.12	12.89	0.19	10233.57

Attachment 6. Emissions for Permit Applicability – Insignificant

EU#	Insignificant		Horsepower:	13		Emission Factor (lb/hp-hr)	Potential Emissions lb/hr	lb/day	ton/yr
Make:	Kubota		Hours/Day:	24.0					
Model:			Hours/Year	8760	PM10	7.94E-04	0.01	0.25	0.05
S/N:					NOx	8.71E-03	0.11	2.72	0.50
					CO	3.28E-03	0.04	1.02	0.19
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.01	0.01
PM10	0.36	g/hp-hr			VOC	2.51E-03	0.03	0.78	0.14
NOx	3.95	g/hp-hr			HAP	2.71E-05	0.01	0.01	0.01
CO	1.49	g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

EU#	Insignificant		Horsepower:	13.0		Emission Factor (lb/hp-hr)	Potential Emissions lb/hr	lb/day	ton/yr
Make:	Mitsubishi		Hours/Day:	24.0					
Model:			Hours/Year	8760	PM10	3.75E-04	0.01	0.12	0.02
S/N:					NOx	8.71E-03	0.11	2.72	0.50
					CO	1.15E-03	0.01	0.36	0.07
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.01	0.01
PM10	0.17	g/hp-hr			VOC	2.51E-03	0.03	0.78	0.14
NOx	3.95	g/hp-hr			HAP	2.71E-05	0.01	0.01	0.01
CO	0.52	g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 7. Emissions for Permit Applicability and Source PTE (EU: C01)

EU#	C01		Horsepower:	2,206		Emission Factor (lb/hp-hr)	Control Efficiency	Potential Emissions lb/hr	lb/day	ton/yr
Make:			Hours/Day:	24.0						
Model:			Hours/Year	8760	PM10	8.82E-05	0.00%	0.19	4.67	0.85
S/N:					NOx	1.45E-02	0.00%	32.00	768.03	140.17
					CO	1.92E-03	0.00%	4.23	101.55	18.53
Manufacturer Guarantees					SO_2	1.21E-05	0.00%	0.03	0.64	0.12
PM10	0.04	g/hp-hr			VOC	3.53E-04	0.00%	0.78	18.68	3.41
NOx	6.58	g/hp-hr			HAP	1.10E-05	0.00%	0.02	0.58	0.11
CO	0.87	g/hp-hr								
SO_2		lb/hp-hr								
VOC	0.16	g/hp-hr								
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

EU#	C01		Horsepower:	2,206		Emission Factor (lb/hp-hr)	Control Efficiency	Potential Emissions lb/hr	lb/day	ton/yr
Make:			Hours/Day:	24.0						
Model:			Hours/Year	4200	PM10	8.82E-05	0.00%	0.19	4.67	0.41
S/N:					NOx	1.45E-02	0.00%	32.00	768.03	67.20
					CO	1.92E-03	0.00%	4.23	101.55	8.89
Manufacturer Guarantees					SO_2	1.21E-05	0.00%	0.03	0.64	0.06
PM10	0.04	g/hp-hr			VOC	3.53E-04	0.00%	0.78	18.68	1.63
NOx	6.58	g/hp-hr			HAP	1.10E-05	0.00%	0.02	0.58	0.05
CO	0.87	g/hp-hr								
SO_2		g/hp-hr								
VOC	0.16	g/hp-hr								
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

Attachment 8. Emissions for Permit Applicability and Source PTE (EU: C06)

EU#	C06		Horsepower:	99		Emission Factor	Potential Emissions		
Make:			Hours/Day:	24.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			Hours/Year	8760	PM10	3.09E-04	0.03	0.73	0.13
S/N:					NOx	6.75E-03	0.67	16.03	2.93
					CO	3.79E-03	0.38	9.01	1.64
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.03	0.01
PM10	0.14	g/hp-hr			VOC	2.51E-03	0.25	5.97	1.09
NOx	3.06	g/hp-hr			HAP	2.71E-05	0.01	0.06	0.01
CO	1.72	g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

EU#	C06		Horsepower:	99.0		Emission Factor	Potential Emissions		
Make:			Hours/Day:	24.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			Hours/Year	6500	PM10	3.09E-04	0.03	0.73	0.10
S/N:					NOx	6.75E-03	0.67	16.03	2.17
					CO	3.79E-03	0.38	9.01	1.22
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.03	0.01
PM10	0.14	g/hp-hr			VOC	2.51E-03	0.25	5.97	0.81
NOx	3.06	g/hp-hr			HAP	2.71E-05	0.01	0.06	0.01
CO	1.72	g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 9. Emissions for Permit Applicability and Source PTE (EU: C07)

EU#	C07		Horsepower:	80		Emission Factor	Potential Emissions		
Make:			Hours/Day:	24.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			Hours/Year	8760	PM10	2.20E-03	0.18	4.22	0.77
S/N:					NOx	3.10E-02	2.48	59.52	10.86
					CO	6.68E-03	0.53	12.83	2.34
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.02	0.01
PM10		g/hp-hr			VOC	2.51E-03	0.20	4.83	0.88
NOx		g/hp-hr			HAP	2.71E-05	0.01	0.05	0.01
CO		g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

EU#	C07		Horsepower:	80.0		Emission Factor	Potential Emissions		
Make:			Hours/Day:	24.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			Hours/Year	4200	PM10	2.20E-03	0.18	4.22	0.37
S/N:					NOx	3.10E-02	2.48	59.52	5.21
					CO	6.68E-03	0.53	12.83	1.12
Manufacturer Guarantees					SO_2	1.21E-05	0.01	0.02	0.01
PM10		g/hp-hr			VOC	2.51E-03	0.20	4.83	0.42
NOx		g/hp-hr			HAP	2.71E-05	0.01	0.05	0.01
CO		g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	2			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 10. Emissions for Permit Applicability and Source PTE (EUs: C12-C13)

							Emission Factor	Potential Emissions		
EU#	C12-C13		**Horsepower:**	300						
Make:			**Hours/Day:**	24.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			**Hours/Year**	8760		**PM10**	3.31E-04	0.10	2.38	0.43
S/N:						**NOx**	6.57E-03	1.97	47.30	8.63
						CO	5.75E-03	1.73	41.43	7.56
Manufacturer Guarantees						**SO_2**	1.21E-05	0.01	0.09	0.02
PM10	0.15	g/hp-hr				**VOC**	2.51E-03	0.75	18.10	3.30
NOx	2.98	g/hp-hr				**HAP**	2.71E-05	0.01	0.20	0.04
CO	2.61	g/hp-hr								
SO_2		g/hp-hr								
VOC		g/hp-hr								
Engine Type:	Diesel	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

							Emission Factor	Potential Emissions		
EU#	C12-C13		**Horsepower:**	300.0						
Make:			**Hours/Day:**	24.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			**Hours/Year**	6500		**PM10**	3.31E-04	0.10	2.38	0.32
S/N:						**NOx**	6.57E-03	1.97	47.30	6.41
						CO	5.75E-03	1.73	41.43	5.61
Manufacturer Guarantees						**SO_2**	1.21E-05	0.01	0.09	0.01
PM10	0.15	g/hp-hr				**VOC**	2.51E-03	0.75	18.10	2.45
NOx	2.98	g/hp-hr				**HAP**	2.71E-05	0.01	0.20	0.03
CO	2.61	g/hp-hr								
SO_2		g/hp-hr								
VOC		g/hp-hr								
Engine Type:	Diesel	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 11. Emissions for Permit Applicability and Source PTE (EU: C14)

							Emission Factor	Potential Emissions		
EU#	C14		**Horsepower:**	300						
Make:			**Hours/Day:**	24.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr
Model:			**Hours/Year**	8760		**PM10**	3.31E-04	0.10	2.38	0.43
S/N:						**NOx**	6.57E-03	1.97	47.30	8.63
						CO	5.75E-03	1.73	41.43	7.56
Manufacturer Guarantees						**SO_2**	1.21E-05	0.01	0.09	0.02
PM10	0.15	g/hp-hr				**VOC**	2.51E-03	0.75	18.10	3.30
NOx	2.98	g/hp-hr				**HAP**	2.71E-05	0.01	0.20	0.04
CO	2.61	g/hp-hr								
SO_2		g/hp-hr								
VOC		g/hp-hr								
	Diesel									
Engine Type:		2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 12. Emissions for Permit Applicability and Source PTE (EU: C15)

							Emission Factor	Potential Emissions		
EU#	C15		**Horsepower:**	500			(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:			**Hours/Day:**	24.0		**PM10**	3.31E-04	0.17	3.97	0.72
Model:			**Hours/Year**	8760		**NOx**	6.57E-03	3.28	78.84	14.39
S/N:						**CO**	5.75E-03	2.88	69.05	12.60
Manufacturer Guarantees						**SO_2**	1.21E-05	0.01	0.15	0.03
PM10	0.15	g/hp-hr				**VOC**	2.51E-03	1.26	30.17	5.51
NOx	2.98	g/hp-hr				**HAP**	2.71E-05	0.01	0.33	0.06
CO	2.61	g/hp-hr								
SO_2		g/hp-hr								
VOC		g/hp-hr								
Engine Type:	Diesel	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

							Emission Factor	Potential Emissions		
EU#	C15		**Horsepower:**	500.0			(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:			**Hours/Day:**	24.0		**PM10**	3.31E-04	0.17	3.97	0.35
Model:			**Hours/Year**	4200		**NOx**	6.57E-03	3.28	78.84	6.90
S/N:						**CO**	5.75E-03	2.88	69.05	6.04
Manufacturer Guarantees						**SO_2**	1.21E-05	0.01	0.15	0.01
PM10	0.15	g/hp-hr				**VOC**	2.51E-03	1.26	30.17	2.64
NOx	2.98	g/hp-hr				**HAP**	2.71E-05	0.01	0.33	0.03
CO	2.61	g/hp-hr								
SO_2		g/hp-hr								
VOC		g/hp-hr								
Engine Type:	Diesel	2				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 13. Source PTE of Drilling and Blasting (EU: A001 and A003)

Drilling

Proposed limit (holes/yr)	PM_{10} EF (lb/hole)	Potential PM_{10} (tpy)	$PM_{2.5}$ EF (lb/hole)	Potential $PM_{2.5}$ (tpy)
14000	0.68	**4.76**	0.04	**0.28**

Blasting

Horizontal Area (ft2/blast)	Proposed Blasts (blasts/yr)	PM_{10} EF (lb/blast)	Potential PM_{10} (tpy)	$PM_{2.5}$ EF (lb/blast)	Potential $PM_{2.5}$ (tpy)
25000	200	28.78	**2.88**	1.66	**0.17**

EPA AP-42 EF TSP <30 Table 1:	0.000014(A)^1.5	lb/blast	where A = horizontal area
EPA AP-42 EF <10 scaling factor Table 11.9-1		0.52	
EPA AP-42 EF <2.5 scaling factor Table 11.9-1		0.03	

ANFO only

Proposed ANFO (tons/yr)	CO EF (lb/ton)	Potential CO (tpy)	NO_x EF (lb/ton)	Potential NO_x (tpy)
600	40.97	**12.29**	7.92	**2.38**

National Institute of Safety and Health: A Technique for Measuring Gasses produced by Blast Agents, 1997

Attachment 14. Source PTE of Overburden (EU: A002)

(3,400,000 tons) * (0.08 lb/ton) * (0.10) ÷ (2,000 lb) = 13.60 tons per year of PM_{10}

(3,400,000 tons) * (0.012 lb/ton) * (0.10) ÷ (2,000 lb) = 2.04 tons per year of $PM_{2.5}$

Attachment 15. Source PTE of Stockpiles (EU: A32)

(25.0 acres) * (1.66 lb/acre-day) * (365 days) ÷ (2,000 lb) = 7.57 tons per year of PM_{10}

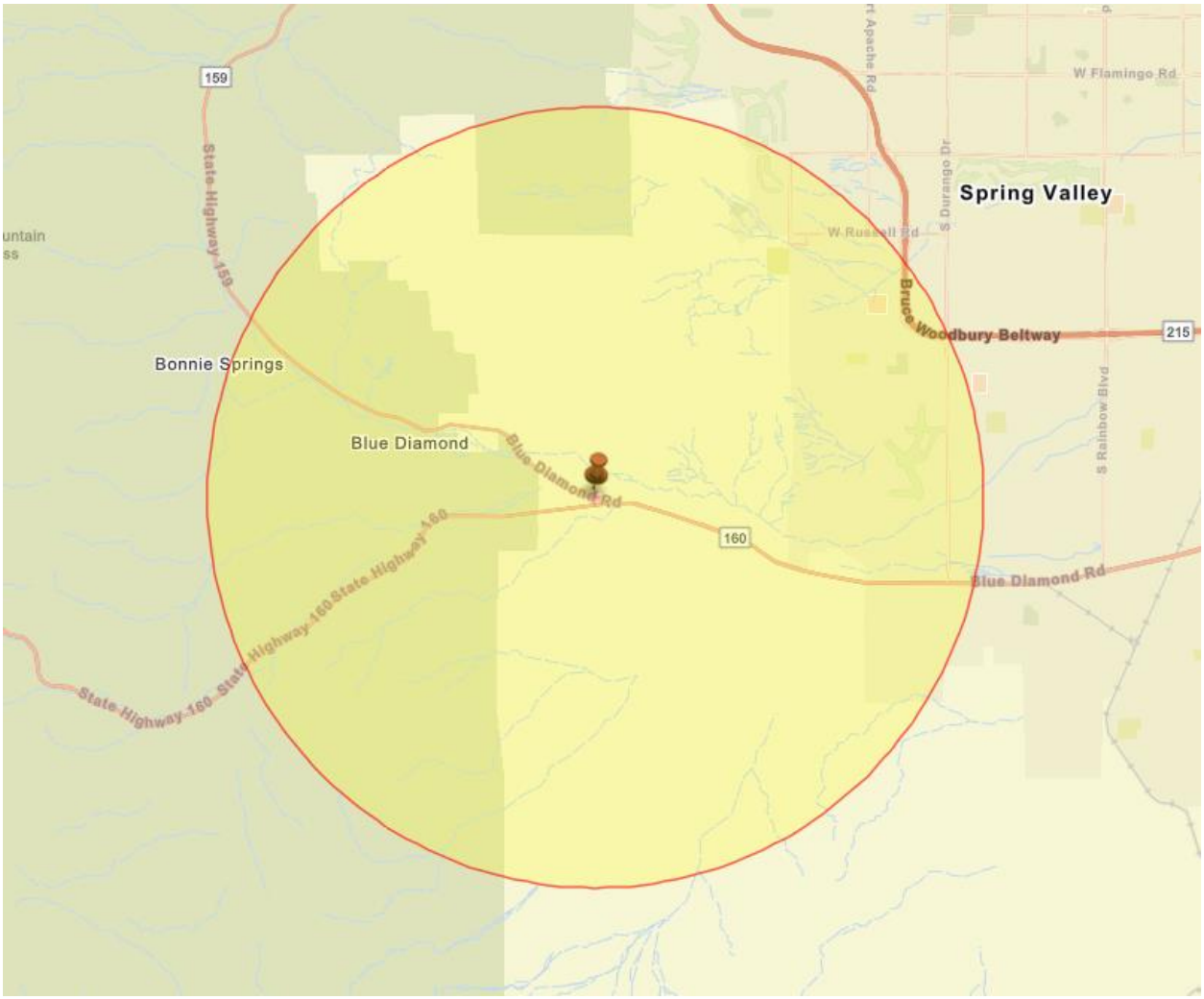
(25.0 acres) * (0.25 lb/acre-day) * (365 days) ÷ (2,000 lb) = 1.14 tons per year of $PM_{2.5}$

Attachment 16. Source PTE of Unpaved Haul Roads (EUs: B01-B04)

(204,000 miles) * (7.57 lb/VMT) * (0.10) ÷ (2,000 lb) = 77.22 tons per year of PM_{10}

(204,000 miles) * (0.767 lb/VMT) * (0.10) ÷ (2,000 lb) = 7.82 tons per year of $PM_{2.5}$

Attachment 17. EJScreen (Demographic Index)



The pin in the center of the shaded circle is the source location of Blue Diamond Hill Gypsum. To the Northeast of the Blue Diamond Hill Gypsum is the Southwest Region of the city of Las Vegas, which consist of residential areas.

Attachment 18. EJScreen (Environmental Justice Indexes)

Environmental Justice Indexes | Pollution and Sources | Socioeconomic Indicators | Supplemental Indexes

[Unselect All]

- Particulate Matter 2.5
- Ozone
- Diesel Particulate Matter
- Air Toxics Cancer Risk
- Air Toxics Respiratory HI
- Toxic Releases to Air
- Traffic Proximity
- Lead Paint
- Superfund Proximity
- RMP Facility Proximity
- Hazardous Waste Proximity
- Underground Storage Tanks
- Wastewater Discharge