

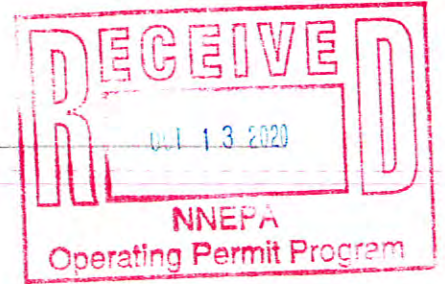


Navajo Nation Environmental Protection Agency
Navajo Nation Operating Permit Program

SILICA SERVICES MINING, LLC

Permit No: NN-OP-17-013

2017



Justin Quimby
Production Manager

PO Box 367
Sanders, AZ 86512
520.305.5078
jqimby@silicaserviceinc.com

Navajo Nation Air Quality Control Program
Operating Permit Program
PO Box 529
Fort Defiance, AZ 86504

RE: Administrative Amendment – Responsible Official
Silica Services Mining, LLC, Sanders, Apache County, Arizona
AFS ID No. 09-000-00004005NAV88
NNEPA Title V Operating Permit NN OP 17-013

October 2, 2020

To the Navajo Nation Air Quality Control Program Manager:

As of September 25, 2020, David Warren is no longer with Silica Services Mining, LLC. Therefore, the responsible official is now Justin Quimby, Production Manager, (520) 305-5078. The mark-up of the Title V Permit Source Identification page is attached.

Feel free to contact Kaibah Tsosie, EHS Specialist, at (928) 688-3900 ext. 105, or ktosie@silicaservicesinc.com if you have any additional questions.

Sincerely,

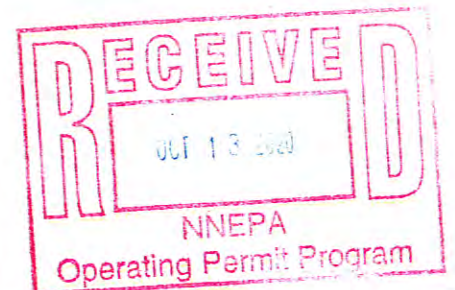
Justin Quimby

**SILICA
SERVICES**

10/3/20

I. Source Identification

- Parent Company Name: Silica Services, LLC
- Parent Company Address: 5550 Granite Parkway, Ste. 285
Plano, TX, 75024
- Plant Operator: Silica Services Mining, LLC
- Plant Operator Address: PO Box 367, East Clay Mine Road
Sanders, AZ, 86512
- Plant Name: Silica Services Mining, LLC
- Plant Location: Section 23, Township 21N, Range 29E
6 miles East of Sanders, Arizona
- County: Apache, Arizona
- EPA Region: IX
- Reservation: Navajo Nation
- Company Contact: Kaibah Tsosie Phone: (928) 228-9939
- Responsible Official: ~~David Warren~~ Justin Quimby Phone: ~~(801) 971-5467~~ (520) 305-5078
- EPA Contact: Lisa Beckham Phone: (415) 972-3811
- Tribal Contacts: Natasha Yazzie Phone: (928) 729-4248
Raju Bisht *Surash Chauhan* Phone: (928) 729-4249
- SIC Code: 1446
- AFS Plant ID. No.: 09-000-00004005NAV88
- Description of Process: The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.





THE NAVAJO NATION

JONATHAN NEZ
MYRON LIZER

PRESIDENT
VICE PRESIDENT

Navajo Nation Environmental Protection Agency –Air Quality Control/Operating Permit Program
Post Office Box 529, Fort Defiance, AZ 86504 • Bldg. #2837 Route 112
Telephone (928) 729-4096, Fax (928) 729-4313, Email airquality@navajo-nsn.gov
www.navajonationepa.org/airquality.html

TITLE V PERMIT TO OPERATE

PERMIT #: NN-OP-17-013 FACILITY NAME: SILICA SERVICES MINING, LLC LOCATION: SANDERS COUNTY: APACHE STATE: AZ

ISSUE DATE: 12/06/2017 EXPIRATION DATE: 12/06/2022 AFS PLANT ID: 09-000-00004005NAV88 PERMITTING AUTHORITY: NNEPA

ACTION/STATUS: ADMINISTRATIVE AMENDMENT

Justin Quimby
5550 Granite Parkway Suite 285
Plano, TX 75024

Re: Administrative Permit Amendment to Title V Operating Permit for the change in Responsible Official and Tribal Contact for Silica Services Mining, LLC

Mr. Quimby:

This is to provide notice that an Administrative Amendment has been made to the Title V Operating Permit for Silica Services Mining, LLC to change the Responsible Official and the Tribal Contact information listed in Section I. The Navajo Nation Environmental Protection Agency (NNEPA) has made the change to the permit under the applicable administrative permit revision sections pursuant to 40 CFR § 71.7 (d)(1)(ii) and Navajo Nation Operating Permit Regulations (NNOPR) § 405 (C).

The administrative amendment to the Title V operating permit will not affect the permit terms and conditions that became effective December 06, 2017 and expire on December 06, 2022. A copy of this administrative permit amendment is also being provided to US EPA Region IX, pursuant to 40 CFR § 71.7(d)(3)(ii). If you have any questions regarding this matter, please contact Natasha Yazzie at (928) 729-4248 or nyazzie1@navajo-nsn.gov.

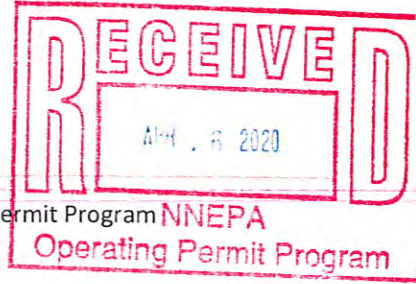
10/29/20

Date

Oliver Whaley
Executive Director
Navajo Nation Environmental Protection Agency

I. Source Identification

- Parent Company Name: Silica Services, LLC
- Parent Company Address: 5550 Granite Parkway, Ste. 285
Plano, TX, 75024
- Plant Operator: Silica Services Mining, LLC
- Plant Operator Address: PO Box 367, East Clay Mine Road
Sanders, AZ, 86512
- Plant Name: Silica Services Mining, LLC
- Plant Location: Section 23, Township 21N, Range 29E
6 miles East of Sanders, Arizona
- County: Apache, Arizona
- EPA Region: IX
- Reservation: Navajo Nation
- Company Contact: Kaibah Tsosie Phone: (928) 228-9939
- Responsible Official: Justin Quimby Phone: (520) 305-5078
- EPA Contact: Lisa Beckham Phone: (415) 972-3811
- Tribal Contacts: Natasha Yazzie Phone: (928) 729-4248
Suresh Chaudhary Phone: (928) 729-4249
- SIC Code: 1446
- AFS Plant ID. No.: 09-000-00004005NAV88
- Description of Process: The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.



Kaibah Tsosie
EHS Specialist

PO Box 367
Sanders, AZ 86512
928.228.9939
ktsosie@silicaserviceinc.com

Navajo Nation Air Quality Control Program, Operating Permit Program
P.O. Box 529
Fort Defiance, AZ 86504

RE: Change of Ownership Administrative Amendment
Silica Services Mining, LLC, Sanders, Apache County, Arizona
AFS ID No. 09-000-00004005NAV88
NNEPA Title V Operating Permit NN OP 17-013

March 17, 2020

Dear Navajo Nation Air Quality Control Program, Operating Permit Program,

On January 24, 2020, Silica Services Mining, LLC, submitted change of ownership documentation, which did not include the Certification of Truth, Accuracy, and Completeness by a Responsible Official and a copy of the newspaper legal notice. Therefore, we are resubmitting the complete packet with the missing documents.

Feel free to contact me at 928-228-9939 or ktsosie@silicaserviceinc.com if you have any additional questions.

Sincerely,

Kaibah Tsosie, EHS Specialist

**SILICA
SERVICES**

5/18/20



David Warren
Plant Manager

PO Box 367
Sanders, AZ 86512
801.971.5467
dwarren@silicaserviceinc.com

Navajo Nation Air Quality Control Program
Operating Permit Program
PO Box 529
Fort Defiance, AZ 86504

RE: Change of Ownership Administrative Amendment
Silica Services Mining, LLC, Sanders, Apache County, Arizona
AFS ID No. 09-000-00004005NAV88
NNEPA Title V Operating Permit NN OP 17-013

January 24, 2020

Dear Navajo Nation Air Quality Control Program,

On October 25, 2019, Southlake Equity Group and Enerstream Capital Partners purchased the Preferred Sands of Arizona, LLC, Sanders, Arizona, facility. The site is now a stand-alone operation known as Silica Services Mining, LLC.

The change in ownership and updated Responsible Official is reflected in the attached mark-up of the Title V permit section I, Source Identification. The redacted purchase agreement documenting the change in ownership and a legal notice printed in the January 16, 2020, issue of the *Navajo Times* are also included in this notification. We request the purchase agreement to be handled as confidential information.

Feel free to contact Kaibah Tsosie, EHS Specialist, at (928) 688-3900 ext. 105, or ktsosie@silicaservicesinc.com if you have any additional questions.

Sincerely,

David Warren

**SILICA
SERVICES**



APPLICATION FOR PART 71 FEDERAL OPERATING PROGRAM
NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY CONTROL PROGRAM / OPERATING PERMIT PROGRAM



FORM CTAC – CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS BY RESPONSIBLE OFFICIAL

Instruction: One copy of this form must be completed, signed and sent with each submission of documents (i.e. application forms, updates to applications, reports, or any information required by a Part 71 Permit)

Responsible Official - Identify the responsible official and provide contact information.

Name: (Last) Warren (First) David (Middle)

Title: Plant Manager

Street or Post Office: PO Box 367

City: Sanders State: Arizona Zip: 86512

Telephone: +1 (928) 688-3900 Ext: 126 Facsimile: +1 (928) 688-4986

Certification of Truth, accuracy and Completeness – The Responsible Official must sign this Statement.

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed): 

Name (Print or Typed) David Warren Date: Jan 24, 2020

I. Source Identification

- Parent Company Name: ~~Preferred Sands~~ Silica Services, LLC 5550 Granite Parkway, Ste 281
- Parent Company Address: ~~One Radnor Corporate Center, 100 Matsonford Road
Radnor, PA, 19087~~ Plano, TX 75024
- Plant Operator: ~~Preferred Sands of Arizona, LLC~~ Silica Services Mining, LLC
- Plant Operator Address: PO Box 367, East Clay Mine Road
Sanders, AZ, 86512
- Plant Name: ~~Sanders Facility~~ Silica Services Mining, LLC
- Plant Location: Section 23, Township 21N, Range 29E
6 miles East of Sanders, Arizona
- County: Apache, Arizona
- EPA Region: IX
- Reservation: Navajo Nation
- Company Contact: Kaibah Tsosie Phone: (928) 228-9939
- Responsible Official: ~~Greg Logan~~ David Warren Phone: ~~(567) 686-2071~~ (801) 971-5467
- EPA Contact: Lisa Beckham Phone: (415) 972-3811
- Tribal Contacts: Natasha Yazzie Phone: (928) 729-4248
- SIC Code: 1446
- AFS Plant ID. No.: 09-000-00004005NAV88
- Description of Process: The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.



THE NAVAJO NATION

JONATHAN NEZ PRESIDENT
MYRON LIZER VICE PRESIDENT

Navajo Nation Environmental Protection Agency -Air Quality Control/Operating Permit Program
Post Office Box 529, Fort Defiance, AZ 86504 • Bldg. #2837 Route 112
Telephone (928) 729-4096, Fax (928) 729-4313, Email airquality@navajo-nsn.gov
www.navajonationepa.org/airquality.html

TITLE V PERMIT TO OPERATE

PERMIT #: NN-OP-17-013 FACILITY NAME: SILICA SERVICES MINING, LLC LOCATION: SANDERS COUNTY: APACHE STATE: AZ

ISSUE DATE: 12/06/2017 EXPIRATION DATE: 12/06/2022 AFS PLANT ID: 09-000-00004005NAV88 PERMITTING AUTHORITY: NNEPA

ACTION/STATUS: ADMINISTRATIVE AMENDMENT

David Warren
5550 Granite Parkway Suite 285
Plano, TX 75024

Re: Administrative Permit Amendment to Title V Operating Permit for the change in ownership for Preferred Sands of Arizona, LLC. - Sanders Facility to Silica Services Mining, LLC

Mr. Warren:

We are issuing an Administrative Amendment to the Title V Operating Permit for Preferred Sands of Arizona LLC - Sanders Facility for a change in ownership to Silica Services Mining, LLC and to change the Responsible Official information listed in Section I. NNEPA has made the change to the permit under the administrative amendment pursuant to 40 CFR § 71.7 (d)(1)(ii) and NNOPR § 405 (C).

We have enclosed the amendment to the Title V operating permit with a clear understanding that the changes made in the permit will not affect the permit terms and conditions that became effective December 06, 2017 and expire on December 06, 2022. A copy of this administrative permit amendment is also being provided to US EPA Region IX, pursuant to 40 CFR § 71.7(d)(3)(ii). If you have any questions regarding this matter, please contact Natasha Yazzie at (928) 729-4248 or nyazzie1@navajo-nsn.gov.

04/17/20
Date

Oliver Whaley
Executive Director
Navajo Nation Environmental Protection Agency

I. Source Identification

- Parent Company Name: Silica Services, LLC
Parent Company Address: 5550 Granite Parkway, Ste. 285
Plano, TX, 75024
- Plant Operator: Silica Services Mining, LLC
- Plant Operator Address: PO Box 367, East Clay Mine Road
Sanders, AZ, 86512
- Plant Name: Silica Services Mining, LLC
- Plant Location: Section 23, Township 21N, Range 29E
6 miles East of Sanders, Arizona
- County: Apache, Arizona
- EPA Region: IX
- Reservation: Navajo Nation
- Company Contact: Kaibah Tsosie Phone: (928) 228-9939
- Responsible Official: David Warren Phone: (801) 971-5467
- EPA Contact: Lisa Beckham Phone: (415) 972-3811
- Tribal Contacts: Natasha Yazzie Phone: (928) 729-4248
Raju Bisht Phone: (928) 729-4249
- SIC Code: 1446
- AFS Plant ID. No.: 09-000-00004005NAV88
- Description of Process: The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.

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THE NAVAJO NATION

JONATHAN NEZ PRESIDENT
MYRON LIZER VICE PRESIDENT

Navajo Nation Environmental Protection Agency –Air Quality Control/Operating Permit Program

Post Office Box 529, Fort Defiance, AZ 86504 • Bldg. #2837 Route 112
Telephone (928) 729-4096, Fax (928) 729-4313, Email airquality@navajo-nsn.gov
www.navajonationepa.org/airquality.html

TITLE V PERMIT TO OPERATE

<u>PERMIT #:</u> NN-OP-17-013	<u>FACILITY NAME:</u> SILICA SERVICES MINING, LLC	<u>LOCATION:</u> SANDERS	<u>COUNTY:</u> APACHE	<u>STATE:</u> AZ
<u>ISSUE DATE:</u> 12/06/2017	<u>EXPIRATION DATE:</u> 12/06/2022	<u>AFS PLANT ID:</u> 09-000-00004005NAV88	<u>PERMITTING AUTHORITY:</u> NNEPA	

ACTION/STATUS: PART 71 OPERATING PERMIT

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Abbreviations and Acronyms

Administrator	Administrator of the US EPA
AR	Acid Rain
ARP	Acid Rain Program
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
EIP	Economic Incentives Program
E/U	Emission Unit
gal	gallon
gr	grains
HAP	Hazardous Air Pollutant
hp	horsepower
hr	hour
Id. No.	Identification Number
ISO	International Standards Organization
kg	kilogram
lb	pound
MACT	Maximum Achievable Control Technology
Mg	megagram
MMBtu	million British Thermal Units
mo	month
MVAC	Motor Vehicle Air Conditioner
NESHAP	National Emission Standards for Hazardous Air Pollutants
NNEPA	Navajo Nation Environmental Protection Agency
NNOPR	Navajo Nation Operating Permit Regulations
NNADCR	Navajo Nation Acid Deposition Control Regulations
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
PM	Particulate Matter
PM10	Particulate Matter less than 10 microns in diameter
PM2.5	Particulate Matter less than 2.5 microns in diameter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
psia	pounds per square inch absolute
RMP	Risk Management Plan
SNAP	Significant New Alternatives Program
scf	standard cubic foot
SO ₂	Sulfur Dioxide
TPY	tons per year
TPH	tons per hour
TSP	Total Suspended Particulate
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

I. Source Identification

- Parent Company Name: Silica Services, LLC
- Parent Company Address: 550 Granite Parkway, Ste 285
Plano, TX 75024
- Plant Operator: Silica Services Mining, LLC
- Plant Operator Address: PO Box 367, East Clay Mine Road
Sanders, AZ, 86512
- Plant Name: Silica Services Mining, LLC
- Plant Location: Section 23, Township 21N, Range 29E
6 miles east of Sanders, Arizona
- County: Apache, Arizona
- US EPA Region: IX
- Reservation: Navajo Nation
- Company Contact: Kaibah Tsosie Phone: (928) 228-9939
- Responsible Official: David Warren Phone: (801) 971-5467
- US EPA Contact: Lisa Beckham Phone: (415) 972-3811
- Tribal Contact: Natasha Yazzie Phone: (928) 729-4248
Raju Bisht Phone: (928) 7229-4249
- SIC Code: 1446
- AFS Plant Id. No.: 09-000-00004005NAV88
- Description of Process: The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.
- Significant Emission Units:

Emission Unit Id. No.	Unit Description	Nominal Capacity	Commenced Construction/ Installation Date	Associated Control Equipment
EU0	Feed Hopper, Sand Transfer from Wet Plant to Dry Plants	300 TPH Work In Progress (WIP) Sand	2012	N/A
EU1-1	Dry Plant 1 Fluidized Bed Sand Dryer, DP1 Dryer	150 TPH Sand ¹ ;44.5 MMBtu/hr ²	2006	Cyclone, CE1-1 & Scrubber, CE1-2
EU's 1-2, 1-4, 1-7, & 1-8	Dry Plant 1 Conveyors	150 TPH Sand (each)	2006	Baghouse, CE1-3
EU1-3	Dry Plant 1 Bucket Elevator	150 TPH Sand	2006	Baghouse, CE1-3
EU's 1-5 & 1-6	Dry Plant 1 Primary Screens	150 TPH Sand (combined)	2006	Baghouse, CE1-3
EU's 1-9 & 1-10	Dry Plant 1 Secondary Screens	150 TPH Sand (combined)	2012	N/A
EU's 1-11, 1-12, & 1-13	Dry Plant 1 Storage Silos	150 TPH Sand (combined)	2006	Baghouse, CE1-3
EU's 1-21, 1-22, & 1-23	Dry Plant 1 Truck Loadout	150 TPH Sand (combined)	2006	Baghouse, CE1-3
EU2-1	Dry Plant 2 Fluidized Bed Sand Dryer, DP2 Dryer	200 TPH Sand ³ ;46.0 MMBtu/hr ⁴	2012	Baghouse, CE2-1

¹ Due to screening and processing capability of Dry Plant 1, the DP1 Dryer operates at a maximum production rate of approximately 115 TPH dependent on sand moisture and ambient conditions.

² DP1 Dryer operates at a typical operating capacity of 16 MMBtu/hr dependent on sand moisture and ambient conditions.

³ Due to screening and processing capability of Dry Plant 2, the DP2 Dryer operates at a maximum production rate of approximately 165 TPH dependent on sand moisture and ambient conditions.

⁴ DP2 Dryer operates at a typical operating capacity of 23 MMBtu/hr dependent on sand moisture and ambient conditions.

EU's 2-1a & 2-1b	Dry Plant 2 Conveyors	200 TPH Sand (each)	2012	N/A
EU 2-2	Dry Plant 2 Overs Screen	200 TPH Sand	2012	N/A
EU 2-3	Dry Plant 2 Bucket Elevator	200 TPH Sand	2012	N/A
EU 2-4	Dry Plant 2 Surge Bin	200 TPH Sand	2012	N/A
EU's 2-5, 2-6, 2-7, 2-8, & 2-9	Dry Plant 2 Primary Screens	200 TPH Sand (combined)	2012	Baghouse, CE2-2
EU2-10	Dry Plant 2 Secondary Screen	200 TPH Sand (combined)	2012	Baghouse, CE2-2
EU's 2-11, 2-12, 2-13, 2-14, 2-15, & 2-16	Dry Plant 2 Storage Silos	200 TPH Sand (combined)	2012	Baghouse, CE2-2
EU's 2-21, 2-22, 2-23, 2-24, 2-25, & 2-26	Dry Plant 2 Truck Loadout	200 TPH Sand (combined)	2012	N/A
FS0	Work in Progress (WIP) Storage Piles	N/A	N/A	N/A
FS's 1-1, 1-2	Dry Plant 1 Oversized and Undersized Material Piles	N/A	2006	N/A
FS's 1-3, 1-4, & 1-5	Haul Roads for Finished Product Loadout, Mined Sand Transfer to the Facility, Reject Sand Transfer to Mine	N/A	2006	N/A
FS's 2-1, 2-2, & 2-3	Dry Plant 2 Collection, Oversized, and Undersized Material Piles	N/A	2012	N/A

FS's 2-4, 2-5, & 2-6	Haul Roads for Finished Product Loadout, Mined Sand Transfer to the Facility, Reject Sand Transfer to Mine	N/A	2012	N/A
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II. Requirements for Specific Units

II.A. NSPS General Provisions [40 CFR § 60, Subpart A]

The following requirements apply to the operation, maintenance, and testing of the following dryers and control devices: EU1-1, CE1-2, EU2-1, and CE2-1, in accordance with 40 CFR § 60, Subparts A (“General Provisions”) and UUU (“Standards of Performance for Calciners and Dryers in Mineral Industries”):

1. All requests, reports, applications, submittals, and other communications to the Executive Director (NNEPA) pursuant to 40 CFR § 60 shall be submitted in duplicate to the US EPA Region IX office at the following address [40 CFR § 60.4(a)]:

Manager, Air & Tri-Section ENF-2-1
US EPA Region 9
Enforcement Division
75 Hawthorne Street
San Francisco, CA 94105-3901

2. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of EU1-1 and EU2-1; any malfunction of the CE1-2 and CE2-1; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR §60.7(b)]
3. The availability to the public of information provided to, or otherwise obtained by, the US EPA Administrator under this permit shall be governed by 40 CFR Part 2 (information submitted voluntarily to the Administrator for the purposes of compliance with 40 CFR §§ 60.5 and 60.6 is governed by 40 CFR §§ 2.201 through § 2.213 and not by 40 CFR § 2.301). [40 CFR § 60.9]
4. Compliance with the standards in 40 CFR Part 60 and Conditions II.B.1 and II.B.2 shall be determined in accordance with the performance tests established by 40 CFR § 60.8 and Conditions II.B.8.a and II.B.8.b, unless otherwise specified in the applicable standard. [40 CFR § 60.11(a)]
5. At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations,

review of operating and maintenance procedures, and inspection of the source. [40 CFR §60.11(d)]

6. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in 40 CFR § 60, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [40 CFR § 60.11(g)]
7. The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR § 60.12]
8. With respect to applicable NSPS provisions under 40 CFR § 60, the permittee shall comply with the “General notification and reporting requirements” found in 40 CFR § 60.19. [40 CFR § 60.19]
9. The permittee shall provide to NNEPA and US EPA Region IX written notification or, if acceptable to NNEPA, US EPA Region IX and the permittee, electronic notification of any reconstruction of EU1-1 and EU2-1, or any physical or operational change to EU1-1 and EU2-1 which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under this permit or in 40 CFR § 60.14(e), in accordance with 40 CFR § 60.7. [40 CFR § 60.7(a)]

II.B. NSPS for Stationary Dryers in Mineral Industries Subpart UUU Requirements [40 CFR §§ 60.730 -60.737]

Standards for particulate matter

1. No emissions shall be discharged into the atmosphere from Dryer 1 Scrubber CE1-2 and Dryer 2 Baghouse CE2-1 that contains particulate matter in excess of 0.025 gr/dscf. [40 CFR § 60.732(a)]
2. No emissions shall be discharged into the atmosphere from Dryer 2 Baghouse CE2-1 that exhibits greater than 10 percent opacity. [40 CFR § 60.732(b) and 60.11(c)]

Monitoring of emissions and operations

3. For Dryer 2 Baghouse CE2-1, the permittee shall have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60. [40 CFR § 60.734(b) and 60.11(b)]

4. In lieu of complying with the Condition II.B.3 of this permit, the permittee may install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the Dryer 2 Baghouse CE2-1. [40 CFR § 60.734(a)]
5. For Dryer 1 Scrubber CE1-2 the permittee shall calibrate, maintain, and operate monitoring devices that continuously measure and record (as required in Condition II.B.6 of this permit) the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate. [40 CFR § 60.734(d)]

Recordkeeping and reporting requirements

6. For Dryer 1 Scrubber CE1-2, the permittee shall determine and record once each day of operation, from the recordings of the monitoring devices in Condition II.B.5 of this permit, an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flow rate of the scrubbing liquid. [40 CFR § 60.735(b)]
7. Exceedances of control device operating parameters required to be monitored pursuant to Conditions II.B.3, II.B.4, and II.B.5 of this permit will be included in the semiannual reports for Condition III.C. For the purpose of these reports, exceedances are defined as follows [40 CFR § 60.735(c)]:
 - a. All 6-minute periods during which the average opacity from Dryer 2 Baghouse CE2-1 is greater than 10 percent; or
 - b. Any daily 2-hour average of the Dryer 1 Scrubber CE1-2 pressure drop determined as described in Condition II.B.6 of this permit that is less than 90 percent of the average value recorded during the most recent performance test that demonstrated compliance with the particulate matter standard;
 - c. Any daily 2-hour average of the Dryer 1 Scrubber CE1-2 liquid flow rate recorded as described in Condition II.B.6 of this permit that is less than 80 percent or greater than 120 percent of the average value recorded during the most recent performance test that demonstrated compliance with the particulate matter standard.

Test methods and procedures

8. In conducting the performance tests required in §60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this Condition, except as provided in §60.8(b) [40 CFR § 60.736(a), (b)]:

- a. Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm (dry standard cubic meter).
- b. Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions.

II.C. NESHAP for Gasoline Distribution Facilities at Area Sources of HAP Subpart CCCCCC Requirements [40 CFR §§ 63.11110-63.11116]

- 1. Silica Services shall operate and maintain gasoline storage tanks and associated equipment in a manner consistent with safety and good air pollution control practices for minimizing emission. [40 CFR § 63.11115(a)]
- 2. Gasoline storage tanks and associated equipment at the facility is to be handled in a manner that would not result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include the following [40 CFR § 63.11116(a)]:
 - (1) Minimize gasoline spills;
 - (2) Clean up spills as quickly as practicable;
 - (3) Cover open gasoline containers and gasoline storage tank fill-pipes with a gasketed seal when not in use. Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for this requirement.
 - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices.
- 3. Records of each malfunction of operation, including spills, and actions taken during periods of malfunction to minimize emissions in accordance with Condition II.C.2.(1), including corrective actions to restore malfunctioning process to its normal or usual manner of operation. [40 CFR § 63.11115(b) and § 63.11116(b)]

II.D. Compliance Schedule [40 CFR §§ 71.5(c)(8)(iii), 71.6(c)(3)]

- 1. For applicable requirements with which Silica Services Mining is in compliance, Silica Services Mining will continue to comply with such requirements.
- 2. For applicable requirements that will become effective during the permit term, Silica Services Mining shall meet such requirements on a timely basis.
- 3. For purposes of this permit, “applicable requirement” means all of the following as they apply to emissions units in a Part 71 source (including requirements that

have been promulgated or approved by US EPA through rulemaking at the time of issuance but have future compliance dates) [40 CFR § 71.2] :

- a. Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by US EPA through a rulemaking under Title I of the Clean Air Act (“CAA”) that implements the relevant requirements of the CAA, including any revisions to that plan promulgated in 40 CFR Part 52;
- b. Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under Title I, including Parts C or D, of the CAA;
- c. Any standard or other requirement under Section 111 of the CAA, including Section 111(d);
- d. Any standard or other requirement under section 112 of the CAA, including any requirement concerning accident prevention under Section 112(r)(7) of the CAA;
- e. Any standard or other requirement of the acid rain program under Title IV of the CAA or 40 CFR Parts 72 through 78;
- f. Any requirements established pursuant to Section 114(a)(3) or 504(b) of the CAA;
- g. Any standard or other requirement under Section 126(a)(1) and (c) of the CAA;
- h. Any standard or other requirement governing solid waste incineration under Section 129 of the CAA;
- i. Any standard or other requirement for consumer and commercial products under Section 183(e) of the CAA;
- j. Any standard or other requirement for tank vessels under Section 183(f) of the CAA;
- k. Any standard or other requirement of the program to control air pollution from outer continental shelf sources under Section 328 of the CAA;
- l. Any standard or other requirement of the regulations promulgated at 40 CFR Part 82 to protect stratospheric ozone under Title VI of the CAA, unless the EPA Administrator has determined that such requirements need not be contained in a Title V permit; and
- m. Any national ambient air quality standard or increment or visibility

requirement under Part C of Title I of the CAA, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the CAA.

II.E. Operational Flexibility [40 CFR § 71.6(a)(13)(i)] [NNOPR § 404(A)] [The NNOPR provision is enforceable by NNEPA only.]

1. The permittee is allowed to make a limited class of changes under CAA §502(b)(10) within Silica Services Mining that contravene the specific terms of this permit, without applying for a permit revision, provided the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions) and are not Title I modifications. This class of changes does not include:
 - a. Changes that would violate any applicable requirements; or
 - b. Changes that would contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements. [40 CFR § 71.2] [NNOPR § 102(54)]
2. The permittee is required to notify NNEPA and US EPA Region IX at least seven days in advance of any change made under this provision. The notice must describe the change, when the change will occur, any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The permittee shall attach each notice to its copy of this permit.
3. Any permit shield provided in this permit does not apply to changes made under this provision.

III. Facility-Wide or Generic Permit Requirements

Conditions in this section of the permit apply to all emissions units located at the facility.

III.A. Testing Requirements [40 CFR § 71.6(a)(3)]

In addition to the unit-specific testing requirements derived from the applicable requirements for each individual unit contained in Section II of this permit, the permittee shall comply with the following generally applicable testing requirements as necessary to ensure that the required tests are sufficient for compliance purposes:

1. Submit to NNEPA and US EPA Region IX a source test plan 30 days prior to any required testing. The source test plan shall include and address the following

elements:

- 1.0 Purpose of the test
- 2.0 Source Description and Mode of Operation during Test
- 3.0 Scope of Work Planned for Test
- 4.0 Schedule/Dates
- 5.0 Process Data to be Collected during Test
- 6.0 Sampling and Analysis Procedures
 - 6.1 Sampling Locations
 - 6.2 Test Methods
 - 6.3 Analysis Procedures and Laboratory Identification
- 7.0 Quality Assurance Plan
 - 7.1 Calibration Procedures and Frequency
 - 7.2 Sample Recovery and Field Documentation
 - 7.3 Chain of Custody Procedures
 - 7.4 QA/QC Project Flow Chart
- 8.0 Data Processing and Reporting
 - 8.1 Description of Data Handling and QC Procedures
 - 8.2 Report Content

- 2. Unless otherwise specified by an applicable requirement or permit condition in Section II, all source tests shall be performed at maximum available operating rates (90% to 110%) of unit maximum production rate.
- 3. During each test run, the permittee shall record the following information:
 - a. Fuel characteristics and/or amount of product processed (if applicable).
 - b. All parametric data which is required to be monitored in Section II for the emission unit being tested.
 - c. Other source specific data identified in Section II such as minimum test length (*e.g.*, one hour, eight hours, 24 hours, etc.), minimum sample volume, other operating conditions to be monitored, correction of O₂, etc.
- 4. Each source test shall consist of at least three (3) valid test runs, unless otherwise specified and the emissions results shall be reported as the arithmetic average of all valid test runs and in the terms of the emission limit.
- 5. Source test reports shall be submitted to NNEPA and US EPA Region IX within 60 days of completing any required source test.

III.B. Recordkeeping Requirements [40 CFR §§ 40 CFR 60.7(f), 71.6(a)(3)(ii)] [40 CFR § 60.7(f)] [NNOPR § 302(F)] [The NNOPR provision is enforceable by NNEPA only.]

In addition to the unit-specific recordkeeping requirements derived from the applicable requirements for each individual unit and contained in Section II, the

permittee shall comply with the following generally applicable recordkeeping requirements:

1. The permittee shall keep records of required monitoring information that include the following:
 - a. The date, place, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions as existing at the time of sampling or measurement.
2. Upon issuance of this permit, the permittee shall retain records of all required monitoring data and support information for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.
3. Upon issuance of this permit, the permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR § 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports and records.

III.C. Reporting Requirements [40 CFR § 71.6(a)(3)(iii)][NNOPR § 302(G)][The NNOPR provision is enforceable by NNEPA only.]

The permittee shall comply with the following generally applicable reporting requirements.

1. The permittee shall submit to NNEPA and US EPA Region IX reports of any monitoring required under 40 CFR §§ 71.6(a)(3)(i)(A), (B), or (C) each six-month reporting period from January 1 to June 30 and from July 1 to December 31. All reports shall be submitted to NNEPA and US EPA Region IX and shall be postmarked on or by the 30th day following the end of the reporting period. All instances of deviations from permit requirements must be clearly

identified in such reports. All required reports must be certified by a responsible official consistent with Section IV.E of this permit.

- a. A monitoring report under this section must include the following:
 - i. The company name and address.
 - ii. The beginning and ending dates of the reporting period.
 - iii. The emissions unit or activity being monitored.
 - iv. The emissions limitation or standard, including operational requirements and limitations (such as parameter ranges), specified in the permit for which compliance is being monitored.
 - v. All instances of deviations from permit requirements, including those attributable to upset conditions as defined in the permit and including exceedances as defined under 40 CFR § 64, and the date on which each deviation occurred.
 - vi. If the permit requires continuous monitoring of an emissions limit or parameter range, the report must include the total operating time of the emissions unit during the reporting period, the total duration of excess emissions or parameter exceedances during the reporting period, and the total downtime of the continuous monitoring system during the reporting period.
 - vii. If the permit requires periodic monitoring, visual observations, work practice checks, or similar monitoring, the report shall include the total time when such monitoring was not performed during the reporting period and at the source's discretion either the total duration of deviations indicated by such monitoring or the actual records of deviations.
 - viii. All other monitoring results, data, or analyses required to be reported by the applicable requirement.
 - ix. The name, title, and signature of the responsible official who is certifying to the truth, accuracy, and completeness of the report.
- b. Any report, such as compliance certifications described in condition IV.C.1, required by an applicable requirement that provides the same information described in Conditions III.C.1.a.i through ix above shall satisfy the requirement under Condition III.C.1.
- c. "Deviation" means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or recordkeeping established in

accordance with 40 CFR §§ 71.6(a)(3)(i) and (a)(3)(ii). For a situation lasting more than 24 hours, each 24-hour period may be considered a separate deviation. Included in the meaning of deviation are any of the following:

- i. A situation when emissions exceed an emission limitation or standard;
 - ii. A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
 - iii. A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit;
2. The permittee shall promptly report to NNEPA and US EPA Region IX deviations from permit requirements or start-up, shut-down, or malfunction plan requirements, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the underlying applicable requirement contains a definition of “prompt” or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement does not define prompt or provide a timeframe for reporting deviations, reports of deviations shall be submitted based on the following schedule:
 - a. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the facility becoming aware of the occurrence.
 - b. For emissions of any regulated pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
 - c. For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in Condition III.C.1 of this permit.
3. If any of the conditions in Condition III.C.2.a or b of this permit are met, the source must notify the NNEPA and US EPA Region IX by telephone, facsimile, or electronic mail sent to airquality@navajo-nsn.gov and r9.ao@epa.gov, based on the timetable listed. A written notice, certified consistent with Condition III.C.4 of this permit must be submitted within ten working days of the occurrence. All deviations reported under this section

must also be identified in the six-month report required under Condition III.C.1.

4. Any application form, report, or compliance certification required to be submitted by this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III.D. Stratospheric Ozone and Climate Protection [40 CFR § 82]

1. The permittee shall comply with the standards for labeling products using ozone depleting substances pursuant to 40 CFR § 82, Subpart E:
 - a. All containers in which a Class I or Class II substance is stored or transported, all products containing a Class I substance, and all products directly manufactured with a Class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR § 82.106.
 - b. The placement of the required warning statement must comply with the requirements of 40 CFR § 82.108.
 - c. The form of the label bearing the required warning statement must comply with the requirements of 40 CFR § 82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR § 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs), MCAV-like appliances and/or small appliances:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR § 82.156.
 - b. Equipment used during maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment under 40 CFR § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR § 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to

40 CFR § 82.166. (“MVAC-like appliance” is defined in 40 CFR § 82.152.).

- e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements under 40 CFR § 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of when the refrigerant was purchased and added to such appliances, pursuant to 40 CFR § 82.166(k).
- 3. If the permittee manufactures, transforms, destroys, imports, or exports a Class I or Class II substance, the permittee is subject to all the requirements as specified in 40 CFR § 82, Subpart A.
 - 4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR § 82, Subpart B.

The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B, does not include the air-tight sealed refrigeration systems used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5. The permittee shall be allowed to switch from any ozone-depleting substance to any acceptable substitute that is listed pursuant to 40 CFR Part 82, Subpart G.

III.E. Asbestos from Demolition and Renovation [40 CFR § 61, Subpart M]

The permittee shall comply with the requirements of 40 CFR §§ 61.140 through 61.157 of the National Emission Standard for Asbestos for only demolition and renovation projects involving asbestos.

IV. Title V Administrative Requirements

IV.A. Fee Payment [NNOPR Subpart VI][The NNOPR provision is enforceable by NNEPA only.]

- 1. The permittee shall pay an annual permit fee in accordance with the procedures outlined below. [NNOPR § 603(A) and (B)]
 - a. The permittee shall pay the annual permit fee by September 1 of each year.

- b. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of Navajo Nation Environmental Protection Agency.
- c. The permittee shall send the fee payment and a completed fee filing form to:

Navajo Nation Air Quality Control Program
Operating Permit Program
P.O. Box 529
Fort Defiance, AZ 86504

- 2. The permittee shall submit a fee calculation worksheet form with the annual permit fee by September 1 of each year. Calculations of actual or estimated emissions and calculation of the fees owed shall be computed on the fee calculation worksheets provided by the US EPA. Fee payment of the full amount must accompany each fee calculation worksheet. [NNOPR § 603(A)]
- 3. The fee calculation worksheet shall be certified as to truth, accuracy, and completeness by a responsible official consistent with 40 CFR § 71.5(d).
- 4. Basis for calculating the annual fee:

The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all fee pollutants emitted from the source by the applicable emissions fee (in dollars/ton) in effect at the time of calculation. Emissions of any regulated air pollutant that are already included in the fee calculation under a category of regulated pollutant, such as a federally listed hazardous air pollutant that is already accounted for as a VOC or as PM10, shall be counted only once in determining the source's actual emissions. [NNOPR § 602(A) and (B)(1)]

 - a. "Actual emissions" means the amount of emissions calculated using the actual rate of emissions in TPY of any fee pollutant emitted from a Part 71 source over the preceding calendar year and each emissions unit's actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. Actual emissions shall not include emissions of any one fee pollutant in excess of 4,000 TPY, or any emissions that come from insignificant activities. [NNOPR §§ 602(B)(1), 102(5)]
 - b. Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data.
 - c. If actual emissions cannot be determined using the compliance methods in the permit, the permittee shall use other federally recognized procedures.

- d. The term “fee pollutant” is defined in NNOPR § 102(24).
 - e. The term “regulated air pollutant” is defined in NNOPR § 102(50), except that for purposes of this permit the term does not include any pollutant that is regulated solely pursuant to 4 N.N.C. § 1121 nor does it include any hazardous air pollutant designated by the Director pursuant to 4 N.N.C. §1126(B).
 - f. The permittee should note that the applicable fee is revised each year to account for inflation, and it is available from NNEPA starting on March 1 of each year.
 - g. The total annual fee due shall be the greater of the applicable minimum fee and the sum of subtotal annual fees for all fee pollutants emitted from the source. [NNOPR § 602(B)(2)]
- 5. The permittee shall retain, in accordance with the provisions of 40 CFR § 71.6(a)(3)(ii), all fee calculation worksheets and other emissions-related data used to determine fee payment for five years following submittal of fee payment. Emission-related data include emissions-related forms provided by NNEPA and used by the permittee for fee calculation purposes, emissions-related spreadsheets, records of emissions monitoring data and related support information.
 - 6. Failure of the permittee to pay fees in a timely manner shall subject the permittee to the assessment of penalties and interest in accordance with NNOPR § 603(C).
 - 7. When notified by NNEPA of underpayment of fees, the permittee shall remit full payment within 30 days of receipt of notification.
 - 8. A permittee who thinks an NNEPA assessed fee is in error and wishes to challenge such fee, shall provide a written explanation of the alleged error to NNEPA along with full payment of the NNEPA assessed fee. NNEPA shall, within 90 days of receipt of the correspondence, review the data to determine whether the assessed fee was in error. If an error was made, the overpayment shall be credited to the account of the permittee.

IV.B. Blanket Compliance Statement [CAA §§ 113(a) and (e)(1), 40 CFR §§ 52.12, 52.33, 60.11(g), 71.6(a)(6)]

- 1. The permittee must comply with all terms and conditions of this Part 71 permit. Any permit noncompliance, including, but not limited to, violation of any applicable requirement; any permit term or condition; any fee or filing requirement; any duty to allow or carry out inspection, entry, or monitoring activities; or any regulation or order issued by the permitting authority pursuant to this part constitutes a violation of the CAA and is grounds for enforcement

action; permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR §§ 71.6(a)(6)]

2. Determinations of deviations, continuous or intermittent compliance status, or violations of this permit, are not limited to the applicable testing or monitoring methods required by the underlying regulations or this permit; other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered in such determinations. [CAA §§ 113(a) and (e)(1), 40 CFR §§ 51.212, 52.12, 52.33, 60.11(g)]

IV.C. Compliance Certifications [40 CFR § 71.6(c)(5)][NNOPR § 302(I)(3)][The NNOPR provision is enforceable by NNEPA only.]

1. The permittee shall submit to NNEPA and US EPA Region IX a semi-annual certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, postmarked on or by January 30 or July 30 and covering the previous six-month period ending on June 30 or December 31. The compliance certification shall be certified as to truth, accuracy, and completeness by the permit-designated responsible official consistent with Section IV.E of this permit and 40 CFR § 71.5(d). [40 CFR § 71.6(c)(5)][NNOPR § 302(I)]
2. The certification shall include the following:
 - a. Identification of each permit term or condition that is the basis of the certification.
 - b. Identification of the method(s) or other means used for determining the compliance status of each term and condition during the certification period.
 - b. The compliance status of each term and condition of the permit for the period covered by the certification based on the method or means designated above. The certification shall identify each deviation and take it into account in the compliance certification.
 - c. A statement whether compliance with each permit term was continuous or intermittent.
 - d. If necessary, the owner or operator shall also identify any other material information that must be included in the certification to comply with CAA § 113(c)(2), which prohibits knowingly making a false certification or omitting material information.

IV.D. Duty to Provide and Supplement Information [40 CFR §§ 71.6 (a)(6)(v),

71.5(b))[NNOPR § 301(E)][The NNOPR provision is enforceable by NNEPA only.]

The permittee shall furnish to NNEPA, within a reasonable time, any information that NNEPA may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to NNEPA copies of records that are required to be kept pursuant to the terms of the permit, including information claimed to be confidential. (Confidential information may be provided to US EPA Region IX only, pursuant to 40 CFR § 71.6(a)(6)(v), at the permittee's discretion.) Information claimed to be confidential should be accompanied by a claim of confidentiality according to the provisions of 40 CFR Part 2, Subpart B. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit to NNEPA such supplementary facts or corrected information. The permittee shall also provide additional information to NNEPA as necessary to address any requirements that become applicable to the facility after this permit is issued.

IV.E. Submissions [40 CFR §§ 71.5(d), 71.6][NNOPR § 103][The NNOPR provision is enforceable by NNEPA only.]

Any document required to be submitted with this permit shall be certified by a responsible official as to truth, accuracy, and completeness. Such certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. All documents required to be submitted, including reports, test data, monitoring data, notifications, compliance certifications, fee calculation worksheets, and applications for renewals and permit modifications shall be submitted to NNEPA and US EPA Region IX, as applicable, at the respective addresses below:

Navajo Nation Air Quality Control Program
Operating Permit Program
P.O. Box 529
Fort Defiance, AZ 86504

For Permit Renewal and Modification Applications:

Permits Office Chief, Air-3
US EPA Region 9
Air Division
75 Hawthorne Street
San Francisco, CA 94105-3901

For All Other Submissions:

Manager, Air & Tri-Section ENF-2-1
US EPA Region 9
Enforcement Division
75 Hawthorne Street
San Francisco, CA 94105-3901

IV.F. Severability Clause [40 CFR § 71.6 (a)(5)][NNOPR § 302(A)(5)][The NNOPR provision is enforceable by NNEPA only.]

The provisions of this permit are severable. In the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.

IV.G. Permit Actions [40 CFR § 71.6 (a)(6)(iii)][NNOPR § 406][The NNOPR provision is enforceable by NNEPA only.]

This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

IV.H. Administrative Permit Amendments [40 CFR § 71.7(d)][NNOPR § 405(C)][The NNOPR provision is enforceable by NNEPA only.]

The permittee may request the use of administrative permit amendment procedures for a permit revision that:

1. Corrects typographical errors.
2. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source.
3. Requires more frequent monitoring or reporting by the permittee.
4. Allows for a change in ownership or operational control of a source where NNEPA determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to NNEPA.
5. Incorporates into the permit the requirements from preconstruction review permits authorized under a US EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of 40 CFR §§ 71.7 71.8 and 71.10 that would be applicable to the change if it were subject to review as a permit modification, and compliance requirements substantially equivalent to those contained in 40 CFR § 71.6.
6. Incorporates any other type of change that NNEPA has determined to be similar to those listed above in Conditions IV.H.1 through 5.

IV.I. Minor Permit Modifications [40 CFR § 71.7(e)(1)][NNOPR § 405(D)][The NNOPR provision is enforceable by NNEPA only.]

1. The permittee may request the use of minor permit modification procedures only for those modifications that:
 - a. Do not violate any applicable requirement.
 - b. Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit.
 - c. Do not require or change a case-by-case determination of an emissions limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis.
 - d. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - i. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of CAA Title I; and
 - ii. An alternative emissions limit approved pursuant to regulations promulgated under CAA § 112(i)(5).
 - e. Are not modifications under any provision of CAA Title I.
 - f. Are not required to be processed as a significant modification.
2. Notwithstanding the list of changes eligible for minor permit modification procedures in Condition IV.I.1, minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in an applicable implementation plan or in applicable requirements promulgated by US EPA.
3. An application requesting the use of minor permit modification procedures shall meet the requirements of 40 CFR § 71.5(c) and shall include the following:
 - a. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
 - b. The source's suggested draft permit;
 - c. Certification by a responsible official, consistent with 40 CFR § 71.5(d), that the proposed modification meets the criteria for use of

minor permit modification procedures and a request that such procedures be used; and

- d. Completed forms for the permitting authority to use to notify affected States and the Administrator as required under 40 CFR § 71.8.
4. The permittee may make the change proposed in its minor permit modification application immediately after it files such application. After the permittee makes the change allowed by the preceding sentence, and until NNEPA takes any of the actions authorized by 40 CFR §§ 71.7(e)(1)(iv)(a) through (c), the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the permittee need not comply with the existing permit terms and conditions it seeks to modify. If the permittee fails to comply with its proposed permit terms and conditions during this time period, however, the existing permit terms and conditions it seeks to modify may be enforced against it.
5. The permit shield under 40 CFR § 71.6(f) may not extend to minor permit modifications.

IV.J. Significant Permit Modifications [40 CFR §§ 71.5(a)(2), 71.7(e)(3)][NNOPR §§ 301(C), 405(E)] [The NNOPR provision is enforceable by NNEPA only.]

1. The permittee must request the use of significant permit modification procedures for those modifications that:
 - a. Do not qualify as minor permit modifications or as administrative amendments.
 - b. Are significant changes in existing monitoring permit terms or conditions.
 - c. Are relaxations of reporting or recordkeeping permit terms or conditions.
2. Nothing herein shall be construed to preclude the permittee from making changes consistent with Part 71 that would render existing permit compliance terms and conditions irrelevant.
3. The permittee must meet all requirements of Part 71 for applications for significant permit modifications. Specifically, for the application to be determined complete, the permittee must supply all information that is required by 40 CFR §71.5(c) for permit issuance and renewal, but only that information that is related to the proposed change.

IV.K. Reopening for Cause [40 CFR § 71.7(f)][NNOPR § 406][This NNOPR provision is enforceable by NNEPA only.]

1. US EPA shall reopen and revise the permit prior to expiration under any of the following circumstances:
 - a. Additional requirements under the CAA become applicable to a major Part 71 source with a remaining permit term of 3 or more years.
 - b. NNEPA or US EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - c. NNEPA or US EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and shall be made as expeditiously as practicable.
3. Reopening for cause by NNEPA shall not be initiated before notice of such intent is provided to the permittee by NNEPA at least 30 days in advance of the date that the permit is to be reopened, except that NNEPA may provide a shorter time period in the case of an emergency.
4. Reopening for cause by US EPA shall follow the procedures set forth in 40 CFR§71.7(g).

IV.L. Property Rights [40 CFR § 71.6(a)(6)(iv)][NNOPR § 302(B)(5)][The NNOPR provision is enforceable by NNEPA only.]

This permit does not convey any property rights of any sort, or any exclusive privilege.

IV.M. Inspection and Entry [40 CFR § 71.6(c)(2)][NNOPR § 302(I)(2)][The NNOPR provision is enforceable by NNEPA only.]

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives from NNEPA and US EPA to perform the following:

1. Enter upon the permittee's premises where a Part 71 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

4. As authorized by the federal CAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

IV.N. Emergency Provisions [40 CFR § 71.6(g)][NNOPR § 305][The NNOPR provision is enforceable by NNEPA only.]

1. In addition to any emergency or upset provision contained in any applicable requirement, the permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and
 - d. The permittee submitted notice of the emergency to US EPA within 2 working days of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of Condition III.C.2 of this permit. In any enforcement proceeding, the permittee has the burden of proof to establish the occurrence of an emergency.
2. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emissions limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

IV.O. Transfer of Ownership or Operation [40 CFR § 71.7(d)(1)(iv)][NNOPR §405(C)]
[The NNOPR provision is enforceable by NNEPA only.]

A change in ownership or operational control of this facility may be treated as an administrative permit amendment if no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to NNEPA.

IV.P. Off-Permit Changes [40 CFR § 71.6(a)(12)][NNOPR § 404(B)][The NNOPR provision is enforceable by NNEPA only.]

The permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met:

1. Each change is not addressed or prohibited by this permit;
2. Each change must comply with all applicable requirements and may not violate any existing permit term or condition;
3. Changes under this provision may not include changes or activities subject to any requirement under Title IV or that are modifications under any provision of CAA Title I;
4. The permittee must provide contemporaneous written notice to NNEPA and US EPA Region IX of each change, except for changes that qualify as insignificant activities under 40 CFR § 71.5(c)(11). The written notice must describe each change, the date of the change, any change in emissions, pollutants emitted and any applicable requirements that would apply as a result of the change; and
5. The permittee must keep a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

IV.Q. Permit Expiration and Renewal [40 CFR §§ 71.5(a)(1)(iii), 71.6(a)(11), 71.7(b), 71.7(c)(1)(i) and (ii)][NNOPR §§ 301(B)(2) and 401(F)][The NNOPR provision is enforceable by NNEPA only.]

1. This permit shall expire upon the earlier occurrence of the following events:
 - a. Up to 12 years elapse from the date of issuance to a solid waste incineration unit combusting municipal waste subject to standards under CAA § 129; or
 - b. For sources other than those identified in Condition IV.Q.1.a above, five years elapse from the date of issuance; or
 - c. The source is issued a Part 70 permit by a US EPA-approved permitting authority.
2. Expiration of this permit terminates the permittee's right to operate unless a timely and complete permit renewal application has been submitted on or before a date six months, but not more than 18 months, prior to the date of expiration of this permit.

3. If the permittee submits a timely and complete permit application for renewal consistent with 40 CFR § 71.5(a)(2), but the permitting authority has failed to issue or deny the renewal permit, the permit shall not expire until the renewal permit has been issued or denied.
4. The permittee's failure to have a current Part 71 permit is not a violation of part 71 until NNEPA takes final action on the permit renewal application. This protection shall cease to apply if, subsequent to the completeness determination under 40 CFR § 71.7(a)(4), the permittee fails to submit any additional information identified as being needed to process the application by the deadline specified in writing by NNEPA.
5. Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation, affected State, and tribal review.
6. The application for renewal shall include the current permit number, description of permit revisions and off-permit changes that occurred during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application.



THE NAVAJO NATION

JONATHAN NEZ PRESIDENT
MYRON LIZER VICE PRESIDENT

Navajo Nation Environmental Protection Agency –Air Quality Control/Operating Permit Program

Post Office Box 529, Fort Defiance, AZ 86504 • Bldg. #2837 Route 112
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www.navajonationepa.org/airquality.html

Detailed Information

Permitting Authority: Navajo Nation Environmental Protection Agency

County: Apache **State:** Arizona **AFS Plant ID:** 09-000-00004005NAV88

Facility: Silica Services Mining, LLC

Document Type: STATEMENT OF BASIS

Part 71 Federal Operating Permit
Statement of Basis

SILICA SERVICES MINING, LLC
Permit No. NN-OP-17-013

1. **Facility Information**

a. **Permittee**

Silica Services Mining, LLC
PO Box 367, East Clay Miners Road
Sanders, AZ 86512

b. **Facility Location**

Section 23, Township 21N, Range 29E
6 miles east of Sanders, Arizona in Apache County, AZ.

c. **Contact Information**

Facility Contact: Kaibah Tsosie, EHS Specialist
Phone: (928) 228-9939

Responsible Official: David Warren, Plant Manager
Phone: (810) 971-5467

d. **Description of Operations, Products:**

The facility is an industrial sand mining and processing plant. Nearby overburden sand is processed via washing, screening, and drying operations to produce high quality silica for hydraulic fracturing and other industries.

e. **Permitting and/or Construction History**

Silica Services Mining LLC, owns and operates a sand processing facility located approximately six miles east of Sanders, Arizona, in Apache County. The facility was previously owned by BASF Catalysts LLC (BASF) and Preferred Sands LLC: until Silica Services Mining purchased the facility from Preferred Sands on October 25, 2019.

The facility, initially constructed by BASF in 2006, included mine transfer operations, wet plant, dry plant, and loadout nominally rated to produce 115 TPH of sellable sand. The original wet plant consists of submerged screens, cyclones, hydro-sizers, and centrifuges to separate the sand into primary, secondary, and waste sand. Because the sand is overly saturated throughout the wet plant process, the particulate emissions from this process are negligible. The original dry plant (Dry Plant 1 or DP1) consists of one sand dryer, conveyors, screens, and storage silos for finished product.

When the facility was initially constructed, it was subject to 40 CFR § 60, Subparts A (“General Provisions”) and UUU (“Standards of Performance for Calciners and Dryers in Mineral Industries or NSPS UUU”). The effect of NSPS UUU limited the potential to emit (PTE) of particulate matter (PM) and particulate matter of 10 microns or less (PM₁₀) from the facility to less than any permitting thresholds at the time of original construction. The original facility was not in one of the 27 source categories defined in 40 CFR § 52.21(b)(1)(iii) and did not have a PTE of more than 250 TPY. Therefore, the facility was a true minor source for Prevention of Significant Deterioration (PSD) permitting and did not need to seek a PSD permit. Furthermore, the facility did not have a PTE of more than 100 TPY of any Part 71 regulated pollutant and therefore did not need to seek a Title V operating permit pursuant to 40 CFR Part 71 Permit Program as delegated in part to NNEPA by US EPA on October 13, 2004, and in whole on March 21, 2006. In summary, the facility was originally constructed and operated without an air permit because the plant did not exceed any construction or operating permit thresholds in 2006.

Silica Services Mining, LLC recently purchased the facility from Preferred Sands. Previously, Preferred Sands purchased the Facility from BASF in 2010. In the spring of 2011, Preferred Sands began a plant expansion that included reconstruction of the existing wet plant and construction of a second dry plant (Dry Plant 2 or DP2). The 2011 wet plant reconstruction increased efficiency in washing, hydro-sizing, and separating saturated sand, as well as adding a dewatering plant. Again, all operations within the reconstructed wet plant have negligible particulate emissions because the sand is overly saturated throughout the process. Similar to design of Dry Plant 1, Dry Plant 2 was equipped with one sand dryer, conveyors, screens, and storage silos for finished product. Dry Plant 2 was designed and nominally rated to produce 165 TPH of sellable sand.

When the facility was expanded in 2011, the original facility and the expansion remained subject to NSPS UUU. A notice of installment, applicability, and intended start-up date was submitted to NNEPA and EPA Region 9 within 30 days of transporting the Dry Plant 2 sand dryer to the facility pursuant to 40 CFR § 60.7(a). The effect of NSPS UUU limited the PTE of PM and PM₁₀ from the facility to less than any permitting thresholds at the time of expansion. Operation of the facility expansion, in itself and in combination with operation of the original facility did not have a PTE of more than 250 TPY. Therefore, the facility remained a true minor source for PSD permitting and did not need to seek a PSD permit.

The 2011, facility expansion was not subject to review pursuant to the Federal Minor New Source Review Program in Indian Country (Tribal Minor NSR Rule), 40 CFR Part 49 Subpart C. Actual construction of a permanent nature for the 2011 expansion, which included Dry Plant 2 construction, began during the spring of 2011. Additionally, the construction persisted in a continual nature until completion in 2012. Pursuant to 40 CFR 49.151(c)(1)(iii), the Tribal Minor NSR preconstruction permitting requirements affect projects that begin construction on or after September 2, 2014. Therefore, the facility expansion was not subject to the Tribal Minor NSR Rule permitting.

The Tribal Minor NSR Rule required true minor sources to register with US EPA by March 1, 2013 pursuant to 40 CFR § 49.160. Preferred Sands registered the facility as an existing true minor source with EPA Region 9 in a timely manner. Additionally, a copy of the facility registration was provided to NNEPA.

On October 1, 2012, Preferred Sands began operation of Dry Plant 2. A notice of initial start-up was submitted to NNEPA and EPA Region 9 pursuant to 40 CFR § 60.7(a). The 2011 facility expansion resulted in facility-wide non-fugitive PM₁₀ potential emissions that exceeded 100 TPY; making the facility a major source of PM₁₀ according to 40 CFR § 71.2. The facility is not one of the named 27 source categories listed in 40 CFR § 71.2, so fugitive emissions are not considered when determining major source status. PTE calculations have been provided in the Tribal Minor NSR Rule registration, the Title V permit application submitted to NNEPA on September 30, 2013. In effect the facility became subject to the 40 CFR Part 71 permitting program on October 1, 2012 when Dry Plant 2 began operation. The facility conducted the initial performance tests at both the Dry plants on April 8 - 10, 2013, i.e. within 180 days after initial startup, to show compliance with NSPS Subpart UUU pursuant to 40 CFR § 60.732. A copy of the results were provided to NNEPA and EPA Region 9 on June 9, 2013. The facility also provided a revised Fugitive Dust Control Plan in February 2017. Pursuant to 40 CFR § 71.5(a), Preferred Sands submitted a timely and complete permit application on September 30, 2013 which was supplemented on May 22, 2014, July 28, 2015, and January 13, 2017.

f. **Permitted Emission Units and Control Equipment**

Table 1 lists the permitted emission-generating units and activities at the facility.

Table 1. List of Emission Units

Emission Unit Id. No.	Unit Description	Nominal Capacity	Commenced Construction/ Installation Date	Associated Control Equipment
EU0	Feed Hoppers, Sand Transfer from Wet Plant to Dry Plants	300 TPH (each)	2012	N/A
EU1-1	Dry Plant 1 Fluidized Bed Sand Dryer, DP1 Dryer	150 TPH Sand ¹ ;44.5 MMBtu/hr ²	2006	Cyclone, CE1-1 & Scrubber, CE1-2
EU's 1-2, 1-4, 1-7, & 1-8	Dry Plant 1 Conveyors	150 TPH Sand (each)	2006	Baghouse, CE1-3
EU1-3	Dry Plant 1 Bucket Elevator	150 TPH Sand	2006	Baghouse, CE1-3
EU's 1-5 & 1-6	Dry Plant 1 Primary Screens	150 TPH Sand (combined)	2006	Baghouse, CE1-3
EU's 1-9 & 1-10	Dry Plant 1 Secondary Screens	150 TPH Sand (combined)	2012	N/A
EU's 1-11, 1-12, & 1-13	Dry Plant 1 Storage Silos	150 TPH Sand (combined)	2006	Baghouse, CE1-3

¹ Due to screening and processing capability of Dry Plant 1, the DP1 Dryer operates at a maximum production rate of approximately 100 TPH dependent on sand moisture and ambient conditions.

² DP1 Dryer operates at a typical operating capacity of 16 MMBtu/hr dependent on sand moisture and ambient conditions.

EU's 1-21, 1-22, & 1-23	Dry Plant 1 Truck Loadout	150 TPH Sand (combined)	2006	Baghouse, CE1-3
EU2-1	Dry Plant 2 Fluidized Bed Sand Dryer, DP2 Dryer	200 TPH Sand ³ ;46.0 MMbtu/hr ⁴	2012	Baghouse, CE2-1
EU's 2-1a & 2-1b	Dry Plant 2 Conveyors	200 TPH Sand (each)	2012	N/A
EU 2-2	Dry Plant 2 Overs Screen	200 TPH Sand	2012	N/A
EU 2-3	Dry Plant 2 Bucket Elevator	200 TPH Sand	2012	N/A
EU 2-4	Dry Plant 2 Surge Bin	200 TPH Sand	2012	N/A
EU's 2-5, 2-6, 2-7, 2-8, & 2-9	Dry Plant 2 Primary Screens	200 TPH Sand (combined)	2012	Baghouse, CE2-2
EU2-10	Dry Plant 2 Secondary Screens	200 TPH Sand	2012	Baghouse, CE2-2
EU's 2-11, 2-12, 2-13, 2-14, 2-15, & 2-16	Dry Plant 2 Storage Silos	200 TPH Sand (combined)	2012	Baghouse, CE2-2
EU's 2-21, 2-22, 2-23, 2-24, 2-25, & 2-26	Dry Plant 2 Truck Loadout	200 TPH Sand (combined)	2012	N/A
FS0	Work in Progress (WIP) Storage Piles	N/A	2006	N/A

³ Due to screening and processing capability of Dry Plant 2, the DP2 Dryer operates at a maximum production rate of approximately 165 TPH dependent on sand moisture and ambient conditions.

FS's 1-1, 1-2	Dry Plant 1 Collection, Oversized, and Undersized Material Piles	N/A	2006	N/A
FS's 1-3, 1-4, & 1-5	Haul Roads for Finished Product Loadout, Mined Sand Transfer to the Facility, Reject Sand Transfer to Mine	N/A	2006	N/A
FS's 2-1, 2-2, & 2-3	Dry Plant 2 Collection, Oversized, and Undersized Material Piles	N/A	2012	N/A
FS's 2-4, 2-5, & 2-6	Haul Roads for Finished Product Loadout, Mined Sand Transfer to the Facility, Reject Sand Transfer to Mine	N/A	2012	N/A

g. Insignificant Emissions

This facility also emits pollutants at insignificant levels, as described in 40 CFR § 71.5(c)(11)(ii), which are defined as emission units with PTE less than 1 tpy of each criteria pollutant, or PTE less than 0.5 tpy or the de minimis level established under the federal Clean Air Act (CAA) § 112(g), whichever is less, for a single HAP:

- i. Wet plant operations.
- ii. Conveyors from to and from wet plant operation.
- iii. Dewatering plant operations.
- iv. WIP Conveyors.
- v. Portable space heater (<0.2 MMBtu/hr each).
- vi. Air conditioning units for human comfort.
- vii. Heating units for human comfort.

⁴ DP2 Dryer operates at a typical operating capacity of 23 MMBtu/hr dependent on sand moisture and ambient conditions.

viii. The following storage tanks present at the source:

Tank No.	Date Installed	Capacity (Gallons)	Liquid Stored
T-01	2012	10,000	Diesel
T-02	2012	1000	Gasoline
T-03	2012	1000	Kerosene
T-04a	2013	250	Motor Oil
T-04b	2013	250	Motor Oil
T-04c	2013	250	Motor Oil

h. Emissions Calculations

See Attachment A of this document for detailed emissions calculations.

i. Potential to Emit

Potential to emit (PTE) means the maximum capacity of any stationary source to emit any CAA-regulated air pollutant under the source's physical and operational design. See 40 C.F.R. § 52.21(b)(4). Any physical or operational limitation on the maximum capacity of this facility to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of fuel combusted, stored, or processed, must be treated as part of its design if the limitation is enforceable by US EPA. PTE is meant to be a worst-case emissions calculation and is used in many cases, though not all, to determine the applicability of federal requirements. Actual emissions may be much lower than PTE. The potentials to emit are presented in Tables 2 and 3 below.

Table 2. Potential to Emit of Criteria Air Pollutants

Emission Unit ID(s)	40 CFR Part 71 Regulated Air Pollutants in Tons Per Year (TPY)							
	PM ₁₀	PM _{2.5}	NO _x	SO _x	CO	VOC	Greatest Individual HAP	Combined HAPs
EU0 (Feed Hoppers)	1.22	0.18	-	-	-	-	-	-
EU1-1 (DP1 Dryer)	37.55	15.02	27.90	0.39	16.10	2.36	0.34	0.36
EU's 1-2 through 1-13, & 1-21 through 1-23 (DP1)	9.20	9.20	-	-	-	-	-	-
EU2-1 (DP2 Dryer)	40.88	16.35	28.47	0.39	16.43	2.41	0.35	0.37
EU's 2-1a through 2-16, & 2-21 through 2-26 (DP2)	21.24	21.24	-	-	-	-	-	-
FS's 0-1 & 0-2 (Mine & WIP Storage Piles) ^λ	2.62	2.62	-	-	-	-	-	-
FS's 1-1,1-2,2-1,2-2,&2-3 (Dry Plant Collection Piles) ^λ	0.20	0.20	-	-	-	-	-	-
FS3-1 (Dry Sellable Piles) ^λ	5.00	5.00	-	-	-	-	-	-
FS4 (Haul Roads) ^λ	19.04	1.90	-	-	-	-	-	-
Insignificant Activities*	*	*	*	*	*	*	*	*
Source PTE w/fugitives	136.93	71.72	56.37	0.78	32.52	4.77	0.70	0.73
Source PTE	110.09	62.00	56.37	0.78	32.52	4.77	0.70	0.73
Part 71 Major Source	100	NA	100	100	100	100	10	25

* Emissions from all insignificant activities at the facility are negligible, and therefore, these activities do not contribute a measurable amount of emission to the PTE of the source.

^λ FS signifies emission sources are fugitive which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening as defined in part 71. This facility is not one of the named 27 source categories listed in 40 CFR § 71.2, so fugitive emissions are not considered when determining major source status.

Table 3. Facility-Wide Greenhouse Gas Emissions Potential to Emit

Emission Unit	Greenhouse Gas Emissions (CO ₂ equivalent metric tons) †
EU 1-1	22,972
EU 2-1	23,562
Source PTE	46,534

† Greenhouse Gas emissions factors and CO₂ equivalence used to determine emissions as documented are from 40 CFR Part 98 Subpart C.

2. **Tribe Information**

a. **General**

The Navajo Nation has the largest land base of any tribe in the United States, covering 27,425 square miles in three states: Arizona, Utah, and New Mexico. The Navajo Nation is currently home to more than 300,000 people. Industries on the reservation include oil and natural gas processing, coal mining, sand mining, power production and tourism.

b. **Local Air Quality and Attainment Status**

All areas of the Navajo Nation are currently designated as attainment or unclassifiable for all pollutants for which a National Ambient Air Quality Standard (NAAQS) has been established.

3. **Inapplicable Requirements**

a. **NSPS for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR §§ 60.40c-60.48c, Subpart Dc)**

This subpart applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 Megawatts (MW) (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). The dryers located at the facility are not steam generating units as defined in NSPS Dc; therefore, this subpart does not apply

b. **NSPS for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978 (40 CFR §§ 60.110 - 60.113; 40 CFR Part 60, Subpart K)**

These regulations apply to storage vessels for petroleum liquids with storage capacities greater than 40,000 gallons and do not apply to storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling and production facility prior to custody transfer. There is no storage tank with a capacity greater than 40,000 gallons located on-site at the facility; therefore, this subpart does not apply.

c. **NSPS for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984 (40 CFR §§ 60.110a - 60.115a; 40 CFR Part 60, Subpart Ka)**

These regulations apply to storage vessels for petroleum liquids with storage capacities greater than 40,000 gallons and do not apply to petroleum storage vessels

with capacities of less than 420,000 gallons used for petroleum or condensate stored, processed, or treated prior to custody transfer. There is no storage tank with a capacity greater than 40,000 gallons located on-site at the facility; therefore, this subpart does not apply.

d. **NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (40 CFR §§ 60.110b – 60.117b; 40 CFR Part 60, Subpart Kb)**

These regulations apply to storage vessels with capacities greater than or equal to 75 cubic meters (471 bbl) that is used to store Volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. There are VOL storage vessels at the facility, but they do not have a capacity greater than equal to 75 m³; therefore, this subpart does not apply.

e. **NSPS for Nonmetallic Mineral Processing Plants (40 CFR §§ 60.670-60.676, Subpart OOO)**

This subpart is applicable to the following affected facilities in fixed or portable nonmetallic mineral Processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. The provisions of this subpart do not apply to the following operation of facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations. The facility does not have any crushing or grinding mills; therefore, this subpart does not apply.

f. **Acid Rain Program (40 CFR Parts § 72 – 78)**

These regulations establish general provisions and operating permit program requirements for affected sources containing affected units. The facility does not contain any affected units, as specified in 40 CFR § 72.6(a). Therefore, the emission units at this facility are not subject to requirements of the Acid Rain Program.

g. **Compliance Assurance Monitoring (CAM) Program (40 CFR § Part 64)**

These regulations apply to pollutant-specific emission units at major sources that are required to obtain 40 CFR part 70 or 71 permits where a unit is subject to an emission limitation or standard for the applicable regulated air pollutant, uses a control device to achieve compliance with such limitation or standard, and has potential pre-control device emissions of the applicable regulated air pollutant that equal or exceed the amount required for the source to be classified as a major source.

In accordance with 40 CFR §64.5(a), DP1 Dryer EU 1-1 and DP2 Dryer EU 2-1 are not large pollutant-specific emission units because neither unit has the PTE (taking into account control devices to the extent appropriate under the definition of this term in §64.1) of a regulated air pollutant that equal or exceed the amount required for the source to be classified as a major source. Therefore, pursuant to 40 CFR § 64.5(b), the dryers at the facility are considered other pollutant-specific emissions unit and do not require a CAM submittal unit the Part 71 permit is renewed.

h. Prevention of Significant Deterioration (PSD)

Silica Services Mining is not one of the 27 source categories defined in 40 CFR § 52.21(b)(1)(iii) and does not have the potential to emit more than 250 tons per year of any regulated air pollutant. Therefore, this source is not subject to the requirements of 40 CFR § 52.21 and is considered a true minor source for PSD permitting.

4. Applicable Requirements

The following requirements apply to the Silica Services Mining, LLC.

Table 4. Summary of Applicable Federal Requirements

Applicable Requirements	Emission Point/Unit
NSPS Subpart A (General Provisions)	EU 1-1, EU 2-1
NSPS Subpart UUU (Dryers in Mineral Industries)	EU 1-1, EU 2-1
NESHAP CCCCCC (Gasoline Distribution for Area Sources)	Gasoline Storage, T-02
Asbestos NESAP (40 CFR 61, Subpart M)	Facility Wide
Protection of Stratospheric Ozone (40 CFR Part 82)	Facility Wide

a. NSPS for Calciners and Dryers in Mineral Industries (40 CFR §§ 60.730-60.737, Subpart UUU):

The affected facility to which the provisions of this subpart apply is each calciner and dryer at the mineral processing plant that commences construction, modification, or reconstruction after April 23, 1986. Emission units EU 1-1 and EU 2-1 and control devices CE 1-2 and CE 2-1 are subject to the NSPS for dryers in mineral industries (40 CFR § 60, Subpart UUU) and the general provisions of CFR 60, Subpart A.

- I. Pursuant to 40 CFR § 60.732(a) no emissions shall be discharged into the atmosphere from Dryer 1 Scrubber CE1-2 and Dryer 2 Baghouse CE2-1 that contains particulate matter in excess of 0.025 gr/dscf. Preferred Sands demonstrated compliance with this limit within 180 days of initial startup on the dryers. They most recently demonstrated compliance with the emissions

limits via stack testing in April of 2013. The stack test reports were submitted to NNEPA and EPA Region 9 in a timely manner.

- II. Pursuant to 40 CFR § 60.732(b) no emissions shall be discharged into the atmosphere from Dryer 2 Baghouse CE2-1 that exhibits greater than 10 percent opacity. To demonstrate compliance with the applicable opacity standards during days of operation, in accordance with 40 CFR § 60.734(b), Silica Services performs visual observations per EPA Method 9 from Appendix A of Part 60. In lieu of performing Method 9 visual observations, Silica Services has the option of installing, calibrating, maintaining, and operating a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.
- III. Pursuant to 40 CFR § 60.732(b) emissions discharged from an affected facility using a wet scrubbing control device are not subject to the 10 percent opacity standard. The Dryer 1 EU 1-1 emissions are controlled via a wet scrubbing control device (CE 1-2); therefore, emissions from EU 1-1/CE 1-2 are not subject to the 10 percent opacity standard.

b. NESHAP for Gasoline Dispensing Facilities (GDF) at Area Sources of HAP (40 CFR §§ 63.11110 – 63.11132, Subpart CCCCCC)

The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank. The Gasoline Storage Tank, T-02 is subject to the Area Source NESHAP for GDF (40 CFR § 63, Subpart CCCCCC). Historically, the monthly throughput has been far less than 10,000 gallons of gasoline per month, and Silica Services expects similar throughput for the Gasoline Storage Tank in future years of operation. Accordingly, T-02 is subject to the requirements provided in 40 CFR § 63.11116.

- I. Pursuant to 40 CFR § 63.11116 gasoline at the facility is to be handled in a manner that prevents vapor releases to the atmosphere for extended periods of time. Silica Services performs the following measures to assure 40 CFR § 63.11116 is satisfied, including but not limited to: (1) minimizing gasoline spills; (2) Cleaning up spills as quickly as practicable; (3) covering open gasoline containers and gasoline storage tank fill-pipes with a gasketed seal when not in use; and (4) minimizing gasoline sent to open waste collection systems.
- II. To demonstrate which requirement are applicable pursuant to NESHAP CCCCCC, gasoline throughput and maintenance records are kept. Maintenance records are kept to demonstrate the work practice standards in 40 CFR § 63.11116 are met.

c. **Asbestos NESHAP (40 CFR Part 61, Subpart M)**

Silica Services is subject to the national emission standard for asbestos, 40 CFR Part 61, Subpart M, for all renovation and demolition projects, as specified in the permit document.

d. **Protection of Stratospheric Ozone (40 CFR Part 82)**

Silica Services is subject to the requirements for protecting stratospheric ozone under 40 CFR Part 82. Applicable requirements are specified in the permit document.

e. **Incorporation of Applicable Requirements into the Permit**

The following requirements apply to the facility and were incorporated into the applicable requirements of the Part 71 permit

Table 5. Incorporation of Applicable Requirements into the Part 71 Permit

Requirement	Condition/Section	Condition in Part 71 Permit	Description/Notes
NSPS - 40 CFR Part 60, Subpart A	60.1	n/a	Applicability (no requirements)
	60.2	n/a	Definitions (no requirements)
	60.3	n/a	Units and abbreviations (no requirements)
	60.4(a)	II.A.1	Submit reports to EPA Region IX and NNEPA
	60.4(b)	n/a	Submit reports to delegated agencies (Tribe is not the delegated authority for NSPS)
	60.5	n/a	Applicability determinations (places requirements on US EPA, not the facility)
	60.6	n/a	Review of plans (places requirements on US EPA, not the facility)
	60.7(a)	II.A.9	Notification of construction or reconstruction, initial startup, operational change, commence CMS demonstration, date for opacity observations, and use of CMS data during performance testing. (one-time only)
	60.7(b)	II.A.2	Records of startup, shutdown, and malfunction
60.7(c)	III.C.1	Semiannual excess emission and monitoring system performance reports	

	60.7(d)	n/a	Report format for CEMS reporting
	60.7(e)	n/a	Reporting frequency (PSD permit requires semi-annual excess emissions reports)
	60.7(f)	III.B.3	Maintain monitoring records (permit requires 5 years)
	60.7(g)	n/a	Notification required by state/local agency (no such notification required)
	60.7(h)	n/a	Disclaimer that subpart may clarify or make inapplicable any general provisions
	60.8	n/a	Initial performance tests (one time only)
	60.9	II.A.3	Availability of information
	60.10	n/a	State authority (no requirements)
	60.11(a)	II.A.4	Compliance with non-opacity standards
	60.11(b)	II.B.3	Compliance with opacity standards
	60.11(c)	II.B.2	Times when opacity standards
	60.11(d)	II.A.5	Good practice to minimize emissions
	60.11(e)	n/a	Demonstrating compliance with opacity standards
	60.11(f)	n/a	Special provisions in subpart supersede general provisions (no requirements)
	60.11(g)	II.A.6	Credible evidence
	60.12	II.A.7	Circumvention
	60.13	n/a	CEMS requirements
	60.14	n/a	Modifications
	60.15	n/a	Reconstruction
	60.16	n/a	Priority list (no requirements)
	60.17	n/a	Incorporation of test methods by reference
	60.18	n/a	Requirements for flares (facility does not use flares to comply with NSPS)
	60.19	II.A.8	General notification and reporting
40 CFR Part 60, NSPS Subpart UUU	60.730	n/a	applicability (no requirements)
	60.731	n/a	definitions (no requirements)
	60.732(a)	II.B.1	standards for particulate matter for dryers
	60.732(b)	II.B.2	standard for opacity
	60.733	n/a	special considerations for reconstruction as it applies to §60.15 (no requirements)
	60.734(a)	II.B.4	optional COMS installation and operations for opacity monitoring

	60.734(b)	II.B.3	upon permit issuance, Silica Services utilizes method 9 visual observations for opacity monitoring as applicable for Control Device CE 2-1
	60.734(c)	n/a	parametric monitoring requirements exemptions for certain dryer types
	60.734(d)	II.B.5	parametric monitoring requirements for dryers that use a wet scrubbing control device : Control Device CE 1-2
	60.735(a)	III.B.2	recordkeeping
	60.735(b)	II.B.6	recording requirements for Control Device CE 1-2
	60.735(c)(1)-(3)	II.B.7.a-c	semiannual reporting of exceedances and definition of exceedance
	60.735(d)	n/a	Agency delegation to State: reporting requirements (no requirements)
	60.736(a)	II.B.8	requirement to use test methods in Appendix A of Part 60
	60.736(b)(1)-(2)	II.B.8.a-b	test methods and practices for determining compliance with particulate matter standards
	60.736(c)	n/a	requirements for monitoring devices during initial performance test (initial compliance test has already been performed)
	60.737	n/a	Administrator delegation of authority
40 CFR Part 63, NESHAP Subpart CCCCCC	63.11110	n/a	purpose of subpart (no requirements)
	63.11111	n/a	applicability (no requirements)
	63.11112	n/a	clarification of affected units (no requirements)
	63.11113	n/a	time requirement to initially comply with subpart (The facility is already complying with the standard)
	63.11115(a)	II.C.1	operate and maintain affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions
	63.11115(b)	II.C.3	recordkeeping and reporting
	63.11116(a)	II.C.2	minimizing gasoline vapor release to the atmosphere
	63.11116(b)	II.C.3	recordkeeping and reporting
	63.11116(c)	n/a	time requirement to initially comply with subpart (The facility is already complying with the standard)

	63.11116(d)	n/a	definition of acceptable and portable gasoline containers
Asbestos NESHAP - 40 CFR Part 61, Subpart M	61.140 through 61.157	III.E	Requirements for demolition and renovation at facilities containing asbestos
Stratospheric Ozone Protection - 40 CFR Part 82	82.1 through 82.306	III.D	Requirements for treatment of class I and class II substances

EPA promulgated a Federal Implementation Plan for preconstruction review of major sources in nonattainment areas and of minor sources and minor modifications at major sources in both attainment and nonattainment areas, which became effective on August 30, 2011. (*See* 76 FR 38748, July 1, 2011.) These regulations, codified in 40 CFR Parts 49 and 51, establish preconstruction review requirements for sources that will be incorporated in Part 71 federal operating permits. This facility is not currently constructing new emission units or modifying existing emission units. In the future, if the facility constructs new emission units or modifies existing emission units, it may be required to obtain a permit from US EPA prior to construction.

5. Monitoring

The monitoring in this permit is summarized below.

Table 6. Monitoring in the Title V Permit

Requirement	Requirement Condition #	Monitoring from Underlying Requirement	Monitoring Added to Part 71 Permit	Monitoring Condition #
Particulate Standard for EU 1-1	II.B.1	Performance test within 180 days of startup	n/a	n/a
Particulate Standard for EU 2-1	II.B.1	Performance test within 180 days of startup	n/a	n/a

Opacity Standard for EU2-1	II.B.2	Certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation; Or, installation, calibration, maintenance, and operation a continuous monitoring system to measure and record the opacity of emissions	n/a	II.B.3 or II.B.4
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6. Endangered Species Act

Pursuant to Section 7 of the Endangered Species Act (ESA), 16 U.S.C. § 1536, and its implementing regulations at 50 CFR Part 402, US EPA is required to ensure that any action authorized, funded, or carried out by US EPA is not likely to jeopardize the continued existence of any federally listed endangered species or threatened species or result in the destruction or adverse modification of the designated critical habitat of any such species. NNEPA is issuing this federal Part 71 permit pursuant to a delegation from US EPA. However, this permit does not authorize the construction of new emission units or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the facility or its operations. Therefore, NNEPA and US EPA have concluded that the issuance of this permit will have no effect on listed species or their critical habitat.

7. Use of All Credible Evidence

Determinations of deviations from, continuous or intermittent compliance with, or violations of the permit are not limited to the testing or monitoring methods required by the underlying regulations or this permit. Other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered by Silica Services, NNEPA and US EPA in such determinations.

8. NNEPA Authority

Authority to administer a Part 71 Permit Program was delegated to NNEPA by US EPA in part on October 13, 2004 and in whole on March 21, 2006. In delegating to NNEPA the authority to administer the Part 71 operating permit program, US EPA determined that NNEPA had adequate independent authority to administer the program, as required by 40 CFR § 71.10(a). Specifically, US EPA found NNEPA had adequate permit processing requirements and adequate permit enforcement-related investigatory authorities.

Delegation Agreement between US EPA Region IX and NNEPA, §§ IV, V, VI.1, IX.2. Moreover, before waiving its collection of fees under 40 CFR § 71.9(c)(2)(ii), US EPA determined that NNEPA could collect sufficient revenue under its own authorities to fund a delegated Part 71 Program. Delegation Agreement at 1 and § II.2.

The Title V Permit therefore refers both to federal and to tribal provisions. When federal and tribal provisions are cited in parallel, the tribal provisions are identical to the federal provisions and compliance with the federal provision will constitute compliance with the tribal counterpart. Parallel tribal citations do not create any new requirements or impact the federal enforceability of the cited Part 71 requirements. All federal terms and conditions of the permit will be enforceable both by NNEPA and US EPA, as well as by citizens, under the federal Clean Air Act.

The provisions of Navajo law referenced in the permit will only be enforceable by NNEPA and will be enforced by NNEPA under the Navajo Nation Operating Permit Regulations and the Navajo Nation Air Pollution Prevention and Control Act, 4 N.N.C. §§ 1101-1162. Proposed Section IV.A (Fee Payment) refers only to the NNOPR as its source of authority because US EPA waived its collection of fees, as discussed above. This provision will be tribally enforceable only.

9. Public Participation

a. Public Notice

As described in 40 C.F.R. § 71.11(a)(5) and NNOPR § 403(A), all draft operating permits shall be publicly noticed and made available for public comment. The public notice requirements for permit actions and the public comment period are described in 40 C.F.R. § 71.11(d) and NNOPR § 403.

Public notice of this proposed permit action was provided to the permittee, US EPA Region IX, and the affected state, local and tribal governments via a mailed copy of the notice. A copy of the notice was also provided to all persons who submitted a written request to be included on the mailing list.

Public notice was published in a daily or weekly newspaper of general circulation in the area affected by this source.

b. Response to Comments

See Appendix B for NNEPA responses to all significant comments received on the draft Part 71 permit.

Appendix A: Emission Calculation

Emission Calculations
Emission Unit Listing
SILICA SERVICES MINING, LLC
Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Emission Unit No.	Process or Operation	Air Pollution Control Equip.	Air Pollution Control Equip. No.	AIR POLLUTION CONTROL EQUIPMENT DATA			AIR POLLUTION CONTROL EQUIPMENT		
				Equip. Type	Manufacturer/Model No.	% by Weight	Method of Determination	Applicable Reg. for Process/Control	
EU0a	Feed Hopper	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU0b*	Feed Hopper	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU1-1	DP1 Sand Dryer	Yes	CE1-1 & CE1-2	Cyclone & Wet Scrubber	StarKline, 11-26	>99%	Stack Test	N/A	
EU1-2	DP1 Vibratory Conveyor	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-3	DP1 Bucket Elevator	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-4	DP1 Conveyor	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-5	DP1 Rotex Screen	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-6	DP1 Rotex Screen	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-7	DP1 Conveyor	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-8	DP1 Conveyor	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-9	DP1 Sweco Screen	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU1-10a*	DP1 Sweco Screen	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU1-10b*	DP1 Sweco Screen	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU1-11	DP1 Storage Silo	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-12	DP1 Storage Silo	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-13	DP1 Storage Silo	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-21	DP1 Truck Loadout	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-22	DP1 Truck Loadout	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU1-23	DP1 Truck Loadout	Yes	CE1-3	Baghouse	Sly Inc., CF-8-5-C	>99%	Manufacturer	N/A	
EU2-1	DP2 Sand Dryer	Yes	CE2-1	Baghouse	MAAC, 144RPT560	>99%	Stack Test	N/A	
EU2-1a	DP2 Conveyor	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-1b	DP2 Conveyor	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-2	DP2 Bucket Elevator	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-3	DP2 Bucket Elevator	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-4	DP2 Surge Bin	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-5	DP2 Primary Rotex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-6	DP2 Primary Rotex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-7	DP2 Sec. Rotex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-8	DP2 Sec. Rotex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-9	DP2 Sec. Rotex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-10	DP2 Sec. Apex Screen	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-10a*	DP1 Sweco Screen	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-10b*	DP1 Sweco Screen	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-11	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-12	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-13	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-14	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-15	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-16	DP2 Storage Silo	Yes	CE2-2	Baghouse	Farr Camfill, G516 Sq.	>99%	Manufacturer	N/A	
EU2-21	DP2 Truck Loadout	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-22	DP2 Truck Loadout	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-23	DP2 Truck Loadout	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-24	DP2 Truck Loadout	No	N/A	N/A	N/A	N/A	N/A	N/A	
EU2-25	DP2 Truck Loadout	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS0-1*	Mine Storage Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS0-2*	WIP Piles	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS1-1	DP1 Overs Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS1-2	DP1 Unders Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS2-1	DP2 Collection Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS2-2	DP2 Overs Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS2-3	DP2 Unders Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS3-1*	Dry Seilable Pile	No	N/A	N/A	N/A	N/A	N/A	N/A	
FS4*	Haul Roads	No	N/A	N/A	N/A	N/A	N/A	N/A	

* Emission units and emissions calculation supplemented and submitted in July 2015 and January 2017.

Emission Calculations
Potential to Emit from Drying: Dry Plant 1
SILICA SERVICES MINING, LLC
Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Dry Plant 1 - 150 tph Dryer*

Sand Throughput*	150	tons per hour
Volumetric Air Flow λ	40,006	dscfm
Total Heat Input Capacity	44.5	MMBtu/hr
Total Heat Input Capacity	0.044	MMscf/hr
Potential LPG	0.49	10 ³ gal/hr
Potential LPG	4,292	10 ³ gal/yr

Pollutant	(A) Emission Factor ^[1] (gr/acf)	(B) = ((A) x acfm x 60 min/hr)/7,000 gr/lb Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Particulate Matter (PM)	0.025	8.57	75,097	37.55
Particulate Matter (PM ₁₀)	0.025	8.57	75,097	37.55
Particulate Matter (PM _{2.5})†	0.01	3.43	30,039	15.02
Pollutant	(A) Emission Factor ^[2] (lb/10 ³ gal)	(B) = (A)10 ³ gal/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Nitrogen Oxides (NO _x)	13	6.3700	55,801	27.90
Sulfur Dioxide (SO ₂)	0.18	0.0882	773	0.39
Carbon Monoxide (CO)	7.5	3.6750	32,193	16.10
Total Organic Compounds (TOC)	1.1	0.5390	4,722	2.36
Greenhouse Gas Pollutants (GHG)	(A) Emission Factor ^[3] (lb/MMscf)	(B) = (A)10 ³ gal/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Carbon Dioxide (CO ₂)	120,100	5,240	45,899,394	22,950
Nitrous Oxide (N ₂ O)	2.3	0.10	864.33	0.43
Methane (CH ₄)	0.23	0.01	87.90	0.04
Individual Hazardous Air Pollutants (HAP)	(A) Emission Factor ^[4] (lb/MMscf)	(B) = (A)*MMscf/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Benzene	0.0021	0.0001	0.8026	0.0004
Dichlorobenzene	0.0012	0.0001	0.4586	0.0002
Formaldehyde	0.0750	0.0033	28.6632	0.0143
Hexane	1.8000	0.0785	687.9176	0.3440
Lead Compounds	0.0005	0.0000	0.1911	0.0001
Naphthalene	0.0006	0.0000	0.2331	0.0001
Polycyclic Organic Matter (POM)	0.0001	0.0000	0.0337	0.0000
Toluene	0.0034	0.0001	1.2994	0.0006
Arsenic Compounds (ASC)	0.0002	0.0000	0.0764	0.0000
Beryllium Compounds (BEC)	0.0000	0.0000	0.0046	0.0000
Cadmium Compounds (CDC)	0.0011	0.0000	0.4204	0.0002
Chromium Compounds (CRC)	0.0014	0.0001	0.5350	0.0003
Cobalt Compounds (COC)	0.0001	0.0000	0.0321	0.0000
Manganese Compounds (MNC)	0.0004	0.0000	0.1452	0.0001
Mercury Compounds (HGC)	0.0003	0.0000	0.0994	0.0000
Nickel Compounds (NIC)	0.0021	0.0001	0.8026	0.0004
Selenium Compounds (SEC)	0.0000	0.0000	0.0092	0.0000
Total HAPs	1.8885	0.0824	721.7243	0.3609

^[1] Emission Factors for PM/PM₁₀ based on vender information where dryer emissions are controlled by a cyclone followed by a wet scrubber and includes both process and combustion emissions. NSPS requires PM be no greater than 0.025 gr/scf.

^[2] Emission Factor from AP-42 Tables 1.5-1 for Liquefied Petroleum Gas Combustion (7/08). Conversion Factor: 91,500 Btu = 1 gallon of propane from AP-42 Table 1.5-1.

^[3] GHG emissions factors are from 40 CFR Part 98 Subpart C, Table C-1 and C-2.

^[4] Emission Factor from AP-42 Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 for Natural Gas Combustion (7/98). Conversion Factor: 1,028 MMBtu/MMscf.

* Actual throughput of dryer is limited to 120 tons per hour due to limited screening capacity in the dry plant.

λ Dry standard cubic feet as measured during the most recent stack test on April 9, 2013.

† 10% of PM/PM₁₀ is assumed to PM_{2.5} according to California Emission Inventory and Report System (CEIDARS) PM Speciation for Dryers/Unknow Activities.

Emission Calculations
 Potential to Emit from Dry Plant 1 Handling and Loadout
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Emission Unit	Description	[A]	[B]	[C]	Emission Factor Source	[D] Hourly Throughput ⁽¹⁾	[E] = [D]*[B]*[F] Throughput	[F] Control Efficiency ⁽¹⁾	[D]	[B]*[D]	[C]*[D]	[A]*[E]	[B]*[E]	[C]*[E]
		(lb/ton)	(lb/ton)	(lb/ton)					(ton/hr)	(ton/yr)	(%)	(lb/hr)	(lb/hr)	(lb/hr)
EUI-2	Vibratory Conveyor	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	115.0	1,007,400	0.0	0.345	0.127	0.127	1.511	0.554	0.554
FS1-1	Overs From Conveyor	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	1.0	8,760	0.0	0.003	0.001	0.001	0.013	0.005	0.005
EUI-3	Bucket Elevator	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	114.0	998,640	0.0	0.342	0.125	0.125	1.498	0.549	0.549
EUI-4	Conveyor	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	114.0	998,640	0.0	0.342	0.125	0.125	1.498	0.549	0.549
EUI-5	Rotex Screen	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	57.0	499,320	0.0	1.425	0.496	0.496	6.242	2.172	2.172
EUI-6	Rotex Screen	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	57.0	499,320	0.0	1.425	0.496	0.496	6.242	2.172	2.172
EUI-7	20/40 Conveyor	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	42.0	367,920	0.0	0.126	0.046	0.046	0.552	0.202	0.202
EUI-8	12/20 or 16/30 Conveyor Transfer	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	21.0	183,960	0.0	0.063	0.023	0.023	0.276	0.101	0.101
EUI-9	Sweco Screen	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	21.0	183,960	0.0	0.525	0.183	0.183	2.300	0.800	0.800
EUI-10a	Sweco Screen	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	12.5	109,500	0.0	0.313	0.109	0.109	1.369	0.476	0.476
EUI-10b	Sweco Screen	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	12.5	109,500	0.0	0.313	0.109	0.109	1.369	0.476	0.476
FS1-1	Sweco Overs	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	1.0	8,760	0.0	0.025	0.009	0.009	0.110	0.038	0.038
FS1-2	Sweco Unders	0.0250	0.00870	0.00870	AP-42, 11.19.2-2	1.0	8,760	0.0	0.025	0.009	0.009	0.110	0.038	0.038
EUI-11	Silo 1	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	20.0	175,200	0.0	0.060	0.022	0.022	0.263	0.096	0.096
EUI-12	Silo 2	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	49.0	429,240	0.0	0.147	0.054	0.054	0.644	0.236	0.236
EUI-13	Silo 3	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	42.0	367,920	0.0	0.126	0.046	0.046	0.552	0.202	0.202
EUI-21	Truck Loadout 2 ⁽⁴⁾	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	20.0	175,200	0.0	0.060	0.022	0.022	0.263	0.096	0.096
EUI-22	Truck Loadout 2 ⁽⁴⁾	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	49.0	429,240	0.0	0.147	0.054	0.054	0.644	0.236	0.236
EUI-23	Truck Loadout 3 ⁽⁴⁾	0.0030	0.00110	0.00110	AP-42, 11.19.2-2	42.0	367,920	0.0	0.126	0.046	0.046	0.552	0.202	0.202
Total									5.937	2.101	2.101	26.004	9.204	9.204

⁽¹⁾ Conservatively all PM10 emissions are assumed to be PM2.5.

⁽²⁾ Plant throughput calculated according to PFD. Maximum throughput to Dryer 1 is 120 tph due to limited screening capacity.

⁽³⁾ Sly, Inc. dust collector manufacturer control efficiency guarantee 99.9%, but for purposes of considering emissions without the Dry Plant 1 dust collector the control efficiency is not considered.

⁽⁴⁾ No PM Emission factor provided for Truck Loadout emissions in AP-42. PM/PM10 emission factor ratio for conveying is used for loadout.

Emission Calculations
 PTE from Dry Plant Haul Road 1 Operation (Fugitive Emission)
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Unpaved roads {AP-42 Chapter 13.2.2 (11/06)}

Equation (1a):
$$E = k \times \left(\frac{sC}{12}\right)^a \times \left(\frac{W}{3}\right)^b \times \left(\frac{365-P}{365}\right) \times \left(\frac{S}{30}\right)^c \times (1-CE)$$
 (modified)

k	a	b	d
PM	4.9	0.7	0.45
PM ₁₀	1.5	0.9	0.45
PM _{2.5}	0.15	0.9	0.45

Activity / Road Description	Road Type / Silt Value	Roundtrip Distance (feet)		Loader Weight (tons)			Avg. Speed (mph)	Maximum Throughput (tons/yr)	Avg. Truck Capacity (units/truck)	Annual VMT (miles)
		empty	full	empty	full	Ave. (1)				
Product Loadout	u	4,80	2,200	2,200	17	50	33.5	972,360	34,00 tons	23,832
Sand from Mine	u	4,80	2,640	2,640	33.7	41.5	37.6	1,264,068	34,00 tons	37,178
Sellable Sand	u	4,80	1,320	1,320	33.7	41.5	37.6	972,360	34,00 tons	14,299
Reject Sand ⁽²⁾	u	4,80	2,640	2,640	33.7	41.5	37.6	291,708	34,00 tons	8,580
Total VMT:										83,890

⁽¹⁾ Weighted average = ((distance * weight empty)+(distance * weight full))/Roundtrip distance)

Note: The unpaved silt value of 4.8% is the mean of values in AP-42 Table 13.2.2-1 for sand and gravel processing.

⁽²⁾ On average, roughly 30% of material processed from the mine is filtered/screened out of the process and taken back to the mine.

Emission Calculations

Activity / Road Description	Control (%)	Emission Factors (lb/VMT)			Potential Emissions (tons/yr)		
		PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Product Loadout	80%	0.96	0.21	0.02	11.43	2.54	0.25
Sand from Mine	80%	1.01	0.22	0.02	18.78	4.17	0.42
Sellable Sand	80%	1.01	0.22	0.02	7.22	1.60	0.16
Reject Sand	80%	1.01	0.22	0.02	4.33	0.96	0.10
Total Annual Emissions:				41.77	9.27	0.93	

Description of Constants/Variables

- E : haul road emissions (lb/VMT)
- k, a, b, c, d : dimensionless constants from AP-42 Tables 13.2.1-1 & 13.2.2-2
- sC : silt content (%) of unpaved road surface
- W : average vehicle weight (tons)
- P : days/yr with at least 0.01" of precipitation
- P = 83
- S : mean vehicle speed on road (mph)
- default = 30, minimum =15
- CE : unpaved road, dust control efficiency
- CE = 80 % default = 0%
- VMT : vehicle miles traveled

Precipitation
 83 days a year on average between 1950 and 2006, the Flagstaff, AZ airport received more than 0.01 " of precipitation.
Control Efficiency
 80% control conservatively assumed for use of crushed rock and dust suppressant; AP-42 13.2.2 references 80% control for suppressant only, and crushed rock will also minimize haul road dust.
 Fugitive Dust Plan submitted with the permit application and implemented at the site.

Emission Calculations
 Potential to Emit from Sand Mine
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Potential emissions from the sand mine hoppers and transfer going to the plant.

Throughput 2,628,000 tpy
 $U^{[4]} = 6.68$ mean wind speed (miles/hr)
 $M^{[2]} = 3.0$ material moisture content (%)
 $[A] K(PM)^{[1]} = 0.74$
 $[B] K(PM_{10})^{[1]} = 0.35$
 $[C] K(PM_{2.5})^{[1]} = 0.053$

$$EF^{[1]} = k \times 0.0032 \times \left(\frac{U}{S} \right)^{1.3} \left(\frac{M}{2} \right)^{1.4}$$

[1] PM factor from AP-42 Chapter 13.2.4.3
 [2] Gathered from plant testing during site visit.
 [3] AP-42 Chapter 13, Equation 13.2.4.3-1
 [4] Gallup, NM airport weather station average from 1985 to 2005.

Description	[C] U (miles/hr)	[D] M (%)	[E] PM Emission Factor (lb/ton)	[F] PM ₁₀ Emission Factor (lb/ton)	[G] PM _{2.5} Emission Factor (lb/ton)	Emission Factor Source	[H] Throughput (ton/yr)	[E] x [H] / 2000 Potential PM Emissions (ton/yr)	[F] x [H] / 2000 Potential PM ₁₀ Emissions (ton/yr)	[G] x [H] / 2000 Potential PM _{2.5} Emissions (ton/yr)
Feed Hoppers	6.7	3.0	1.96E-03	9.25E-04	1.40E-04	Equation 13.2.4.3-1	2,628,000	2.570	1.216	0.184
Total								2.570	1.216	0.184

Emission Calculations
Potential to Emit from Dry Plant 2 (Dryer)
SILICA SERVICES MINING, LLC
Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Dry Plant 2 - 200 tph Dryer*

Sand Throughput*	200	tons per hour
Volumetric Air Flow λ	43,551	dscfm
Total Heat Input Capacity	46.0	MMBtu/hr
Total Heat Input Capacity	0.045	MMscf/hr
Potential LPG	0.50	10 ³ gal/hr
Potential LPG	4,380	10 ³ gal/yr

Pollutant	(A) Emission Factor ^[1] (gr/acf)	(B) = ((A) x acfm x 60 min/hr)/7,000 gr/lb Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Particulate Matter (PM)	0.025	9.33	81751.45	40.88
Particulate Matter (PM ₁₀)	0.025	9.33	81751.45	40.88
Particulate Matter (PM _{2.5})†	0.01	3.73	32700.58	16.35
Pollutant	(A) Emission Factor ^[2] (lb/10 ³ gal)	(B) = (A)10 ³ gal/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Nitrogen Oxides (NO _x)	13	6.5000	56940.00	28.47
Sulfur Dioxide (SO ₂)	0.18	0.0900	788.40	0.39
Carbon Monoxide (CO)	7.5	3.7500	32850.00	16.43
Total Organic Compounds (TOC)	1.1	0.5500	4818.00	2.41
Greenhouse Gas Pollutants (GHG)	(A) Emission Factor ^[3] (lb/MMscf)	(B) = (A)10 ³ gal/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Carbon Dioxide (CO ₂)	120,100	5,374	47,077,331	23,539
Nitrous Oxide (N ₂ O)	2.3	0.10	886.51	0.44
Methane (CH ₄)	0.23	0.01	90.16	0.05
Individual Hazardous Air Pollutants (HAP)	(A) Emission Factor ^[4] (lb/MMscf)	(B) = (A)*MMscf/hr Potential Emission Rate (lbs/hr)	(C) = (B)*8760 Potential Emission Rate (lbs/year)	(D) = (C)/2000 Potential Emission Rate (tons/year)
Benzene	0.0021	0.0001	0.8232	0.0004
Dichlorobenzene	0.0012	0.0001	0.4704	0.0002
Formaldehyde	0.0750	0.0034	29.3988	0.0147
Hexane	1.8000	0.0805	705.5720	0.3528
Lead Compounds	0.0005	0.0000	0.1960	0.0001
Naphthalene	0.0006	0.0000	0.2391	0.0001
Polycyclic Organic Matter (POM)	0.0001	0.0000	0.0346	0.0000
Toluene	0.0034	0.0002	1.3327	0.0007
Arsenic Compounds (ASC)	0.0002	0.0000	0.0784	0.0000
Beryllium Compounds (BEC)	0.0000	0.0000	0.0047	0.0000
Cadmium Compounds (CDC)	0.0011	0.0000	0.4312	0.0002
Chromium Compounds (CRC)	0.0014	0.0001	0.5488	0.0003
Cobalt Compounds (COC)	0.0001	0.0000	0.0329	0.0000
Manganese Compounds (MNC)	0.0004	0.0000	0.1490	0.0001
Mercury Compounds (HGC)	0.0003	0.0000	0.1019	0.0001
Nickel Compounds (NIC)	0.0021	0.0001	0.8232	0.0004
Selenium Compounds (SEC)	0.0000	0.0000	0.0094	0.0000
Total HAPs	1.8885	0.0845	740.2462	0.3701

mission Factors for PM/PM₁₀ based on vender information where dryer emissions are controlled by a cyclone followed by a wet scrubber and includes both process and combustion emissions. NSPS requires PM be no greater than 0.025 gr/scf.

^[2] Emission Factor from AP-42 Tables 1.5-1 for Liquefied Petroleum Gas Combustion (7/08). Conversion Factor: 91,500 Btu = 1 gallon of propane from AP-42 Table 1.5-1.

^[3] GHG emissions factors are from 40 CFR Part 98 Subpart C, Table C-1 and C-2.

^[4] Emission Factor from AP-42 Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 for Natural Gas Combustion (7/98). Conversion Factor: 1,028 MMBtu/MMscf.

λ Actual throughput of dryer is limited to 120 tons per hour due to limited screening capacity in the dry plant.

λ Dry standard cubic feet as measured during the most recent stack test on April 10, 2013.

* 100% of PM/PM₁₀ is assumed to PM2.5 according to California Emission Inventory and Report System (CEIDARS) PM Speciation for Dyers/Unknow Activities.

Emission Calculations
 Potential to Emit from Dry Plant 2 Handling and Loadout
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Emission Unit	Description	[A]	[B]	[C]	Emission Factor Source	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]
		(lb/ton)	(lb/ton)	(lb/ton)		Hourly Throughput ^[1]	(ton/yr)	Control Efficiency ^[2] (%)	$[1-F] \cdot [A] \cdot [D]$	$[1-F] \cdot [B] \cdot [D]$	$[1-F] \cdot [C] \cdot [D]$	$[1-F] \cdot [A] \cdot [E]$	$[1-F] \cdot [B] \cdot [E]$	$[1-F] \cdot [C] \cdot [E]$	$[1-F] \cdot [A] \cdot [E]$	$[1-F] \cdot [B] \cdot [E]$	$[1-F] \cdot [C] \cdot [E]$
EU2-1a	Dryer Discharge Conveyor	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	171.0	1,497,960	0.0	0.513	0.188	0.188	0.188	2.247	0.824	0.824	0.824	0.824
EU2-1b	Baghouse Discharge Conveyor	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	1.0	8,760	0.0	0.003	0.001	0.001	0.001	0.013	0.005	0.005	0.005	0.005
EU2-2	Overs Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	170.0	1,489,200	0.0	4.250	1.479	1.479	1.479	18.615	6.478	6.478	6.478	6.478
FS2-1	Overs Pile	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	1.0	8,760	0.0	0.025	0.009	0.009	0.009	0.110	0.038	0.038	0.038	0.038
EU2-3	Bucket Elevator	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	170.0	1,489,200	0.0	0.510	0.187	0.187	0.187	2.234	0.819	0.819	0.819	0.819
EU2-4	Surge Bin	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	170.0	1,489,200	0.0	0.510	0.187	0.187	0.187	2.234	0.819	0.819	0.819	0.819
EU2-5	Primary Rotex Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	85.0	744,600	0.0	2.125	0.740	0.740	0.740	9.308	3.239	3.239	3.239	3.239
EU2-6	Primary Rotex Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	85.0	744,600	0.0	2.125	0.740	0.740	0.740	9.308	3.239	3.239	3.239	3.239
EU2-7	Rotex Secondary Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	25.0	219,000	0.0	0.625	0.218	0.218	0.218	2.738	0.953	0.953	0.953	0.953
EU2-8	Rotex Secondary Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	25.0	219,000	0.0	0.625	0.218	0.218	0.218	2.738	0.953	0.953	0.953	0.953
EU2-9	Rotex Secondary Screen	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	25.0	219,000	0.0	0.625	0.218	0.218	0.218	2.738	0.953	0.953	0.953	0.953
FS2-2	Overs From Rotex	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	1.0	8,760	0.0	0.025	0.009	0.009	0.009	0.110	0.038	0.038	0.038	0.038
EU2-10	Apex & Sweco Secondary Screens	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	32.0	280,320	0.0	0.800	0.278	0.278	0.278	3.504	1.219	1.219	1.219	1.219
FS2-3	Unders From Apex	0.02500	0.00870	0.00870	AP-42, 11.19.2-2	1.0	8,760	0.0	0.025	0.009	0.009	0.009	0.110	0.038	0.038	0.038	0.038
EU2-11	Silo 1	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	3.5	30,660	0.0	0.011	0.004	0.004	0.004	0.017	0.017	0.017	0.017	0.017
EU2-12	Silo 2	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	6.5	56,940	0.0	0.020	0.007	0.007	0.007	0.085	0.031	0.031	0.031	0.031
EU2-13	Silo 3	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	63.0	551,880	0.0	0.189	0.069	0.069	0.069	0.828	0.304	0.304	0.304	0.304
EU2-14	Silo 4	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	37.0	324,120	0.0	0.111	0.041	0.041	0.041	0.486	0.178	0.178	0.178	0.178
EU2-15	Silo 5	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	27.5	240,900	0.0	0.083	0.030	0.030	0.030	0.361	0.132	0.132	0.132	0.132
EU2-16	Silo 6	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	31.5	275,940	0.0	0.095	0.035	0.035	0.035	0.414	0.152	0.152	0.152	0.152
EU2-21	Truck Loadout 1 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	10.0	87,600	0.0	0.030	0.011	0.011	0.011	0.131	0.048	0.048	0.048	0.048
EU2-22	Truck Loadout 2 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	63.0	551,880	0.0	0.189	0.069	0.069	0.069	0.828	0.304	0.304	0.304	0.304
EU2-23	Truck Loadout 3 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	37.0	324,120	0.0	0.111	0.041	0.041	0.041	0.486	0.178	0.178	0.178	0.178
EU2-24	Truck Loadout 4 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	27.5	240,900	0.0	0.083	0.030	0.030	0.030	0.361	0.132	0.132	0.132	0.132
EU2-25	Truck Loadout 5 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	31.5	275,940	0.0	0.095	0.035	0.035	0.035	0.414	0.152	0.152	0.152	0.152
EU2-26	Truck Loadout 6 ^[4]	0.00300	0.00110	0.00110	AP-42, 11.19.2-2	31.5	275,940	0.0	0.095	0.035	0.035	0.035	0.414	0.152	0.152	0.152	0.152
Total									13.800	4.850	4.850	4.850	60.444	21.243	21.243	21.243	21.243

^[1] Conservatively all PM10 emissions are assumed to be PM2.5.
^[2] Plant throughput calculated according to PFD. Maximum throughput to Dryer 2 is 180 tph due to limited screening capacity.
^[3] Fair Canmill dust collector manufacturer control efficiency Guarantee 99.9%, but for purposes of considering emissions without the Dry Plant 2 dust collector the control efficiency is not considered. For conservative PTE purposes, the control efficiency of the dust collector is not considered.
^[4] No PM Emission factor provided for Truck Loadout emissions in AP-42. PM/PM10 emission factor ratio for conveying is used for loadout.

Emission Calculations
 PTE from Dry Plant Haul Road 2 Operation (Fugitive Emission)
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Unpaved roads {AP-42 Chapter 13.2.2 (11/06)}

Equation (1a):
 (modified)
$$E = k \times \left(\frac{sc}{12} \right)^u \times \left(\frac{W^a}{3} \right)^b \times \left(\frac{365-P}{365} \right)^c \times \left(\frac{S}{30} \right)^d \times (1-CE)$$

	k	a	b	d
PM	4.9	0.7	0.45	0.3
PM ₁₀	1.5	0.9	0.45	0.5
PM _{2.5}	0.15	0.9	0.45	0.5

Activity / Road Description	Road Type / Silt Value	Roundtrip Distance (feet)		Loader Weight (tons)		Avg. Speed (mph)	Maximum Throughput (tons/yr)	Avg. Truck Capacity (units/truck)	Annual VMT (miles)
		empty	full	empty	full				
Product Loadout	u	4,80	2,800	2,800	17	50	33.5	34.00 tons	49,187
Sand from Mine	u	4,80	2,640	2,640	33.7	41.5	37.6	34.00 tons	60,289
Sellable Sand	u	4,80	2,640	2,640	33.7	41.5	37.6	34.00 tons	46,376
Reject Sand ^[2]	u	4,80	2,640	2,640	33.7	41.5	37.6	34.00 tons	13,913
Total VMT:									169,766

[1] Weighted average = ((distance *weight empty)+(distance *weight full))/ (Roundtrip distance)

Note: The unpaved silt value of 4.8% is the mean of values in AP-42 Table 13.2.2-1 for sand and gravel processing.

[2] On average, roughly 30% of material processed from the mine is filtered/screened out of the process and taken back to the mine.

Emission Calculations

Activity / Road Description	Control (%)	Emission Factors (lb/VMT)			Potential Emissions (tons/yr)				
		PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}		
Product Loadout	80%	0.85	0.17	0.02	20.89	4.27	0.43		
Sand from Mine	80%	0.89	0.18	0.02	16.63	3.40	0.34		
Sellable Sand	80%	0.89	0.18	0.02	6.40	1.31	0.13		
Reject Sand	80%	0.89	0.18	0.02	3.84	0.79	0.08		
Total Annual Emissions:							47.75	9.77	0.98

Description of Constants/Variables

E : haul road emissions (lb/VMT)

k, a, b, c, d : dimensionless constants from AP-42 Tables 13.2.1-1 & 13.2.2-2

sc : silt content (%) of unpaved road surface

W : average vehicle weight (tons)

P : days/yr with at least 0.01" of precipitation

P = 83

S : mean vehicle speed on road (mph)

default = 30, minimum = 15

CE : unpaved road, dust control efficiency

CE = 80% default = 0%

VMT : vehicle miles traveled

Precipitation

83 days a year on average between 1950 and 2006, the Flagstaff, AZ airport received more than 0.01" of precipitation.

Control Efficiency

80% control conservatively assumed for use of crushed rock and dust suppressant; AP-42 13.2.2 references 80% control for suppressant only, and crushed rock will also minimize haul road dust.

Fugitive Dust Plan submitted with the permit application and implemented at the site.

Emission Calculations
Storage Pile Fugitive Emissions
Potential to Emit from Storage Piles
SILICA SERVICES MINING, LLC
Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

EPA-450/3-88-008 Control of Open Fugitive
Dust Sources, Equation (4-9)

$$Emissions = 1.7k^k \left(\frac{365 - P}{235} \right)^s \left(\frac{f}{15} \right) \text{ lb/day}$$

- A = Acreage of Storage Pile= See Storage Pile Table
- k = Particle Size Multiplier= 1.0 PM10, 0.5 PM2.5
- k = Particle Size Multiplier= 0.5 PM2.5
- s = Silt Content %= 7.1 % (mean of values in AP-42 Table 13.2-2.1 for sand and gravel processing)
- P = Days/Year with >0.01" Precipitation= 83 days (NOAA's National Climate Data Center historical average precipitation in Flagstaff, AZ)
- f = % Time Wind is >12 mph at Mean Pile Height= 7.4 % (NOAA's National Climate Data Center historical average wind speed in Flagstaff, AZ)

Fugitive Emission Source	Storage Pile Description	Pile		
		Volume (ft ³)	Pile Footprint (ft ²)	LA/Pile Footprint (acres)
FS0-1	Mined Storage Pile ⁽¹⁾	1,564,690	156,469	3.59
FS0-2	WIP Storage Pile ⁽²⁾	1,413,000	105,978	2.43
FS1-1	Dry Plant 1 Overs Pile ⁽³⁾	1,508	452	0.01
FS1-2	Dry Plant 1 Unders Pile ⁽⁴⁾	1,508	452	0.01
FS2-1	Dry Plant 2 Collection Pile ⁽⁵⁾	1,508	452	0.01
FS2-2	Dry Plant 2 Overs Pile ⁽⁶⁾	1,508	452	0.01
FS2-3	Dry Plant 2 Unders Pile ⁽⁷⁾	4,524	1,356	0.03
FS3-1	Dry Sellable Sand Pile ⁽⁸⁾	5,009,250	500,925	11.50

Fugitive Emission Source	Storage Pile Description	PM Emissions Potential/Maximum			PM ₁₀ Emissions Potential/Maximum			PM _{2.5} Emissions Potential/Maximum		
		(lb/day)	(lb/year)	(ton/year)	(lb/day)	(lb/year)	(ton/year)	(lb/day)	(lb/year)	(ton/year)
FS0-1	Mined Storage Pile ⁽¹⁾	17.10	6,242	3.12	8.55	3,121	1.56	8.55	3,121	1.56
FS0-2	WIP Storage Pile ⁽²⁾	11.58	4,225	2.11	5.79	2,113	1.06	5.79	2,113	1.06
FS1-1	Dry Plant 1 Overs Pile ⁽³⁾	0.05	17	0.01	0.02	9	0.00	0.02	9	0.00
FS1-2	Dry Plant 1 Unders Pile ⁽⁴⁾	0.05	17	0.01	0.02	9	0.00	0.02	9	0.00
FS2-1	Dry Plant 2 Collection Pile ⁽⁵⁾	0.05	17	0.01	0.02	9	0.00	0.02	9	0.00
FS2-2	Dry Plant 2 Overs Pile ⁽⁶⁾	0.05	17	0.01	0.02	9	0.00	0.02	9	0.00
FS2-3	Dry Plant 2 Unders Pile ⁽⁷⁾	0.14	52	0.03	0.07	26	0.01	0.07	26	0.01
FS3-1	Dry Sellable Sand Pile ⁽⁸⁾	54.78	19,995	10.00	27.39	9,998	5.00	27.39	9,998	5.00
		12.17			6.09			6.09		

Note: Fugitive emissions do not count towards major/minor source classification for NSR and Part 71 permitting purposes.

⁽¹⁾ At a maximum, silica service may utilize the area south and east of the Dry Plant 2 to store saturated, mined sand. The area is 156,469 ft² as measured by GPS. The maximum height of the piles is approximately 10 ft.

⁽²⁾ At a maximum, there may be six WIP storage piles. Each pile will have a footprint of 150 feet diameter and will be approximately 40 feet high. The area was calculated by 3.14*R² or 3.14*5625 = 17,663 ft². Size of the pile was then 1/3 (17,663) * 40 feet = 235,500 ft³. Then, 235,500/6 = 1,413,000 ft³. Total footprint will be approximately 105,978 ft² or 2.43 acres.

⁽³⁾ Dry Plant 1 overs pile will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

⁽⁴⁾ Dry Plant 1 unders pile will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

⁽⁵⁾ Dry Plant 2 collection pile from the baghouse will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

⁽⁶⁾ Dry Plant 2 screen overs pile from will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

⁽⁷⁾ Dry Plant 2 screen overs pile from will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

⁽⁸⁾ Dry Plant 2 screen overs pile from will be approximately 12 feet in radius or 452 ft² with a maximum height of 10 feet. Volume of the pile is then 1/3(452)*10 feet = 1,508 ft³. Total acres would be 452/43560 = 0.01 acres.

Emission Calculations (No Dry Plant Dust Collectors)
 PTE Summary-Uncontrolled Emissions (No Dry Plant Dust Collectors)
 SILICA SERVICES MINING, LLC
 Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Emission Point	Plant	Description	Particulate Matter (PM)	Particulate Matter (PM ₁₀)	Particulate Matter (PM _{2.5})	Nitrogen Oxides (NO _x)	Sulfur Oxides (SO _x)	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)	Hexane (Single HAP)	Total HAPs
			(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
Point	DP1	150 tph Dryer	37.55	37.55	15.02	27.90	0.39	16.10	2.36	0.34	0.36
	DP1	Dry Plant 1	26.00	9.20	9.20	0	0	0	0	0	0
Fugitive	DP1	Haul Roads	41.77	9.27	0.93	0	0	0	0	0	0
All	DP1	Total	105.32	56.02	25.15	27.90	0.39	16.10	2.36	0.34	0.36
Point	DP1	Non-fugitive Total	63.55	46.75	24.22	27.90	0.39	16.10	2.36	0.34	0.36
Point	DP2	200 tph Dryer	40.88	40.88	16.35	28.47	0.39	16.43	2.41	0.35	0.37
	DP2	Dry Plant 2	60.44	21.24	21.24	0	0	0	0	0	0
Fugitive	DP2	Haul Roads	47.75	9.77	0.98	0	0	0	0	0	0
Fugitive	DP1&2	Sand Storage Piles	12.17	6.09	6.09	0	0	0	0	0	0
Fugitive	DP1&2	Sand Transfer Mine	2.57	1.22	0.18	0	0	0	0	0	0
All	DP1&2	Total	163.81	79.19	44.84	28.47	0.39	16.43	2.41	0.35	0.37
Point	DP2	Non-fugitive Total	101.32	62.12	37.59	28.47	0.39	16.43	2.41	0.35	0.37
All	DP1&2	Total	269.13	135.21	69.99	56.37	0.78	32.52	4.77	0.70	0.73
Point	DP1&2	Non-fugitive Total	164.87	108.87	61.82	56.37	0.78	32.52	4.77	0.70	0.73

Note: Fugitive emissions do not count towards permit class determination for this source pursuant, 40 CFR §71.2, Clean Air Act Section 302(j), 40 CFR §49.153.

Emission Calculations
Draft Statement of Basis (SOB) Table 2
SILICA SERVICES MINING, LLC
Section 23, Township 21N, Range 29E, 6 miles East of Sanders, Arizona

Emission Unit ID(s)	40 CFR Part 71 Regulated Air Pollutants in Tons Per Year (TPY)							Greatest Individual HAP	Combined HAPs
	PM ₁₀	PM _{2.5}	NO _x	SO _x	CO	VOC			
EU0 (Feed Hoppers)	1.22	0.18	-	-	-	-	-	-	-
EU1-1 (DP1 Dryer)	37.55	15.02	27.90	0.39	16.10	2.36	0.34	0.36	
EU's 1-2 through 1-13, & 1-21 through 1-23 (DP1)	9.20	9.20	-	-	-	-	-	-	
EU2-1 (DP2 Dryer)	40.88	16.35	28.47	0.39	16.43	2.41	0.35	0.37	
EU's 2-1a through 2-16, & 2-21 through 2-26 (DP2)	21.24	21.24	-	-	-	-	-	-	
FS's 0-1 & 0-2 (Mine & WIP Storage Piles) ^λ	2.62	2.62	-	-	-	-	-	-	
FS's 1-1, 1-2, 2-1, 2-2, & 2-3 (Dry Plant Collection Piles) ^λ	0.20	0.20	-	-	-	-	-	-	
FS3-1 (Dry Sellable Piles) ^λ	5.00	5.00	-	-	-	-	-	-	
FS4 (Haul Roads) ^λ	19.04	1.90	-	-	-	-	-	-	
Insignificant Activities*	*	*	*	*	*	*	*	*	
Source PTE w/fugitives	136.93	71.72	56.37	0.78	32.52	4.77	0.70	0.73	
Source PTE	110.09	62.00	56.37	0.78	32.52	4.77	0.70	0.73	
Part 71 Major Source	100	100	100	100	100	100	10	25	

* Emissions from all insignificant activities at the facility are negligible, and therefore, these activities do not contribute a measurable amount of emissions to the PTE of the source.

^λFS signifies emission sources are fugitive which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening as defined in Part 71.

The facility is not one of the named 27 source categories listed in 40 CFR § 71.2, so fugitive emissions are not considered when determining major source status.

Appendix B: Public Notice/Responses to Comments

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BY:

LEGAL NOTICE

Southlake Equity Group and Enerstream Capital Partners Acquire Preferred Sands of Arizona Tier One Mining Operation.

On October 25, 2019, Southlake Equity Group and Enerstream Capital Partners acquired Preferred Sands of Arizona, LLC, located in Sanders, Arizona. The site now operates as an independent, stand-alone organization under the name Silica Services Mining, LLC., and offers a complete range of proppant products to customers throughout the western United States. With plant and mine facilities on the Navajo Nation and a rail loadout facility under state jurisdiction, Silica Services Mining, LLC, will continue to recognize Navajo Nation employment practices and seek to expand its role in the community.

To be Published in the NAVAJO TIMES January 16, 2020.

PUBLIC NOTICES

Legal Notice

IN THE FAMILY COURT OF THE NAVAJO NATION JUDICIAL DISTRICT OF SHIPROCK, NEW MEXICO
 Hoswood Brown, DOD: 02/10/1999,
 Mary T. Brown, DOD: 09/15/1991,
 Decedents,
AND CONCERNING:
 Joseph Brown Sr,
 Petitioner.
 No. SRFC-DM-795-2019
LEGAL NOTICE

TO ALL INTERESTED PERSONS:
 Petitioner has filed a Petition for Quiet Title of Hoswood Brown and Mary T. Brown. A final hearing is set for February 12, 2020 at 9:00 AM at the Shiprock Family Court. If you wish to be heard about the Petition, you must file a written answer with the Shiprock Family Court, POB 1168, Shiprock, NM 87420 within 30 days from the date of first publication of this Notice, and send a copy to Petitioner, Joseph Brown Sr, POB 4882, Shiprock, New Mexico 87420 or your objections may be forever barred.

Issued this 05th day of November, 2019
 /s/ Clerk, Shiprock Family Court
 To be Published in the NAVAJO TIMES January 16, 23, 2020.

Request for Proposal
 Bid Number: 20-01-2237LE
 The Navajo Nation Office of the Controller - Purchasing Department and the Navajo Division of Transportation (Navajo DOT) are soliciting proposals and sealed bids for "Bid #: 20-01-2237LE, N251 Cottonwood, Aggregate Base Course"
 Contacts for a bid packet are:
 1) Joe Peterman, Department Manager, Navajo Division of Transportation - Roads, jpeterman@navajodot.org; (928) 797-0150 or (505) 371-8329.
 2) Jeremy Ben, Navajo Nation Purchasing Department, jben@nncoc.org, (928) 871-6316
 Closing date is January 31, 2020, at 3:00 p.m. Mountain Daylight Saving Time (M.D.T.). Any proposal(s) received after this date and time will not be accepted and will be returned to the sender. No faxed or email proposals or bids will be accepted.
 To be Published in the NAVAJO TIMES January 16, 23, 2020.

INVITATION TO BID
 The Navajo Nation (the "Owner"), invites General Contractors to submit bids for the general construction of the Tonalea Chapter Replacement Building. The site is located on Indian Route 21 approximately 1/2-mile northwest of the U.S. Highway 160 intersection in Tonalea, Navajo Nation, Arizona.

The work includes the construction of a single story (approximately 6,844 square feet) office facility consisting of meeting and conference rooms, offices, classroom restrooms, a coffee bar

RFP Packet, contact only the DCS Project Director, Faya BlueEyes faya@blueeyes13@gmail.com by email.
SUBMITTAL ADDRESS:
 Dzilth-Na-O-Dith-Hla Community School- Business Office
 Attn: Faya BlueEyes, Project Director
 35 Road 7585 #5003
 Bloomfield, New Mexico 87413
PROPOSAL RECEIVED AFTER THE DATE AND TIME SPECIFIED ABOVE WILL NOT BE CONSIDERED AND WILL BE REJECTED BY DCS.
 To be Published in the NAVAJO TIMES January 16, 23, 2020.

INVITATION FOR BIDS
 RFP #20-01-2238LE
FOR IMPROVEMENTS TO NEWCOMB HELIPORT
 NEWCOMB, NEW MEXICO
 NAVAJO DOT NO. CO11473
 Sealed bids for Improvements to the Newcomb Heliport, ACI No. 196585, will be received by the Navajo Nation at the Navajo DOT Complex, #16 Old Coalmine Road in TSE Bonito, NM until February 6, 2020 at 4:00 p.m. and then opened on February 10, 2020 at the Navajo DOT Complex. The bid evaluation will be held February 11-14, 2020 and the bid will be awarded on February 17, 2020. The work involved includes the following:

- SCHEDULE I**
Basic Heliport (Day Operations)
 - SCHEDULE II**
Additional Safety Precautions
 - SCHEDULE III**
Nighttime Heliport Additions
- For a complete set of Plans, Specifications and Contract Documents all purchases must be made through our website at www.armstrongconsultants.com. A digital copy may be downloaded for \$50.00. There will be no refunds. Each bid must be accompanied by a Certified Check or Cashier's Check in an amount not less than five (5) percent of the total bid made payable to Navajo Nation, or by a Bid Bond in like amount executed by a Surety Company. The Bidder must supply all the information required by the proposal forms and specifications and he/she must bid on all items of every schedule. The Navajo Nation reserves the right to waive any informality in or to reject any or all portions of the various bid items. No proposal may be withdrawn for a period of ninety (90) days from the opening thereof.

A Pre-Bid meeting will be held at the San Juan County Fire Station, in Newcomb, NM on January 24, 2020 at 11:00 a.m. All bidders are advised to examine the site to become familiar with all site conditions.
 The proposed contract is under and subject to comply with all Navajo Nation law. Any questions regarding this project are to be directed to Tim Archibeque at the office of Armstrong Consultants, Inc., Albuquerque, New Mexico, (505) 508-2192 for interpretation

WEBSITE: www.nncoc.org LINK/PURCHASING SERVICE/RFP'S/ADVERTISEMENT.
 Published in the NAVAJO TIMES January 16, 23, 30, 2020.

Request for Proposal
 Bid Number: 20-01-2236LE
 The Navajo Nation Office of the Controller - Purchasing Department and the Navajo Division of Transportation (Navajo DOT) are soliciting proposals and sealed bids for "Bid #: 20-01-2236LE, N251 Cottonwood, Water Truck Rental"
 Contacts for a bid packet are:
 1) Joe Peterman, Department Manager, Navajo Division of Transportation - Roads, jpeterman@navajodot.org; (928) 797-0150 or (505) 371-8329.
 2) Jeremy Ben, Navajo Nation Purchasing Department, jben@nncoc.org, (928) 871-6316
 Closing date is January 31, 2020, at 3:00 p.m. Mountain Daylight Saving Time (M.D.T.). Any proposal(s) received after this date and time will not be accepted and will be returned to the sender. No faxed or email proposals or bids will be accepted.
 To be Published in the NAVAJO TIMES January 16, 23, 2020.

LEGAL NOTICE
 Southlake Equity Group and Enerstream Capital Partners Acquire Preferred Sands of Arizona Tier One Mining Operation.
 On October 25, 2019, Southlake Equity Group and Enerstream Capital Partners acquired Preferred Sands of Arizona, LLC, located in Sanders, Arizona. The site now operates as an independent, stand-alone organization under the name Silica Services Mining, LLC, and offers a complete range of proppant products to customers throughout the western United States. With plant and mine facilities on the Navajo Nation and a rail loadout facility under state jurisdiction, Silica Services Mining, LLC, will continue to recognize Navajo Nation employment practices and seek to expand its role in the community.
 To be Published in the NAVAJO TIMES January 16, 2020.

IN THE FAMILY COURT OF THE NAVAJO NATION JUDICIAL DISTRICT OF WINDOW ROCK, ARIZONA
 In the Matter of the Estate of:
 Property belonging to:
 GILBERT C. ARVISO, SR. C# 082,773
 Date of Birth: 10/02/1955
 Date of Death: 05/03/2019
 Decedent,
AND CONCERNING:
 MAE ARVISO, C# 126,042
 Petitioner, Pro Se
 NO. WR-FC-765-19

LEGAL NOTICE
NOTICE TO ALL INTERESTED HEIR(S), PARTIES AND OTHERS:
NOTICE IS HEREBY GIVEN that Petitioner, Mae Arviso, C# 126,042 declares final inventory and proposed distribution of the property of the decedent Gilbert

ward copies of claims to Petitioner: Mae Arviso, C# 126,042, and Address: POB 2071, Window Rock, AZ 86515.

The final hearing date and settlement of said Estate as set by the Window Rock Family Court is on this 28 day of March 2020, at 9:00 o'clock A.M.
 To be Published in the NAVAJO TIMES January 16, 23, 2020.

NOTICE OF PROPOSED TOWER AMENDMENT
 The proposed tower registered with FCC, file number A1149318 and published in the Navajo Times on 12/19/2019 for an environmental Review this cell tower in Kayenta has 101' structure height within a 100-feet by 100-feet tract. Lighting will not be required per FCC Filing requirements.
 Any persons interested may review the FCC application by going to www.fcc.gov/asr/applications and, entering the Form 854 File Number.
 Interested persons may raise concerns about the proposed structure by filing a Request for Environmental Review with Federal Communications Commission.
 The Federal Communications Commission encourages interested parties to file requests for Environmental Review online and to follow instructions for making such filings can be found at www.fcc.gov/asr/environmentalrequest and the mailing address for interested parties that would prefer to file a request for Environmental Review by paper copy:
 FCC Requests for Environmental Review
 Attn: Ramon Williams
 445 12th Street SW
 Washington, DC 20554
 To be Published in the NAVAJO TIMES January 16, 2020.

IN THE FAMILY COURT OF THE NAVAJO NATION JUDICIAL DISTRICT OF CHINLE, ARIZONA
 In the Matter of the Estate of:
 Martha Jackson, C# 076,769
 DOD: 01/27/2019,
 Decedent,
AND CONCERNING:
 BENE JACKSON, C# 005,143
 Petitioner.
 NO.: CH-FC-002-20 (CV)
NOTICE FOR LEGAL PUBLICATION

TO ALL CREDITORS AND OTHER INTERESTED PARTIES
NOTICE IS HEREBY GIVEN THAT, Petitioner, Gene Jackson, has petitioned this Court to Probate the Estate of Martha Jackson, C#076,769 A hearing will be held on the Petition on the 25th day of February, 2020, at the hour of 10:00 a.m., at the Chinle Family Court in Chinle, Arizona.
 If you wish to object or intervene in this petition, you must file an answer to the Petition and serve a copy to Petitioner, at: Post Office Box 1662, Chinle, Arizona 86503. You may obtain a copy of the Petition from Petitioner. If you do not file an answer to the Peti-

JUDICIAL DISTRICT OF WINDOW ROCK, ARIZONA
 In the Matter of:
 Elsie Yazzie, C# 65,964
 DOD: 01/10/2019,
 Decedent,
AND CONCERNING:
 Gerald Brown, C# 509,733,
 Petitioner.
 NO. WR-FC-731-19 19-32708

LEGAL NOTICE
TO ALL HEIRS, CLAIMANTS AND OTHER INTERESTED PARTIES:
 Notice is hereby given that a Petition for Probate has been filed with this Court on September 26, 2019, regarding the above estate matter. The Petitioner is Gerald Brown, decedent's nephew, who is requesting ownership of the decedent's said property, belonging to decedent, Elsie Yazzie. A Pretrial conference has been set for March 26, 2020 at the hour of 3:00 p.m. at the Window Rock Family Court at which time the Court will hear any and all claims against the estate.

If you desire that your claims against the estate be heard, you must file an answer to the petition for probate prior to the commencement of the Pretrial Conference. A copy of your answer/claims to the petition must be provided to the Petitioner for the Estate, namely Gerald Brown, PO Box 1002, Ft. Defiance, AZ 86504. If you do not file and answer to the petition by the beginning of the Pretrial conference, your answer, claims or objection may be barred from being heard.

Issued this: January 10, 2019.
 /s/ Court Clerk, Window Rock Family Court
 To be Published in the NAVAJO TIMES on January 16, 23, 2020.

THE FAMILY COURT OF THE NAVAJO NATION JUDICIAL DISTRICT OF KAYENTA, ARIZONA
 IN THE MATTER OF
 M.G.P. ET. AL,
 MINOR CHILD
AND CONCERNING:
 Tanteanna M. Begay, Mother,
 Van Dexter Pkyav, Father,
 RESPONDENT,
AND
THE NAVAJO NATION,
 PETITIONER, PETITIONER.
 No. KY-FC-423-2019 (AN)
LEGAL NOTICE

To: Van Dexter Pkyav, DOB: 6/17/1984, last known residence Shivwits Reservation, Iwins, Utah. A Petition for Adjudication of Dependent Child, pursuant to 9 N.N.C. § 1002(M) has been filed against you in the Family Court of the Navajo Nation by the Office of the Prosecutor, Kayenta, Arizona c/o Megan Horing, telephone (928) 697-5593.
 This publication in the Navajo Times serves as Legal Notice to you. You shall appear for the Preliminary Hearing on February 19, 2020 at 9:00 a.m.
 You shall also have thirty (30) days from the fourth and last publication of this Legal Notice to answer this notice and submit your answer

RECEIVED
JAN 29 2020

Affidavit of Publication

BY:

STATE OF NEW MEXICO)
) SS
COUNTY OF MCKINLEY

Amelda Besselente being duly sworn upon oath, deposes and says:

As LEGAL CLERK of The Independent, a newspaper published in and having a general circulation in McKinley County, New Mexico and in the City of Gallup, New Mexico and having a general circulation in Cibola County, New Mexico and in the City of Grants, New Mexico and having a general circulation in Apache County, Arizona and in the City of St. Johns and in the City of Window Rock, Arizona therein: that this affiant makes the affidavit based upon personal knowledge of the facts herein sworn to. That the publication, a copy of which is hereto attached was published in said newspaper during the period time of publication and said notice was published in the newspaper proper, and not in a supplement thereof, for One Time, the first publication being on the _____ day of _____, 2020, the second publication being on the _____ day of _____, 2020, the third publication being on the _____ day of _____, 2020,

and the last publication being on the 15th day of January, 2020. That such newspaper, in which such notice or advertisement was published, is now and has been at all times material hereto, duly qualified for such purpose, and to publish legal notices and advertisements within the meaning of Chapter 12, of the statutes of the State of New Mexico, 1941 compilation,

Amelda Besselente
Affiant.

Sworn and Subscribed to before me this 16th day of January, A.D., 2020.

Buckley Pugh
Notary Public

My commission expires:
August 29th, 2021

LEGAL NOTICE
Sanders - Apache County
New Mexico

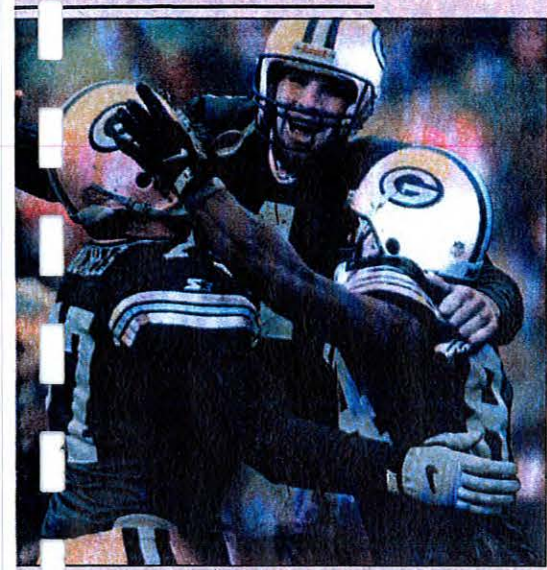
Legal Notice

Southlake Equity Group and
Enerstream Capital Partners
Acquire Preferred Sands of
Arizona Tier One Mining
Operation.

On October 25, 2019, Southlake Equity Group and Enerstream Capital Partners acquired Preferred Sands of Arizona, LLC, located in Sanders, Arizona. The site now operates as an independent, stand-alone organization under the name Silica Services Mining, LLC, and offers a complete range of proppant products to customers throughout the western United States. With plant and mine facilities on the Navajo Nation and a rail loadout facility under state jurisdiction, Silica Services Mining, LLC, will continue to recognize Navajo Nation employment practices and seek to expand its role in the community.

Legal# 19005 Published in The Independent January 15, 2020.

C Championship



The Associated Press

Jan. 4, 1997, file photo shows Green Bay Packers players from left, John Michels, Brett Favre and Aaron Rodgers celebrating after Green Bay's Antonio Rodgers recovered a fumble by teammate Ed Bennett for a touchdown in the third quarter against the San Francisco 49ers in Green Bay, Wis. The Packers and 49ers that have combined to win five Super Bowl titles will meet with a spot in the NFC Championship game on Sunday.

Rivalry for Packers-49ers heats back 25 years

Shirley Hooper
Football Writer

ANTA CLARA, Calif. — Brett Favre vs. Steve Young. Aaron Rodgers dueling with Colin Kaepernick.

The rivalry between the Green Bay Packers and San Francisco 49ers is electrifying, reminiscent of the electrifying rivalry between Desmond Howard and Steve Watson in the 1990s.

The rivalry between the Green Bay Packers and San Francisco 49ers is intertwined over the quarter-century as the Green Bay Packers and San Francisco 49ers, with the Packers getting groomed by the Packers and ending up with seven previous meetings, and

Packers rolled to a 27-17 win that established them as true contenders — even though they lost the following week against Dallas.

The teams met again the following year when Howard returned a punt 71 yards for a TD after San Francisco's opening possession. Young was knocked out later in the first quarter with an injury and the Packers won 35-14 on the way to a Super Bowl title.

"There was a time that you could just say, 'Hey, no matter, the 49ers are a better team than Green Bay,'" Packers defensive end Sean Jones said after that game. "There was a time where

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LEGAL NOTICE

PUBLIC NOTICE IS HEREBY GIVEN that The Gallup Housing Authority will conduct its monthly Board of Commissioners meeting to be held on Friday, January 17th, 2020 at 9:00 am MST, at the Gallup Housing Authority board room, 203 Debra Drive, Gallup, New Mexico 87301. A copy of the agenda and/or specific agenda items may be obtained at the Gallup Housing Authority office. This is a public meeting except for items to be considered in closed session. A general public comment period is allowed at the end of the business portion of the meeting.

Gallup Housing Authority
Gallup, McKinley County,
New Mexico
By: S/ Alfred Abeita, Chairman of the Board

Legal# 19002 Published in The Independent January 15, 2020.

LEGAL NOTICE Sanders - Apache County New Mexico

Legal Notice

Southlake Equity Group and Enerstream Capital Partners Acquire Preferred Sands of Arizona Tier One Mining Operation.

On October 25, 2019, Southlake Equity Group and Enerstream Capital Partners acquired Preferred Sands of Arizona, LLC, located in Sanders, Arizona. The site now operates as an independent, stand-alone organization under the name Silica Services Mining, LLC., and offers a complete range of proppant products to customers throughout the western United States. With plant and mine facilities on the Navajo Nation and a rail loadout facility under state jurisdiction, Silica Services Mining, LLC, will continue to recognize Navajo Nation employment practices and seek to expand its role in the community.

Legal# 19005 Published in The Independent January 15, 2020.

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