State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

RN124390009

October 4, 2022

Dean Thompson
Compass Minerals International
9900 W 109th St.
Overland Park, KS 66210
HurstH@compassminerals.com

Dear Dean Thompson,

Re: Engineer Review:
Modification to Approval Order to DAQE-AN124390005-17, to Remove Equipment and Update Conditions
Project Number: N124390009

The DAQ requests a company representative (Title V Responsible Official for enhanced Approval Order application) review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Compass Minerals International should complete this review within **10 business days** of receipt.

Compass Minerals International should contact **John Jenks** at (385) 306-6510 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email jjenks@utah.gov the signed cover letter to John Jenks. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an AO for signature by the DAQ Director.

If Compass Minerals International does not respond to this letter within **10 business days,** the project will move forward without source concurrence. If Compass Minerals International has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature _____
(Signature & Date)

☐ By (Title V responsible official) initialing this box and signing this document, this document serves as an enhanced application and the public comment period will serve as the required comment period for Title V purposes.

The Title V responsible official certifies: based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

UTAH DIVISION OF AIR QUALITY
ENGINEER REVIEW

SOURCE INFORMATION

Project Number	N124390009
Owner Name	Compass Minerals International
Mailing Address	9900 W 109th St. Overland Park, KS, 66210
Source Name	Compass Minerals Inc. - West Desert Operations
Source Location	West side of Great Salt Lake (Remote Location) Box Elder County, UT 84402
UTM Projection	332,885 m Easting, 4,578,003 m Northing
UTM Datum	NAD83
UTM Zone	UTM Zone 12
SIC Code	2819 (Industrial Inorganic Chemicals, NEC)
Source Contact	Holly Hurst
Phone Number	(801) 732-3251
Email	HurstH@compassminerals.com
Project Engineer	John Jenks, Engineer
Phone Number	(385) 306-6510
Email	jjenks@utah.gov
Notice of Intent (NOI) Submitted	December 19, 2018
Date of Accepted Application	April 19, 2022

SOURCE DESCRIPTION

General Description
Compass Minerals Inc. owns and operates a pumping operation, West Desert Operations (West Desert), located in Box Elder County. Brine is pumped from the North Arm of the Great Salt Lake into a series of initial evaporation ponds at two pump stations. The brine is then concentrated in the solar evaporation pond complex for approximately one year before being pumped to Behren's Trench at a pump station. The facility operates twelve diesel engines each to pump water from the Great Salt Lake into the West Desert evaporative pond complex.

NSR Classification:
Administrative Amendment

Source Classification
Located in Attainment Area,
Box Elder County
Airs Source Size: B

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
MACT (Part 63), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Project Proposal
Modification to Approval Order to DAQE-AN124390005-17, to Remove Equipment and Update Conditions

Project Description
Compass is requesting the following changes to their current AO equipment:

Removal of Pumping Station 115
Removal of Dove Creek Station
Removal of generators OGN-009, 005, 010 and 011
Removal of generator V13-716
Rename generator OGN-008 to OGN-005, Replace OGN-008

Compass also is requesting the following changes to its current AO requirements:

Requirement II.B.1.a(C) All other points - 10% opacity has been updated to 20 % opacity
Requirement II.B.1.e(A) correct the typographical error of 5 tons of NO_x to read 95 tons of NO_x. This is not an increase in NO_x emissions, the previous condition was written incorrectly.

Three diesel-fired engines were reconstructed and now fall under NSPS Subpart IIII (V13-712, V13-715, and V13-791). These engines will be certified by the manufacturer to meet the applicable emissions standards. Alternatively, a performance test may be completed within 60

days of initial operation after reconstruction to demonstrate compliance with the applicable emission standards.
Compass has also self-identified four additional diesel-fired engines, V13-705, V13-706, V13-709, and V13-713 (II.A.9) that were previously reconstructed, that now also fall under NSPS Subpart IIII. The engines are not certified by the manufacturer to meet the applicable emissions standards, nor was a performance test completed within 60 days of initial operation after reconstruction. The source has removed the engines from operation until they can be certified by the manufacturer to meet the applicable emissions standards. Alternatively, a performance test may be completed within 60 days of initial operation after reconstruction to demonstrate compliance with the applicable emission standards.

UDAQ has updated the following requirements:

NO_x emissions testing requirements have been reformatted and updated
Engine fuel requirements have been updated to specific engines
Fuel sulfur content conditions have been updated
CDS listing has been updated to B

EMISSION IMPACT ANALYSIS

There are no emission increases associated with this minor modification. All criteria pollutant and HAPs emissions are below their respective regulatory modeling trigger levels in R307-410-4 and R307-410-5. [Last updated August 9, 2022]

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO_2 Equivalent	0	30656.00
Carbon Monoxide	0	95.00
Nitrogen Oxides	0	95.00
Particulate Matter - PM_{10}	0	11.90
Particulate Matter - $PM_{2.5}$	0	11.90
Sulfur Dioxide	0	35.90
Volatile Organic Compounds	0	15.40

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Formaldehyde (CAS #50000)	0	10000
Generic HAPs (CAS #GHAPS)	0	3600
	Change (TPY)	**Total (TPY)**
Total HAPs	0	6.80

Note: Change in emissions indicates the difference between previous AO and proposed modification.

Review of BACT for New/Modified Emission Units

1. **BACT review regarding Minor Modification**
   The new equipment in this modification fall under R307-401-11 Replacement-In-Kind. Therefore, a BACT analysis is not required. [Last updated August 9, 2022]

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, 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 Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8	The owner/operator shall submit documentation of the status of reconstructed engines or initial testing to the Director within 18 months from the date of this AO. This AO may become invalid if reconstruction is not commenced within 18 months from the date of this AO or if reconstruction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.A THE APPROVED EQUIPMENT

II.A.1	**West Desert Operations** West desert pumping stations and associated equipment & activities
II.A.2	**Pumping Stations 112, 113 and 114** Primary brine pumping stations
II.A.3	**Lakeside Flush Water Station** Flush water station
II.A.4	**Living Quarters** Crew living quarters and associated equipment/storage
II.A.5	**Two Natural Gas-fired Engines** OGN-001 and OGN-002 Capacity: 602 HP (each)
II.A.6	**Natural Gas-fired Engine** OGN-003 Capacity: 145 HP
II.A.7	**Natural Gas-fired Engine** OGN-004 Capacity: 36 HP
II.A.8	**Two Diesel-fired Engines** OGN-006, OGN-008 Capacity: 95.2 HP (each)
II.A.9 NEW	**Diesel-fired Engine** OGN-005 Capacity: 30.6 HP

II.A.10	**Twelve Diesel-fired Engines** V13-705*, V13-706*, V13-707, V13-708, V13-709*, V13-710, V13-711, V13-712*, V13-713*, V13-714, V13-715* and V13-791* Capacity: 300 HP (each) *NSPS Applicability: Subpart IIII

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Site Requirements**
II.B.1.a	Visible emissions from the following emission points shall not exceed the following values: A. All diesel fired engines - 20% opacity B. All natural gas fired engines - 10% opacity C. All other points - 20% opacity. [R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 or as approved by the Director. [R307-401-8]
II.B.1.b	The following emission limits shall not be exceeded: A. 95 tons of NO_x per rolling 12-month period for all engines combined B. 95 tons of CO per rolling 12-month period for all engines combined. [R307-401-8]
II.B.1.c	Emissions shall be determined monthly for each engine and then summed to arrive at a monthly total for the previous month by no later than the 20th day of each month. To determine compliance with a rolling 12-month total, each month a new 12-month total shall be calculated by summing the monthly totals from the previous 12 months. Hours of operation shall be determined by use of an hour meter and by maintaining an operations logbook. Emission factors for each engine shall be as provided by stack testing or federal NSPS/NESHAP subpart. If tested emission factors are to be used in rolling 12-month totals the most recent stack test shall be used. [R307-401-8]
II.B.2	**Engine Testing Requirements**

II.B.2.a NEW	The owner/operator shall not emit more than the following rates and concentrations from the indicated emissions unit(s): Natural Gas-fired Engines OGN-001 and OGN-002 Pollutant lb/hr NO_x 5.0 Diesel-fired Engines V13-705, V13-706, V13-707, V13-708, V13-709, V13-710, V13-711, V13-712, V13-713, V13-714 and V13-791 Pollutant lb/hr NO_x 3.2 Diesel-fired Engines V13-715 Pollutant lb/hr NO_x 2.3. [R307-401-8]
II.B.2.a.1 NEW	Test Frequency The owner/operator shall conduct emission tests on all engines within five years after the date of the most recent emission test. The Director may require the owner/operator to perform an emission test at any time. Notification At least 30 days prior to conducting an emission test, the owner/operator shall submit a source test protocol to the Director. The source test protocol shall include: A. The date, time, and place of the proposed test B. The proposed test methodologies C. The stack(s) to be tested D. The procedures to be used E. Any deviation from an EPA-approved test method F. Explanation of any deviation from an EPA-approved test method If directed by the Director, the owner/operator shall attend a pretest conference. Testing The owner/operator shall conduct testing according to the approved source test protocol. The Director may reject emission test data if the test did not follow the approved source test protocol or if Director was not provided an opportunity to have an observer present at the test. Test Conditions The owner/operator shall conduct all tests no less than 90% of the maximum combustion rate achieved in the previous three (3) years unless otherwise specified in the approved source test protocol. During the tests, the owner/operator shall burn fuels or combinations of fuels, use raw materials, and maintain process conditions representative of normal operations. In addition, the owner/operator shall operate under any other relevant conditions that the Director specifies. [R307-401-8]

II.B.2.a.2 NEW	Test Methods When performing emission testing, the owner/operator shall use the appropriate EPA-approved test methods as acceptable to the Director. Acceptable test methods for pollutants are listed below. Sample Location The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location. Volumetric Flow Rate 40 CFR 60, Appendix A, Method 2 or other testing methods approved by the Director. Calculations To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation. NO_x 40 CFR 60, Appendix A, Method 7; Method 7E; or other EPA-approved testing method as acceptable to the Director. [R307-401-8]
II.B.3	**Fuel Requirements**
II.B.3.a NEW	The owner/operator shall only use diesel fuel (fuel oil #1, #2 or diesel fuel oil additives) in V13-705, V13-706, V13-707, V13-708, V13-709, V13-710, V13-711, V13-712, V13-713, V13-714, V13-715, V13-791, and OGN-005, OGN-006, and OGN-008.. All diesel burned shall meet the requirements of 40 CFR 80.510(c). [40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ]
II.B.3.a.1	To demonstrate compliance with the fuel oil requirements, the owner/operator shall keep and maintain fuel purchase invoices. The fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements, or the owner/operator shall obtain certification of sulfur content from the fuel supplier. [R307-401-8]
II.B.3.b	The owner/operator shall only use natural gas as fuel in the natural gas fired engines, OGN-001 through OGN-004. [R307-401-8]

PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Supersedes	AO DAQE-AN124390005-17 dated July 26, 2017
Is Derived From	NOI dated December 17, 2019
Incorporates	Additional information dated January 17, 2020
Is Derived From	NOI and Reconstruction Notice dated February 2, 2022
Is Derived From	NOI and Reconstruction Notice dated March 7, 2022
Incorporates	Additional Information dated April 19, 2022

REVIEWER COMMENTS

1. **Comment regarding Self Disclosure of Reconstructed Engines:**
   On February 1, 2022 the source self-identified four engines, V13-705, V13-706, V13-709, V13-713 (II.A.9) that were previously reconstructed that are now subject to NSPS Subpart IIII. The engines are not certified by the manufacturer to meet the applicable emissions standards, nor was a performance test completed within 60 days of initial operation after reconstruction. The source has pulled the engines from operation until they can be recertified by the manufacturer or a performance test to demonstrate compliance with the emission standards in 60.4212 is completed. These engines will be subject to condition I.8. [Last updated August 9, 2022]

2. **Comment regarding PM Limits for Engines Removed:**
   Condition II.B.1.b includes a limit for NO_x and CO that will limit the run time of the engines, and the PM_{10} and $PM_{2.5}$ emissions. Therefore, the PM_{10} and $PM_{2.5}$ emission limits have been removed from condition II.B.1.b. [Last updated August 9, 2022]

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds

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Approval Signature _____ 2/3/23
(Signature & Date)

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UTAH DIVISION OF AIR QUALITY
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Review of BACT for New/Modified Emission Units

1. **BACT review regarding Minor Modification**
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II.A.8	**Two Diesel-fired Engines** OGN-006, OGN-008 Capacity: 95.2 HP (each)
II.A.9 NEW	**Diesel-fired Engine** OGN-005 Capacity: 30.6 HP

II.A.10	**Twelve Diesel-fired Engines** V13-705*, V13-706*, V13-707, V13-708, V13-709*, V13-710, V13-711, V13-712*, V13-713*, V13-714, V13-715* and V13-791* Capacity: 300 HP (each) *NSPS Applicability: Subpart IIII

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Site Requirements**
II.B.1.a	Visible emissions from the following emission points shall not exceed the following values: A. All diesel fired engines - 20% opacity B. All natural gas fired engines - 10% opacity C. All other points - 20% opacity. [R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 or as approved by the Director. [R307-401-8]
II.B.1.b	The following emission limits shall not be exceeded: A. 95 tons of NO_x per rolling 12-month period for all engines combined B. 95 tons of CO per rolling 12-month period for all engines combined. [R307-401-8]
II.B.1.c	Emissions shall be determined monthly for each engine and then summed to arrive at a monthly total for the previous month by no later than the 20th day of each month. To determine compliance with a rolling 12-month total, each month a new 12-month total shall be calculated by summing the monthly totals from the previous 12 months. Hours of operation shall be determined by use of an hour meter and by maintaining an operations logbook. Emission factors for each engine shall be as provided by stack testing or federal NSPS/NESHAP subpart. If tested emission factors are to be used in rolling 12-month totals the most recent stack test shall be used. [R307-401-8]
II.B.2	**Engine Testing Requirements**

II.B.2.a NEW	The owner/operator shall not emit more than the following rates and concentrations from the indicated emissions unit(s): Natural Gas-fired Engines OGN-001 and OGN-002 Pollutant lb/hr NO_x 5.0 Diesel-fired Engines V13-705, V13-706, V13-707, V13-708, V13-709, V13-710, V13-711, V13-712, V13-713, V13-714 and V13-791 Pollutant lb/hr NO_x 3.2 Diesel-fired Engines V13-715 Pollutant lb/hr NO_x 2.3. [R307-401-8]
II.B.2.a.1 NEW	Test Frequency The owner/operator shall conduct emission tests on all engines within five years after the date of the most recent emission test. The Director may require the owner/operator to perform an emission test at any time. Notification At least 30 days prior to conducting an emission test, the owner/operator shall submit a source test protocol to the Director. The source test protocol shall include: A. The date, time, and place of the proposed test B. The proposed test methodologies C. The stack(s) to be tested D. The procedures to be used E. Any deviation from an EPA-approved test method F. Explanation of any deviation from an EPA-approved test method If directed by the Director, the owner/operator shall attend a pretest conference. Testing The owner/operator shall conduct testing according to the approved source test protocol. The Director may reject emission test data if the test did not follow the approved source test protocol or if Director was not provided an opportunity to have an observer present at the test. Test Conditions The owner/operator shall conduct all tests no less than 90% of the maximum combustion rate achieved in the previous three (3) years unless otherwise specified in the approved source test protocol. During the tests, the owner/operator shall burn fuels or combinations of fuels, use raw materials, and maintain process conditions representative of normal operations. In addition, the owner/operator shall operate under any other relevant conditions that the Director specifies. [R307-401-8]

II.B.2.a.2 NEW	Test Methods When performing emission testing, the owner/operator shall use the appropriate EPA-approved test methods as acceptable to the Director. Acceptable test methods for pollutants are listed below. Sample Location The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location. Volumetric Flow Rate 40 CFR 60, Appendix A, Method 2 or other testing methods approved by the Director. Calculations To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation. NO_x 40 CFR 60, Appendix A, Method 7; Method 7E; or other EPA-approved testing method as acceptable to the Director. [R307-401-8]
II.B.3	**Fuel Requirements**
II.B.3.a NEW	The owner/operator shall only use diesel fuel (fuel oil #1, #2 or diesel fuel oil additives) in V13-705, V13-706, V13-707, V13-708, V13-709, V13-710, V13-711, V13-712, V13-713, V13-714, V13-715, V13-791, and OGN-005, OGN-006, and OGN-008.. All diesel burned shall meet the requirements of 40 CFR 80.510(c). [40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ]
II.B.3.a.1	To demonstrate compliance with the fuel oil requirements, the owner/operator shall keep and maintain fuel purchase invoices. The fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements, or the owner/operator shall obtain certification of sulfur content from the fuel supplier. [R307-401-8]
II.B.3.b	The owner/operator shall only use natural gas as fuel in the natural gas fired engines, OGN-001 through OGN-004. [R307-401-8]

PERMIT HISTORY

When issued, the approval order shall supersede (if a modification) or will be based on the following documents:

Supersedes	AO DAQE-AN124390005-17 dated July 26, 2017
Is Derived From	NOI dated December 17, 2019
Incorporates	Additional information dated January 17, 2020
Is Derived From	NOI and Reconstruction Notice dated February 2, 2022
Is Derived From	NOI and Reconstruction Notice dated March 7, 2022
Incorporates	Additional Information dated April 19, 2022

REVIEWER COMMENTS

1. **Comment regarding Self Disclosure of Reconstructed Engines:**
On February 1, 2022 the source self-identified four engines, V13-705, V13-706, V13-709, V13-713 (II.A.9) that were previously reconstructed that are now subject to NSPS Subpart IIII. The engines are not certified by the manufacturer to meet the applicable emissions standards, nor was a performance test completed within 60 days of initial operation after reconstruction. The source has pulled the engines from operation until they can be recertified by the manufacturer or a performance test to demonstrate compliance with the emission standards in 60.4212 is completed. These engines will be subject to condition I.8. [Last updated August 9, 2022]

2. **Comment regarding PM Limits for Engines Removed:**
Condition II.B.1.b includes a limit for NO_x and CO that will limit the run time of the engines, and the PM_{10} and $PM_{2.5}$ emissions. Therefore, the PM_{10} and $PM_{2.5}$ emission limits have been removed from condition II.B.1.b. [Last updated August 9, 2022]

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds

State of Utah
SPENCER J. COX
Governor
DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality
Kimberly D. Shelley
Executive Director
DIVISION OF AIR QUALITY
Bryce C. Bird
Director

RN124390009

October 4, 2022

Dean Thompson
Compass Minerals International
9900 W 109th St.
Overland Park, KS 66210
HurstH@compassminerals.com

Dear Dean Thompson,

Re: Engineer Review:
Modification to Approval Order to DAQE-AN124390005-17, to Remove Equipment and Update Conditions
Project Number: N124390009

The DAQ requests a company representative (Title V Responsible Official for enhanced Approval Order application) review and sign the attached Engineer Review (ER). This ER identifies all applicable elements of the New Source Review permitting program. Compass Minerals International should complete this review within **10 business days** of receipt.

Compass Minerals International should contact **John Jenks** at (385) 306-6510 if there are questions or concerns with the review of the draft permit conditions. Upon resolution of your concerns, please email jjenks@utah.gov the signed cover letter to John Jenks. Upon receipt of the signed cover letter, the DAQ will prepare an ITA for a 30-day public comment period. At the completion of the comment period, the DAQ will address any comments and will prepare an AO for signature by the DAQ Director.

If Compass Minerals International does not respond to this letter within **10 business days,** the project will move forward without source concurrence. If Compass Minerals International has concerns that cannot be resolved and the project becomes stagnant, the DAQ Director may issue an Order prohibiting construction.

Approval Signature _____
(Signature & Date)

☐ By (Title V responsible official) initialing this box and signing this document, this document serves as an enhanced application and the public comment period will serve as the required comment period for Title V purposes.

The Title V responsible official certifies: based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

UTAH DIVISION OF AIR QUALITY
ENGINEER REVIEW

SOURCE INFORMATION

Project Number	N124390009
Owner Name	Compass Minerals International
Mailing Address	9900 W 109th St. Overland Park, KS, 66210
Source Name	Compass Minerals Inc. - West Desert Operations
Source Location	West side of Great Salt Lake (Remote Location) Box Elder County, UT 84402
UTM Projection	332,885 m Easting, 4,578,003 m Northing
UTM Datum	NAD83
UTM Zone	UTM Zone 12
SIC Code	2819 (Industrial Inorganic Chemicals, NEC)
Source Contact	Holly Hurst
Phone Number	(801) 732-3251
Email	HurstH@compassminerals.com
Project Engineer	John Jenks, Engineer
Phone Number	(385) 306-6510
Email	jjenks@utah.gov
Notice of Intent (NOI) Submitted	December 19, 2018
Date of Accepted Application	April 19, 2022

SOURCE DESCRIPTION

General Description
Compass Minerals Inc. owns and operates a pumping operation, West Desert Operations (West Desert), located in Box Elder County. Brine is pumped from the North Arm of the Great Salt Lake into a series of initial evaporation ponds at two pump stations. The brine is then concentrated in the solar evaporation pond complex for approximately one year before being pumped to Behren's Trench at a pump station. The facility operates twelve diesel engines each to pump water from the Great Salt Lake into the West Desert evaporative pond complex.

NSR Classification:
Administrative Amendment

Source Classification
Located in Attainment Area,
Box Elder County
Airs Source Size: B

Applicable Federal Standards
NSPS (Part 60), A: General Provisions
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
MACT (Part 63), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Project Proposal
Modification to Approval Order to DAQE-AN124390005-17, to Remove Equipment and Update Conditions

Project Description
Compass is requesting the following changes to their current AO equipment:

Removal of Pumping Station 115
Removal of Dove Creek Station
Removal of generators OGN-009, 005, 010 and 011
Removal of generator V13-716
Rename generator OGN-008 to OGN-005, Replace OGN-008

Compass also is requesting the following changes to its current AO requirements:

Requirement II.B.1.a(C) All other points - 10% opacity has been updated to 20 % opacity
Requirement II.B.1.e(A) correct the typographical error of 5 tons of NO_x to read 95 tons of NO_x. This is not an increase in NO_x emissions, the previous condition was written incorrectly.

Three diesel-fired engines were reconstructed and now fall under NSPS Subpart IIII (V13-712, V13-715, and V13-791). These engines will be certified by the manufacturer to meet the applicable emissions standards. Alternatively, a performance test may be completed within 60

days of initial operation after reconstruction to demonstrate compliance with the applicable emission standards.
Compass has also self-identified four additional diesel-fired engines, V13-705, V13-706, V13-709, and V13-713 (II.A.9) that were previously reconstructed, that now also fall under NSPS Subpart IIII. The engines are not certified by the manufacturer to meet the applicable emissions standards, nor was a performance test completed within 60 days of initial operation after reconstruction. The source has removed the engines from operation until they can be certified by the manufacturer to meet the applicable emissions standards. Alternatively, a performance test may be completed within 60 days of initial operation after reconstruction to demonstrate compliance with the applicable emission standards.

UDAQ has updated the following requirements:

NO_x emissions testing requirements have been reformatted and updated
Engine fuel requirements have been updated to specific engines
Fuel sulfur content conditions have been updated
CDS listing has been updated to B

EMISSION IMPACT ANALYSIS

There are no emission increases associated with this minor modification. All criteria pollutant and HAPs emissions are below their respective regulatory modeling trigger levels in R307-410-4 and R307-410-5. [Last updated August 9, 2022]

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO_2 Equivalent	0	30656.00
Carbon Monoxide	0	95.00
Nitrogen Oxides	0	95.00
Particulate Matter - PM_{10}	0	11.90
Particulate Matter - $PM_{2.5}$	0	11.90
Sulfur Dioxide	0	35.90
Volatile Organic Compounds	0	15.40

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Formaldehyde (CAS #50000)	0	10000
Generic HAPs (CAS #GHAPS)	0	3600
	Change (TPY)	**Total (TPY)**
Total HAPs	0	6.80

Note: Change in emissions indicates the difference between previous AO and proposed modification.

Review of BACT for New/Modified Emission Units

1. **BACT review regarding Minor Modification**
The new equipment in this modification fall under R307-401-11 Replacement-In-Kind. Therefore, a BACT analysis is not required. [Last updated August 9, 2022]

SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, 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 Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8	The owner/operator shall submit documentation of the status of reconstructed engines or initial testing to the Director within 18 months from the date of this AO. This AO may become invalid if reconstruction is not commenced within 18 months from the date of this AO or if reconstruction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.A THE APPROVED EQUIPMENT

II.A.1	**West Desert Operations** West desert pumping stations and associated equipment & activities
II.A.2	**Pumping Stations 112, 113 and 114** Primary brine pumping stations
II.A.3	**Lakeside Flush Water Station** Flush water station
II.A.4	**Living Quarters** Crew living quarters and associated equipment/storage
II.A.5	**Two Natural Gas-fired Engines** OGN-001 and OGN-002 Capacity: 602 HP (each)
II.A.6	**Natural Gas-fired Engine** OGN-003 Capacity: 145 HP
II.A.7	**Natural Gas-fired Engine** OGN-004 Capacity: 36 HP
II.A.8	**Two Diesel-fired Engines** OGN-006, OGN-008 Capacity: 95.2 HP (each)
II.A.9 NEW	**Diesel-fired Engine** OGN-005 Capacity: 30.6 HP

II.A.10	**Twelve Diesel-fired Engines** V13-705*, V13-706*, V13-707, V13-708, V13-709*, V13-710, V13-711, V13-712*, V13-713*, V13-714, V13-715* and V13-791* Capacity: 300 HP (each) *NSPS Applicability: Subpart IIII

SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO. **(New or Modified conditions are indicated as "New" in the Outline Label):**

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	**Site Requirements**
II.B.1.a	Visible emissions from the following emission points shall not exceed the following values: A. All diesel fired engines - 20% opacity B. All natural gas fired engines - 10% opacity C. All other points - 20% opacity. [R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 or as approved by the Director. [R307-401-8]
II.B.1.b	The following emission limits shall not be exceeded: A. 95 tons of NO_x per rolling 12-month period for all engines combined B. 95 tons of CO per rolling 12-month period for all engines combined. [R307-401-8]
II.B.1.c	Emissions shall be determined monthly for each engine and then summed to arrive at a monthly total for the previous month by no later than the 20th day of each month. To determine compliance with a rolling 12-month total, each month a new 12-month total shall be calculated by summing the monthly totals from the previous 12 months. Hours of operation shall be determined by use of an hour meter and by maintaining an operations logbook. Emission factors for each engine shall be as provided by stack testing or federal NSPS/NESHAP subpart. If tested emission factors are to be used in rolling 12-month totals the most recent stack test shall be used. [R307-401-8]
II.B.2	**Engine Testing Requirements**

II.B.2.a NEW	The owner/operator shall not emit more than the following rates and concentrations from the indicated emissions unit(s): Natural Gas-fired Engines OGN-001 and OGN-002 Pollutant lb/hr NO_x 5.0 Diesel-fired Engines V13-705, V13-706, V13-707, V13-708, V13-709, V13-710, V13-711, V13-712, V13-713, V13-714 and V13-791 Pollutant lb/hr NO_x 3.2 Diesel-fired Engines V13-715 Pollutant lb/hr NO_x 2.3. [R307-401-8]
II.B.2.a.1 NEW	Test Frequency The owner/operator shall conduct emission tests on all engines within five years after the date of the most recent emission test. The Director may require the owner/operator to perform an emission test at any time. Notification At least 30 days prior to conducting an emission test, the owner/operator shall submit a source test protocol to the Director. The source test protocol shall include: A. The date, time, and place of the proposed test B. The proposed test methodologies C. The stack(s) to be tested D. The procedures to be used E. Any deviation from an EPA-approved test method F. Explanation of any deviation from an EPA-approved test method If directed by the Director, the owner/operator shall attend a pretest conference. Testing The owner/operator shall conduct testing according to the approved source test protocol. The Director may reject emission test data if the test did not follow the approved source test protocol or if Director was not provided an opportunity to have an observer present at the test. Test Conditions The owner/operator shall conduct all tests no less than 90% of the maximum combustion rate achieved in the previous three (3) years unless otherwise specified in the approved source test protocol. During the tests, the owner/operator shall burn fuels or combinations of fuels, use raw materials, and maintain process conditions representative of normal operations. In addition, the owner/operator shall operate under any other relevant conditions that the Director specifies. [R307-401-8]

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II.B.3	**Fuel Requirements**
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VOC	Volatile organic compounds

Compass Minerals
765 N 10500 W
Ogden, UT 84404
www.compassminerals.com
T (801) 731-3100

October 05, 2022

Mr. Bryce Bird
Utah Division of Air Quality
195 North 1950 West
Salt Lake City, Utah 84114

RE: Request for administrative changes into the Approval Order (AO): DAQE-AN109170042-22

Dear Bryce:

Pursuant to Utah Administrative Code R307-401-19 sect. (7) A., Compass Minerals Ogden Inc. would like to request the incorporation of the following administrative changes into the Approval Order (AO) for the facility (DAQE-AN109170042-22).

1. **Clarify Emission Control of Salt Plant Fluidized Bed Cooler**

Background: In late 2020, Compass Minerals permanently isolated scrubber AH-500 from the Salt Plant fluidized bed cooler to improve emissions control and dryer efficiency. Prior to this modification, both scrubber AH-500 and baghouse BH-501 controlled emissions from the cooler. Isolating AH-500 from the fluidized bed cooler diverted all emissions to BH-501 and AH-500 now exclusively pulls emissions from salt packaging lines. This resulted in an overall reduction of emissions and the modification was eligible for the Reduction in Air Pollutants exemption found in UAC R307-401-12. The UDAQ was notified of this change in a letter dated October 28, 2020 (see attached). Language to this effect should be incorporated into the current AO to reflect current operating conditions.

Suggested Text Revision:

II.A The Approved Equipment

II.A.5	**Wet Scrubber (AH-500)** Location: Salt Plant Controls: ~~Fluidized Bed Cooler~~ Coolers, Bins & Hoppers, Conveyors, Crushers & Grinders, Feeders & Baggers, Mixers, Presses, and Rail Loading Mechanically Aided.

2. Clarify that there are no outdoor fully enclosed conveyors at the Salt Plant

Background: With reference to the NOI dated October 30, 2020 (see attached), Compass Minerals had determined that several units identified as outdoor fully and partially enclosed conveyors were misclassified on the AO (DAQE-AN109170043-20). Compass Minerals requested UDAQ that the list of outdoor fully and partially enclosed conveyors contained in the AO be corrected. Also, we had requested UDAQ to remove the requirement to conduct weekly 10-minute Method 22 visible emission tests on fully enclosed conveyors that manage wet salt and potash slurries. In the subsequent AO (DAQE-AN109170043-22) although the misclassification of outdoor fully enclosed and partially enclosed was corrected, the enclosed conditions for the outdoor fully enclosed conveyance system (wet processes) for the Salt plant was not removed. As there are no units in the Salt Plant to which this requirement would now apply, we are requesting to remove the section entirely.

Suggested Text Revision:

~~II.B.2.b~~	~~Visible emissions from all outdoor fully enclosed conveyance systems shall not exceed 5% opacity.~~ ~~At all times, the permittee shall operate and maintain each affected emission unit as a fully enclosed conveyance system. Each fully enclosed conveyance system shall be fully enclosed on all sides, top, and bottom. All fully enclosed conveyance systems shall be clearly labeled on each conveyor such that an inspector/operator can safely identify equipment at any time.~~ ~~[R307-401-8]~~
~~II.B.2.b.1~~	~~Monitoring:~~ ~~The permittee shall conduct a Method 22 performance test, or other EPA-approved testing method, as acceptable to the Director, according to the following requirements for each affected emission unit.~~ ~~A. Conduct a weekly 10-minute visible emissions test of each affected emission unit in accordance with Method 22 of 40 CFR 60 Appendix A, or other EPA-approved testing method, as acceptable to the Director. The performance test shall be conducted while the unit is in operation.~~ ~~B. If any visible emissions are observed from an emission unit, the permittee shall inspect the affected emission unit to determine the cause of visible emissions and initiate corrective action within 1 hour of the initial survey.~~ ~~C. If no visible emissions are observed during four consecutive weekly tests, the permittee may decrease the frequency of the visible emissions test required in paragraph (A) from weekly to monthly. If visible emissions are observed during any monthly test, the permittee shall resume the weekly visible emissions test required in paragraph (A) and maintain that schedule until no visible emissions are observed in four consecutive weekly tests.~~ ~~[R307-401-8]~~

~~II.B.2.b.2~~	~~Recordkeeping:~~ ~~The permittee shall keep a log of the visible emissions tests that contains the following information: time and date of test, emission point location and description, time of visible emissions, if observed, results of inspections, time and date corrective actions initiated, and corrective actions taken. All data required by 40 CFR 60, Appendix A, Method 22, or other EPA approved testing method, as acceptable to the Director, shall be maintained.~~ ~~[R307-401-8]~~

3. **Clarify requirement to conduct compliance testing every 270 to 365 days**

Background: This condition is very challenging for Compass Minerals to comply with since the above condition pushes up our stack testing schedule by about a month every year. This requirement will soon conflict with our annual shutdown schedule, which is often the only opportunity to conduct routine inspections and repairs on control equipment. To alleviate this concern, Compass Minerals has proposed that the requirement to test every 270 to 365 days be replaced with a requirement to test in the same calendar quarter each year going forward. Per our discussion with the NSR branch, this request is considered to be more stringent than the current language and should be consider as an administrative change without the public comment.

Suggested Text Revision: (to be applied to each instance that references the requirement to test at least once every 365 days, but no less than 270 days)

II.B.2.d.1	Testing Frequency Compliance testing shall be done on each emission source at least once every calendar year and in the same calendar quarter in which the most recent stack test was performed.~~12 months (365 days). Compliance tests shall be no less than 9 months (270 days) apart~~. The Director may require testing at any time. If an existing source is modified, a compliance test is required on the modified emission point that has an emission rate limit. [R307-401-8]

Please ensure the above language is updated for all applicable sections of the AO.

- II.B.2.d.1: Salt Plant baghouse and scrubber PM emission limits,
- II.B.3.e.1: Magnesium Chloride Plant scrubber PM emission limit,
- II.B.4.f.1: SOP Plant baghouse and scrubber PM emission limits, and
- II.B.5.a.1: Boiler NOx emission limit

We appreciate the time and consideration given by the NSR branch to process our request. Please contact me if you have any questions regarding the information provided. Respectfully,

Vikrant Chavan
Manager - Environmental
Compass Minerals Ogden Inc.

Cc: John Jenks, NSR Major Source, Utah Division of Air Quality.
Brandy Cannon, Major Source New Source Review, Utah Division of Air Quality.
Joe Randolph, Major Source Compliance, Utah Division of Air Quality.