Compass Minerals
765 North 10500 West
Ogden, Utah 84404
www.compassminerals.com
801-732-3118

Attention: Lonnie Shull
Utah Division of Water Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

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AUG 05 2019
Utah Division of Water Quality

Project Name: Compass Minerals UPDES Renewal Application
Project Number: D3255400

August 2, 2019

Subject: UPDES #UT0000647 Renewal

Dear Mr. Shull,

Compass Minerals (Compass) is pleased to submit this renewal application for Utah Pollutant Discharge Elimination System (UPDES) Permit #UT0000647 for discharge from operations at its Great Salt Lake evaporation and processing facility based in Ogden, UT. The application includes United States Environmental Protection Agency (EPA) forms 1 and 2C and attachments with supporting documentation. As we discussed during our call on July 26th, Compass Minerals proposes the following changes to the permit as part of this renewal to reflect current operations and requirements.

1) Compass proposes to extend the mineral return discharge period through approximately June or longer, dependent on the time period where Bear River flows are adequate to support operations and protect resources. Most years, Bear River flow declines to unsustainable levels for mineral return activities in June as upstream users increase diversions from the river, but may support operation year-round in high water years. As suggested by the Division of Water Quality and Great Salt Lake (GSL) stakeholders, Compass conducted a survey in 2017 and 2018 to assess the impact to birds at the mineral return outfalls. Results show minimal bird use or impact from Compass Minerals operations to birds in time periods beyond the prior mineral return season (October to March). The survey report is enclosed with this application.
2) Compass proposes to add ponds 91, 94, 95, and 99 to the mineral return discharge operations and utilize Outfall 001 for their discharge, thus expanding the utility of Outfall 001.
3) Update the permit language to identify the new ditch used to convey effluent from the West Desert Ponds into Outfall 009.
4) Remove Section I.C.3 (Compliance Schedule) from the permit, which previously incorporated the Sampling and Analysis Plan (SAP) developed in conjunction with a 2012 settlement agreement all obligation of which have since been fulfilled.

Items 1–3 above reflect current and desired operating parameters for the facility, and Compass looks forward to discussing these specific changes further with DWQ. With respect to Item 4, Compass has fully satisfied the original requirements and intent of the 2012 Settlement Agreement and has worked in good faith with the various GSL stakeholders since the issuance of the permit. Indeed, Compass continued implementation of the SAP well beyond the required three seasons outlined in the settlement agreement and the SAP. Compass requests that the corresponding "Compliance Schedule" section reflecting the settlement commitments be removed from the permit in this renewal to reflect the fulfillment of the settlement conditions. However, Compass believes the monitoring of the mineral return activities provides useful information and proposes to continue the effort outside of the permit conditions via a cooperative

DWQ-2019-009813

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agreement with the Utah Division of Water Quality (Division). Compass looks forward to discussing this agreement with you further.

Yours sincerely

Joseph Havasi
Interim Leader, Environmental, Health and Safety
801-793-8601
havasij@compassminerals.com

Copies to: Jared Carling/Jacobs, Jeff Den Bleyker/Jacobs, Ashley Peck/Holland and Hart

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

Form 1 NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

GENERAL INFORMATION

SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))

Activities Requiring an NPDES Permit

1.1 Applicants *Not Required* to Submit Form 1

1.1.1	Is the facility a new or existing **publicly owned treatment works**? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. ☑ No	1.1.2	Is the facility a new or existing **treatment works treating domestic sewage**? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. ☑ No

1.2 Applicants *Required* to Submit Form 1

1.2.1	Is the facility a **concentrated animal feeding operation** or a **concentrated aquatic animal production facility?** ☐ Yes ➔ Complete Form 1 ***and*** Form 2B. ☑ No	1.2.2	Is the facility an **existing** manufacturing, commercial, mining, or silvicultural **facility** that **is currently discharging process wastewater**? ☑ Yes ➔ Complete Form 1 ***and*** Form 2C. ☐ No
1.2.3	Is the facility a **new** manufacturing, commercial, mining, or silvicultural **facility** that has **not yet commenced to discharge**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2D. ☑ No	1.2.4	Is the facility a **new or existing** manufacturing, commercial, mining, or silvicultural **facility** that **discharges only nonprocess wastewater**? ☐ Yes ➔ Complete Form 1 ***and*** Form 2E. ☑ No
1.2.5	Is the facility a **new or existing facility** whose discharge is composed entirely of **stormwater associated with industrial activity** or whose discharge is composed of **both stormwater and non-stormwater**? ☑ Yes ➔ Complete Form 1 ***and*** Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). ☐ No		

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SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))

Name, Mailing Address, and Location

2.1 Facility Name

Compass Minerals Ogden Inc.

2.2 EPA Identification Number

UTD041571092

2.3 Facility Contact

Name (first and last)	Title	Phone number
Holly Hurst	Environmental Manager	(801) 732-3251

Email address
HurstH@compassminerals.com

2.4 Facility Mailing Address

Street or P.O. box
765 North 10500 West

City or town	State	ZIP code
Ogden	UT	84404

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

Name, Mailing Address, and Location Continued

2.5	**Facility Location**		
	Street, route number, or other specific identifier Same as mailing address		
	County name Weber	County code (if known)	
	City or town	State	ZIP code

SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))

SIC and NAICS Codes

3.1	**SIC Code(s)**	**Description** (optional)
	14740000	Potash, soda, and borate minerals
	28999943	Salt

3.2	**NAICS Code(s)**	**Description** (optional)
	212391	Potash, soda, and borate mineral mining
	311942	Spice and extract mining
	325998	Other miscellaneous chemical product and preparation manufacturing

SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))

Operator Information

4.1	**Name of Operator**
	Compass Minerals Ogden Inc.
4.2	Is the name you listed in Item 4.1 also the owner? ☑ Yes ☐ No
4.3	**Operator Status** ☐ Public—federal ☐ Public—state ☐ Other public (specify)_____ ☑ Private ☐ Other (specify) _____
4.4	**Phone Number of Operator**
	(801) 732-3212

Operator Information Continued

4.5	**Operator Address**		
	Street or P.O. Box same as mailing address		
	City or town	State	ZIP code
	Email address of operator		

SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))

Indian Land

5.1	Is the facility located on Indian Land? ☐ Yes ☑ No

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SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(f)(6))

Existing Environmental Permits

6.1 **Existing Environmental Permits** (check all that apply and print or type the corresponding permit number for each)

☑ NPDES (discharges to surface water) UT0000647	☐ RCRA (hazardous wastes)	☐ UIC (underground injection of fluids)
☐ PSD (air emissions)	☑ Nonattainment program (CAA) DAQE-AN109170036-17	☑ NESHAPs (CAA) 40 CFR 63 Subparts A and [redacted]
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☐ Other (specify)

SECTION 7. MAP (40 CFR 122.21(f)(7))

Map

7.1 Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No ☐ CAFO—Not Applicable (See requirements in Form 2B.)

SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))

Nature of Business

8.1 Describe the nature of your business.

See Attachment 4

SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

Cooling Water Intake Structures

9.1 Does your facility use cooling water?

☐ Yes ☑ No ➔ SKIP to Item 10.1.

9.2 Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.)

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))

Variance Requests

10.1 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☐ Fundamentally different factors (CWA Section 301(n))	☐ Water quality related effluent limitations (CWA Section 302(b)(2))
☐ Non-conventional pollutants (CWA Section 301(c) and (g))	☐ Thermal discharges (CWA Section 316(a))
☑ Not applicable	

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

SECTION 11. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

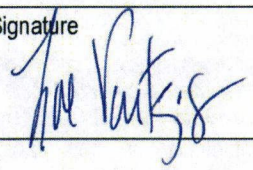
Checklist and Certification Statement

11.1 In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Activities Requiring an NPDES Permit	☐ w/ attachments
☑ Section 2: Name, Mailing Address, and Location	☐ w/ attachments
☑ Section 3: SIC Codes	☐ w/ attachments
☑ Section 4: Operator Information	☐ w/ attachments
☑ Section 5: Indian Land	☐ w/ attachments
☑ Section 6: Existing Environmental Permits	☐ w/ attachments
☑ Section 7: Map	☑ w/ topographic map ☐ w/ additional attachments
☑ Section 8: Nature of Business	☑ w/ attachments
☑ Section 9: Cooling Water Intake Structures	☐ w/ attachments
☑ Section 10: Variance Requests	☐ w/ attachments
☑ Section 11: Checklist and Certification Statement	☐ w/ attachments

11.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Zoe A. Vantzos	Interim General Counsel and Assistant Secretary
Signature 	Date signed

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

Form 2C NPDES | **EPA**

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
	See Attachment 1	° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing

2.1 Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C–1 at end of instructions for example.)

☑ Yes ☐ No

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

****Outfall Number**** 001

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge

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Average Flows and Treatment Continued

3.1 cont.

****Outfall Number**** 001-B

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Reverse osmosis system for boiler feed water.	1-S	none
Water is pH adjusted prior to discharge.		

****Outfall Number**** 002-009

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
none		

System Users

3.2 Are you applying for an NPDES permit to operate a privately owned treatment works?

☐ Yes ☑ No ➔ SKIP to Section 4.

3.3 Have you attached a list that identifies each user of the treatment works?

☐ Yes ☑ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows

4.1 Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.2 Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
	See Attachment 3	days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs

5.1 Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation
Mineral Mining	Saline from Brine Lakes	40 CFR 436 Subpart L
Inorganic Chemicals Manufacturin	Sodium Chloride Production	40 CFR 415 Subpart P
	See Attachment 4 for process description	

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☐ Yes ☑ No ➔ SKIP to Section 6.

5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs.

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure
NA			

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements

6.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Item 6.3.

6.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected
NA				

6.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? *(optional item)*

☐ Yes ☐ No ☑ Not applicable

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

Table A. Conventional and Non-Conventional Pollutants

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☑ Yes ☐ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number All Outfall Number _____ Outfall Number _____

7.3 Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?

☐ Yes ☑ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)

☐ Yes ☑ No ➔ SKIP to Item 7.8.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☐ Yes ☑ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☐ Yes ☑ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☐ Yes ☑ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
Table C. Certain Conventional and Non-Conventional Pollutants	
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☑ Yes ☐ No
Table D. Certain Hazardous Substances and Asbestos	
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☑ Yes ☐ No
Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)	
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☐ No

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☐ Yes ☑ No ➔ SKIP to Section 9.		
8.2	List the pollutants below.		
	1.	4.	7.
	2.	5.	8.
	3.	6.	9.

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SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests

9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge?

☐ Yes ☑ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses

10.1 Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 11.

10.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Brooks Applied Labs	University of Utah Geo-sciences Lab	
Laboratory address	18804 North Creek Parkway, Suite 100 Bothell, WA 98011 U.S.A.	GEOLOGY & GEOPHYSICS FREDERICK ALBERT SUTTON BUILDING 115 S 1460 E, ROOM 383	
Phone number	(206) 632-6206	(801) 581-7062	
Pollutant(s) analyzed	See previously submitted discharge monitoring reports and Sampling and Analysis Plan results.	See previously submitted discharge monitoring reports and Sampling and Analysis Plan results.	

SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☐ Yes ☑ No ➔ SKIP to Section 12.

11.2 List the information requested and attach it to this application.

1.	4.
2.	5.
3.	6.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

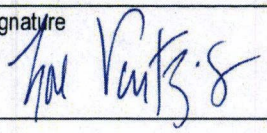
Checklist and Certification Statement

12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☑ Section 1: Outfall Location	☑ w/ attachments
☑ Section 2: Line Drawing	☑ w/ line drawing ☐ w/ additional attachments
☑ Section 3: Average Flows and Treatment	☑ w/ attachments ☐ w/ list of each user of privately owned treatment works
☑ Section 4: Intermittent Flows	☑ w/ attachments
☑ Section 5: Production	☐ w/ attachments
☑ Section 6: Improvements	☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans
☑ Section 7: Effluent and Intake Characteristics	☑ w/ request for a waiver and supporting information ☐ w/ explanation for identical outfalls ☐ w/ small business exemption request ☑ w/ other attachments ☐ w/ Table A ☐ w/ Table B ☐ w/ Table C ☐ w/ Table D ☐ w/ Table E ☐ w/ analytical results as an attachment
☑ Section 8: Used or Manufactured Toxics	☐ w/ attachments
☑ Section 9: Biological Toxicity Tests	☐ w/ attachments
☑ Section 10: Contract Analyses	☐ w/ attachments
☑ Section 11: Additional Information	☐ w/ attachments
☑ Section 12: Checklist and Certification Statement	☐ w/ attachments

12.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Zoe A. Vantzos	Interim General Counsel and Assistant Secretary
Signature 	Date signed

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii))[1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☑	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration							
			Mass							
2.	Chemical oxygen demand (COD)	☐	Concentration							
			Mass							
3.	Total organic carbon (TOC)	☐	Concentration							
			Mass							
4.	Total suspended solids (TSS)	☐	Concentration							
			Mass							
5.	Ammonia (as N)	☐	Concentration							
			Mass							
6.	Flow	☐	Rate							
7.	Temperature (winter)	☐	°C	°C						
	Temperature (summer)	☐	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.						
	pH (maximum)	☐	Standard units	s.u.						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☐	☐	☑	Concentration							
					Mass							
1.2	Arsenic, total (7440-38-2)	☐	☐	☑	Concentration							
					Mass							
1.3	Beryllium, total (7440-41-7)	☐	☐	☑	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	☐	☐	☑	Concentration							
					Mass							
1.5	Chromium, total (7440-47-3)	☐	☐	☑	Concentration							
					Mass							
1.6	Copper, total (7440-50-8)	☐	☐	☑	Concentration							
					Mass							
1.7	Lead, total (7439-92-1)	☐	☐	☑	Concentration							
					Mass							
1.8	Mercury, total (7439-97-6)	☐	☐	☑	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	☐	☐	☑	Concentration							
					Mass							
1.10	Selenium, total (7782-49-2)	☐	☐	☑	Concentration							
					Mass							
1.11	Silver, total (7440-22-4)	☐	☐	☑	Concentration							
					Mass							

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☐	☐	☑	Concentration							
					Mass							
1.13	Zinc, total (7440-66-6)	☐	☐	☑	Concentration							
					Mass							
1.14	Cyanide, total (57-12-5)	☐	☐	☑	Concentration							
					Mass							
1.15	Phenols, total	☐	☐	☑	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☐	☐	☑	Concentration							
					Mass							
2.2	Acrylonitrile (107-13-1)	☐	☐	☑	Concentration							
					Mass							
2.3	Benzene (71-43-2)	☐	☐	☑	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	☐	☐	☑	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☐	☐	☑	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	☐	☐	☑	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☐	☐	☑	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☐	☐	☑	Concentration							
					Mass							
2.10	Chloroform (67-66-3)	☐	☐	☑	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☐	☐	☑	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☐	☐	☑	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☐	☐	☑	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☐	☐	☑	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☐	☐	☑	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☐	☐	☑	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	☐	☐	☑	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	☐	☐	☑	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	☐	☐	☑	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	☐	☐	☑	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☐	☐	☑	Concentration							
					Mass							
2.23	Toluene (108-88-3)	☐	☐	☑	Concentration							
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☐	☐	☑	Concentration							
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☐	☐	☑	Concentration							
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☐	☐	☑	Concentration							
					Mass							
2.27	Trichloroethylene (79-01-6)	☐	☐	☑	Concentration							
					Mass							
2.28	Vinyl chloride (75-01-4)	☐	☐	☑	Concentration							
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration							
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration							
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration							
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration							
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☐	☐	☑	Concentration							
					Mass							
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration							
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration							
					Mass							
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration							
					Mass							
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration							
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration							
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration							
					Mass							
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration							
					Mass							
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration							
					Mass							
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration							
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration							
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration							
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration							
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration							
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration							
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration							
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration							
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration							
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration							
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration							
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration							
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration							
					Mass							
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration							
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☐	☐	☑	Concentration							
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration							
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration							
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration							
					Mass							
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration							
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration							
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration							
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration							
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration							
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration							
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration							
					Mass							
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration							
					Mass							
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration							
					Mass							

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☐	☐	☑	Concentration							
					Mass							
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration							
					Mass							
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration							
					Mass							
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration							
					Mass							
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration							
					Mass							
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration							
					Mass							
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration							
					Mass							
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration							
					Mass							
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration							
					Mass							
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration							
					Mass							
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration							
					Mass							
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration							
					Mass							
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration							
					Mass							

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☐	☐	☑	Concentration							
					Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration							
					Mass							
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration							
					Mass							
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration							
					Mass							
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration							
					Mass							
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration							
					Mass							
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration							
					Mass							
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration							
					Mass							
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration							
					Mass							
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration							
					Mass							
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration							
					Mass							
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							

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TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration							
					Mass							
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration							
					Mass							
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration							
					Mass							
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration							
					Mass							
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration							
					Mass							
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration							
					Mass							
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration							
					Mass							
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration							
					Mass							
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration							
					Mass							
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration							
					Mass							
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration							
					Mass							
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration							
					Mass							

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	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☑	Concentration							
					Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)	Effluent					Intake (Optional)	
		Believed Present	Believed Absent		Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses		Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☐	☑	Concentration							
				Mass							
2.	Chlorine, total residual	☑	☐	Concentration							
				Mass							
3.	Color	☐	☑	Concentration							
				Mass							
4.	Fecal coliform	☐	☑	Concentration							
				Mass							
5.	Fluoride (16984-48-8)	☐	☑	Concentration							
				Mass							
6	Nitrate-nitrite	☐	☑	Concentration							
				Mass							
7.	Nitrogen, total organic (as N)	☐	☑	Concentration							
				Mass							
8.	Oil and grease	☐	☑	Concentration							
				Mass							
9.	Phosphorus (as P), total (7723-14-0)	☐	☑	Concentration							
				Mass							
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration							
				Mass							
11.	Sulfide (as S)	☐	☑	Concentration							
				Mass							

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	001

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☑	Concentration							
				Mass							
13.	Surfactants	☐	☑	Concentration							
				Mass							
14.	Aluminum, total (7429-90-5)	☐	☑	Concentration							
				Mass							
15.	Barium, total (7440-39-3)	☐	☑	Concentration							
				Mass							
16.	Boron, total (7440-42-8)	☐	☑	Concentration							
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☐	☑	Concentration							
				Mass							
19.	Magnesium, total (7439-95-4)	☐	☑	Concentration							
				Mass							
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☐	☑	Concentration							
				Mass							
22.	Tin, total (7440-31-5)	☐	☑	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☑	Concentration							
				Mass							

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TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	**Radioactivity**										
	Alpha, total	☐	☑	Concentration							
				Mass							
	Beta, total	☐	☑	Concentration							
				Mass							
	Radium, total	☐	☑	Concentration							
				Mass							
	Radium 226, total	☐	☑	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☐	☑		
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☐	☑		
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☐	☑		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

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Form 2F NPDES

U.S Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below

Outfall Number	Receiving Water Name	Latitude	Longitude
	See Attachment 1	° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "

SECTION 2. IMPROVEMENTS (40 CFR 122.21(g)(6))

Improvements

2.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Section 3.

2.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

2.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? (Optional Item)

☐ Yes ☐ No

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SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map

3.1 Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)

☑ Yes ☐ No

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources

4.1 Provide information on the facility's pollutant sources in the table below.

Outfall Number	Impervious Surface Area (within a mile radius of the facility)		Total Surface Area Drained (within a mile radius of the facility)	
	See Attachment 9	*specify units*		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*

4.2 Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)

See Attachment 9

4.3 Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)

Stormwater Treatment		
Outfall Number	**Control Measures and Treatment**	**Codes from Exhibit 2F–1 (list)**
001	oil water separators (2)	NA
001	retention basin	1-U

SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))

Non-Stormwater Discharges

5.1 *I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.*

Name (print or type first and last name)	Official title
Dean Thompson	Vice President, Operations
Signature	**Date signed**

5.2 Provide the testing information requested in the table below.

Outfall Number	Description of Testing Method Used	Date(s) of Testing	Onsite Drainage Points Directly Observed During Test
	NA		

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))

Significant Leaks or Spills

6.1 Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years.

No significant leaks or spills in the past three years.

SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E))

Discharge Information

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

7.1 Is this a new source or new discharge?

☐ Yes ➔ See instructions regarding submission of *estimated* data. ☑ No ➔ See instructions regarding submission of *actual* data.

Tables A, B, C, and D

7.2 Have you completed Table A for each outfall?

☑ Yes ☐ No

Discharge Information Continued

7.3	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater?	☑ Yes ☐ No ➔ SKIP to Item 7.5.
7.4	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater?	☑ Yes ☐ No
7.5	Do you know or have reason to believe any pollutants in Exhibit 2F–2 are present in the discharge?	☑ Yes ☐ No ➔ SKIP to Item 7.7.
7.6	Have you listed all pollutants in Exhibit 2F–2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C?	☑ Yes ☐ No
7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions?	☐ Yes ➔ SKIP to Item 7.18. ☑ No
7.8	Do you know or have reason to believe any pollutants in Exhibit 2F–3 are present in the discharge?	☐ Yes ☑ No ➔ SKIP to Item 7.10.
7.9	Have you listed all pollutants in Exhibit 2F–3 that you know or have reason to believe are present in the discharge in Table C?	☑ Yes ☐ No
7.10	Do you expect any of the pollutants in Exhibit 2F–3 to be discharged in concentrations of 10 ppb or greater?	☐ Yes ☑ No ➔ SKIP to Item 7.12.
7.11	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F–3 that you expect to be discharged in concentrations of 10 ppb or greater?	☐ Yes ☑ No
7.12	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater?	☐ Yes ☑ No ➔ SKIP to Item 7.14.
7.13	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater?	☐ Yes ☑ No
7.14	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)?	☐ Yes ☑ No
7.15	Do you know or have reason to believe any pollutants in Exhibit 2F–4 are present in the discharge?	☐ Yes ☑ No ➔ SKIP to Item 7.17.
7.16	Have you listed pollutants in Exhibit 2F–4 that you know or believe to be present in the discharge and provided an explanation in Table C?	☐ Yes ☑ No
7.17	Have you provided information for the storm event(s) sampled in Table D?	☐ Yes ☑ No

Discharge Information Continued

Used or Manufactured Toxics

7.18 Is any pollutant listed on Exhibits 2F–2 through 2F–4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct?

☐ Yes ☑ No ➔ SKIP to Section 8.

7.19 List the pollutants below, including TCDD if applicable.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))

Biological Toxicity Testing Data

8.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years?

☐ Yes ☑ No ➔ SKIP to Section 9.

8.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))

Contract Analysis Information

9.1 Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm?

☐ Yes ☑ No ➔ SKIP to Section 10.

9.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm			
Laboratory address			
Phone number			
Pollutant(s) analyzed			

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SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

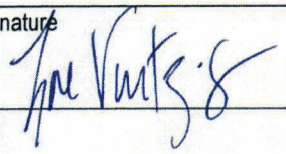
Checklist and Certification Statement

10.1 In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☑ Section 1	☑ w/ attachments (e.g., responses for additional outfalls)
☑ Section 2	☐ w/ attachments
☑ Section 3	☑ w/ site drainage map
☑ Section 4	☑ w/ attachments
☑ Section 5	☐ w/ attachments
☑ Section 6	☐ w/ attachments
☑ Section 7	☐ Table A ☐ w/ small business exemption request ☐ Table B ☐ w/ analytical results as an attachment ☐ Table C ☐ Table D
☑ Section 8	☐ w/attachments
☑ Section 9	☐ w/attachments (e.g., responses for additional contact laboratories or firms)
☑ Section 10	☐

10.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Zoe A. Vantzos	Interim General Counsel and Assistant Secretary
Signature 	Date signed

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))[1]

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

	Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease						
2.	Biochemical oxygen demand (BOD_5)						
3.	Chemical oxygen demand (COD)						
4.	Total suspended solids (TSS)						
5.	Total phosphorus						
6.	Total Kjeldahl nitrogen (TKN)						
7.	Total nitrogen (as N)						
8.	pH (minimum)						
	pH (maximum)						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
None						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
Chlorine						in feedstock
Sulfate						in feedstock

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
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TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)

Provide a description of the method of flow measurement or estimate.

Attachment 1 – Outfall Locations

Compass Minerals has nine Outfalls and one sub-Outfall that flows into Outfall 001. Outfall 001 discharges process water, blowdown waters, wash water, and general stormwater. Outfall 001-B discharges boiler blowdown and is sampled prior to combining with Outfall 001 flows. Outfalls 002 – 008 are used exclusively for mineral return operations where salts remaining in the evaporation ponds are dissolved with freshwater and returned to the Great Salt Lake. Outfall 009 discharges bitterns to the Behrens trench on the west side of Gunnison Bay for transport to the east ponds at Bear River Bay. The location of each Outfall is provided in **Table 1.**

Table 1. Compass Minerals Outfall Locations

Outfall	Receiving Waters	Latitude	Longitude
001	Great Salt Lake, Bear River Bay	41° 16' 09" N	112° 14' 39" W
001-B	Internal Discharge from the steam plant to onsite stormwater system. Discharges at Outfall 1	41° 16' 43" N	112° 13' 59" W
002	Great Salt Lake, Bear River Bay	41° 15' 54" N	112° 15' 03" W
003	Great Salt Lake, Bear River Bay	41° 15' 33" N	112° 16' 39" W
004	Great Salt Lake, Bear River Bay	41° 14' 42" N	112° 16' 38" W
005	Great Salt Lake, Bear River Bay	41° 14' 18" N	112° 19' 13" W
006	Great Salt Lake, Bear River Bay	41° 16' 10" N	112° 20' 11" W
007	Great Salt Lake, Bear River Bay	41° 16' 15" N	112° 21' 26" W
008	Great Salt Lake, Bear River Bay	41° 13' 54" N	112° 21' 42" W
009	Great Salt Lake, Gunnison Bay	41° 15' 44" N	112° 53' 29" W

Attachment 2 – Outfall Flows and Treatment Units

No treatment units are used at the facility except for a reverse osmosis water purification system used to supply boiler feed water – where the feedstock water is supplied by Weber Basin Water Conservation District. There are no current or planned treatment units used for treatment of process wastewaters. Outfall flows are provided in **Table 2** and sources contributing to flows of Outfall 001 are provided in **Table 3**.

Table 2. Outfall Flows

Outfall	Operation	Average Flow (MGD)	Flow Reference
001	Plant wide discharges. See Table 3 for details.	3.8	Statement of Basis
001-B	Boiler blowdown water	0.05	Statement of Basis
002	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
003	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
004	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
005	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
006	Mineral return	105	February 2019 Discharge Monitoring Report
007	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
008	Mineral return	0	Inactive during last permit term. May be used in the future as needed.
009	Behrens Trench	54	Average of June, July, August, and September 2018 Discharge Monitoring Reports.

Table 3. Outfall 001 Sources Contributing to Flow

Area	Source
Salt and Magnesium Chloride Plants	Salt wash water
Salt Plant	Air scrubber blowdown
Sulfate of Potash Plant	Cooling tower blowdown
Sulfate of Potash Plant	Compressor blowdown
Sulfate of Potash Plant	Air scrubber blowdown
Boiler	Boiler blowdown at Outfall 001-B
Plant wide	Rinse water from the washout of buildings where no detergents are used
Plant wide	Rinse water from the washing of equipment and vehicles
Rail and truck loading	Rail car and truck salt residue rinse water
Rail and truck loading	Rail car and truck loading rinse water
Plant wide	Housekeeping activities
Plant wide	Stormwater

Attachment 3 – Intermittent Flows

Except for Outfalls 001 and 001-B, all other Outfalls operate intermittently throughout the year. Not all mineral return Outfalls are used each year and for the past several years, all mineral return flows have used Outfall 006. The other mineral return Outfalls may be used in the future as operations dictate, including to Outfall 001 as discussed in our cover letter. A summary of intermittent flows is provided in Table 4.

Table 4. Intermittent Flows

		Frequency		Flow Rate		
Outfall	Operation	Average (days/week)	Average (months/year)	Long term Average (MGD)	Maximum Daily (MGD)	Duration (days)
002	Mineral return	0	0	0	0	0
003	Mineral return	0	0	0	0	0
004	Mineral return	0	0	0	0	0
005	Mineral return	0	0	0	0	0
006	Mineral return	7	6	105	126	180
007	Mineral return	0	0	0	0	0
008	Mineral return	0	0	0	0	0
009	Behrens Trench	7	4	54	64.8	120

Notes:

- Maximum daily flow rate is estimated as 20 percent higher than the average measured flow.
- Mineral return flows occur when sufficient freshwater is available from the Bear River and return flows may exceed 6 months in high water years.

Attachment 4 – Process Description

The solar evaporation mineral mining operation has been operating on the shores of the Great Salt Lake (GSL) west of Ogden, Utah since approximately 1968 and has been owned and operated by Compass Minerals since 1993. The facility extracts minerals from the GSL by pumping lake water through a series of solar evaporation ponds where salts are precipitated, harvested, and processed to produce three saleable products. The primary product is potassium sulfate (K_2SO_4) or sulfate of potash (SOP), a primary ingredient in many fertilizers. Potassium is a plant macronutrient, while sulfur is a plant micronutrient, and both are needed to support agricultural operations throughout the world. The two other final products are sodium chloride (NaCl) and magnesium chloride ($MgCl_2$). Sodium chloride salt is commonly used for water softening, table salt, deicing, and as a chemical process ingredient among other uses. Magnesium chloride is primarily used for deicing in winter and as a dust palliative in summer.

The processing of the lake water into final product takes an average of three years. The production process is described in chronologic order below.

1) Lake water is pumped from Gunnison Bay of the GSL into the West Desert solar ponds on the west side of the GSL. Here, the salt water concentrates to a higher density than the raw lake water.
2) Once the concentrated brine is to a sufficient density, it is discharged through Outfall 009 (Behrens Trench) where the dense concentrated brine flows through the trench below the lake surface to a pump station at Promontory Point.
3) From Promontory Point, the brine is pumped into a series of solar evaporation ponds where the primary precipitate is NaCl and the liquid brine becomes saturated with potassium and magnesium salts.
4) Once saturation of potassium salts is achieved, the brines are transferred to a series of potash ponds where the potassium salts precipitate. The remaining brine contains high concentrations of $MgCl_2$.
5) At the culmination of the three-year solar evaporation process, select ponds are drained in the fall and the sodium and potassium salts are harvested with scrapers, loaders, and haul trucks and transported to the Salt Plant or SOP Plant. The $MgCl_2$ brine is conveyed to the Magnesium Plant. Each processing facility is described in more detail below.
6) After processing, the products are shipped offsite via truck and rail.
7) Periodically, minerals are returned to the GSL by filling select ponds with fresh water from the Bear River to dissolve salt deposits and are then drained to the GSL.

4.1 Magnesium Chloride Processing

The brine drained from the ponds prior to harvesting contains approximately 30 percent $MgCl_2$. This brine is either sold directly to end users for deicing and dust control on roads or processed into solid salt. Flake salt is produced by crystalizing the brine using rapid heating and cooling to further concentrate the brine and allow $MgCl_2$ crystals to form. These crystals are dried, bagged, and sold as consumer deicing products. The remaining brine is recycled back to the evaporation ponds.

4.2 Salt Plant

Harvested NaCl is transferred to the salt plant via haul roads where it is washed, dried, and further processed into saleable products. Wash water and blowdown from wet scrubbers used to control process dust is discharged from the Salt Plant through Outfall 001. Final products from the Salt Plant include bulk road salt used throughout the intermountain region, bulk chemical salt for the chloro-alkali industry, and various consumer grade products in unit quantities such as water softening salt.

4.3 Sulfate of Potash Plant

Harvested potassium salts are transported to the SOP plant and mixed into a slurry with water and concentrated process liquors to produce schoenite (K_2SO_4-$MgSO_4$-$6H_2O$). SOP is concentrated in the schoenite slurry through a flotation process. Once at the desired concentration, the slurry is heated to approximately 120˚F, which converts the schoenite into SOP. The SOP is then filtered, dried, compacted, and shipped to various end users. Effluent generated from the SOP processing contains recoverable potassium salts and is recycled back to the evaporation ponds for additional mineral recovery. The SOP Plant utilizes natural gas fired boilers for process heating, and boiler blowdown is discharged through Outfall 001-B and enters the GSL through Outfall 001. The boiler feed water is treated via reverse osmosis and reject water from this system is discharged through Outfall 001.

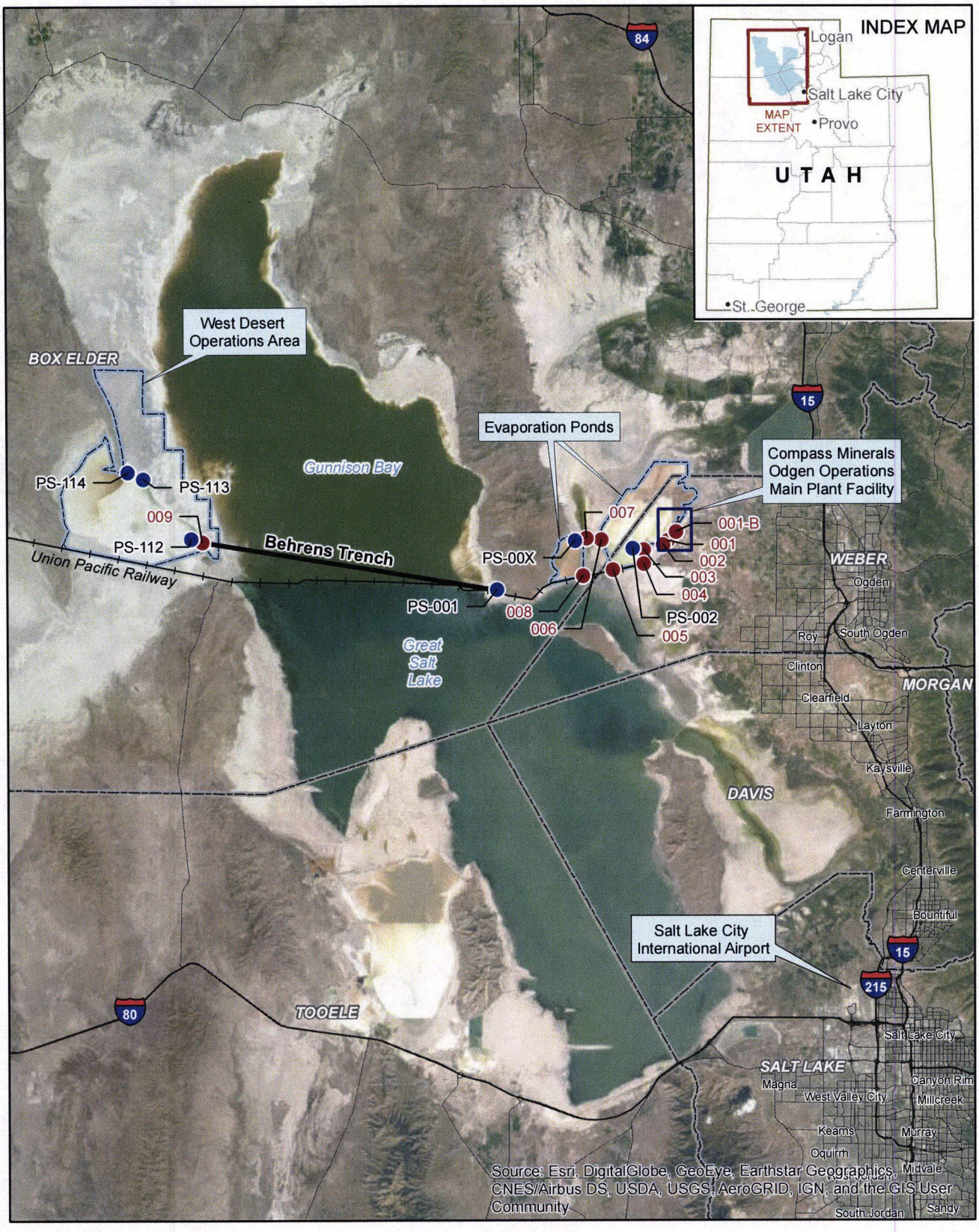
4.4 Processing Plant Effluent Reuse

Effluent from the SOP Plant and excess $MgCl_2$ brine are "back mixed" with salt brine prior to reaching saturation with potassium salts. This back mixing causes the brine to become supersaturated with NaCl, while remaining below saturation for potassium salts. The excess NaCl precipitates in the final series of salt ponds (West Buffers) before being transferred to the potash recovery ponds.

4.5 Mineral Return

Because NaCl precipitates earlier in the evaporation process and precipitated volumes far exceed market demand, large amounts of sodium chloride remain in various ponds after evaporation. In accordance with a royalty agreement with the Utah Division of Natural Resources, this excess NaCl must be returned to the GSL. Fresh water is pumped from the Bear River into the salt ponds to dissolve the accumulated minerals. The water is discharged through Outfalls 002 – 008, as operations dictate, into the GSL and Bear River Bay. Ponds and Outfalls used for mineral return rotate on an annual basis with Outfall 006 being the primary Outfall used in the previous permit term. Mineral return operations typically occur in the non-solar season and are limited by fresh water flows from the Bear River. In high water years, it is feasible to conduct mineral return activities year-round. However, in most years, mineral return ceases in late March as upstream water users increase agricultural diversions and flow at the pump station will not sustain operations. As outlined in the cover letter, Compass is requesting an extension of the mineral return activity season to correspond with Bear River flows. It is also requesting to conduct mineral return activity from ponds 91, 94, 95 and 99 through Outfall 001.

Attachment 5 – Site Map and Figures



Outfall
Pump Station
Behrens Trench
Union Pacific Causeway

N

0 5 10
Miles
1 inch = 10 miles

Figure 1. Location Map
Compass Minerals Ogden Operations, Utah

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Figure 2. West Desert Operations Area and Behrens Trench
Compass Minerals Ogden Operations, Utah

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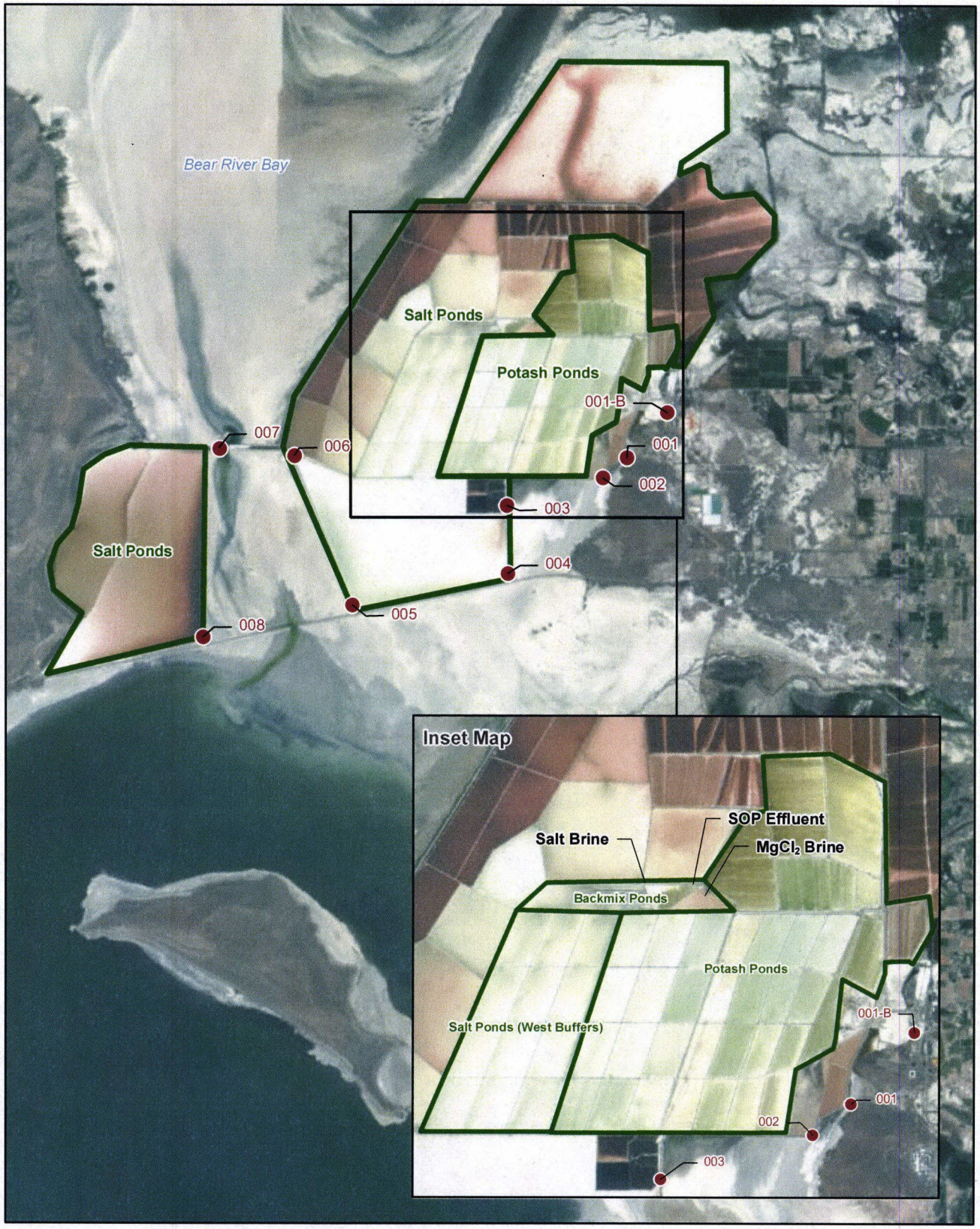

Outfall

Pond

Figure 3. East Ponds
Compass Minerals Ogden Operations, Utah

N

0 1 2
Miles
1 inch = 2 miles

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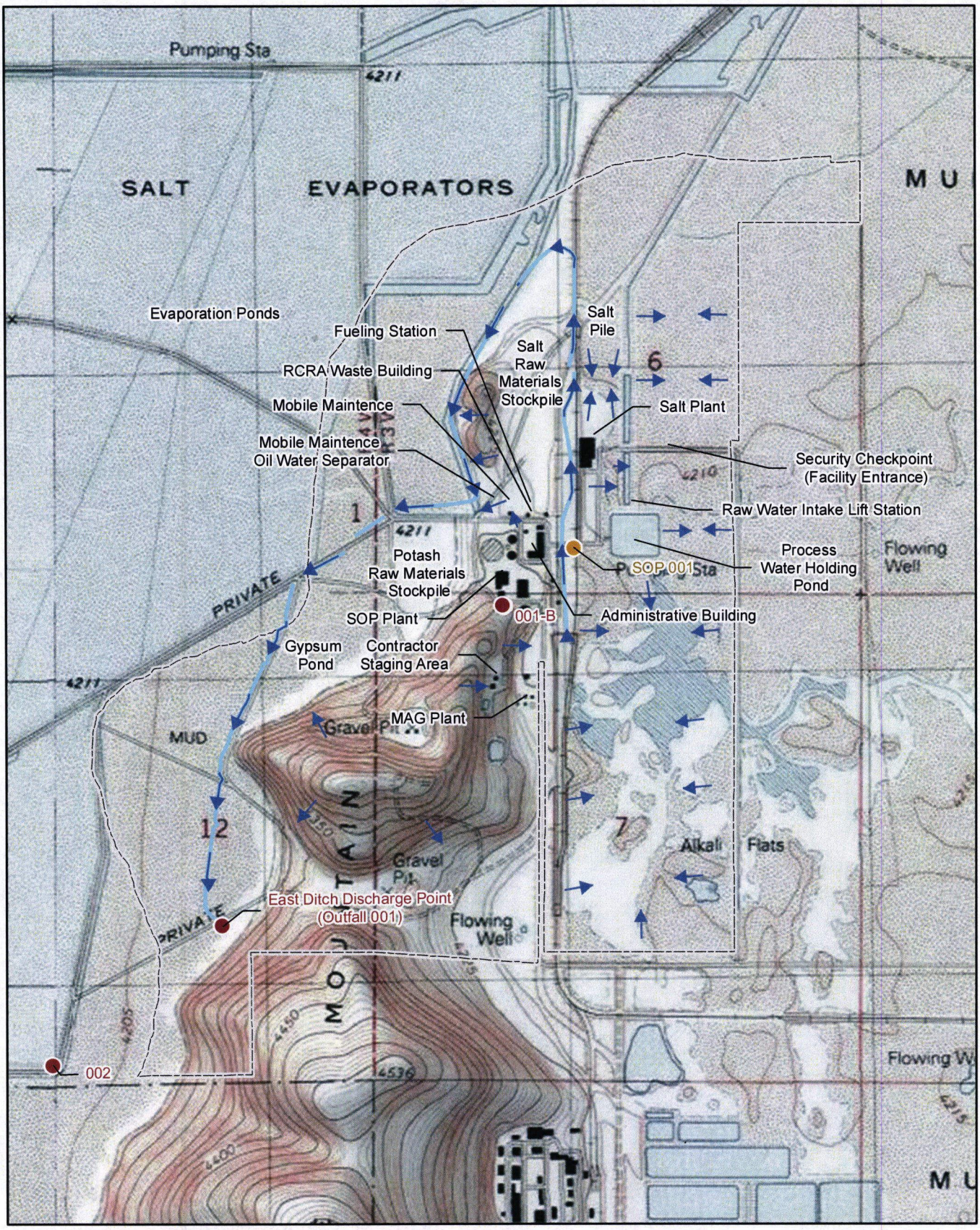

Stormwater Outfall
Outfall
East Ditch
Predicted Direction of Drainage
Compass MInerals Ogden Operations Property Boundary

Background Image: 7.5-minute USGS Topographic Maps,
Willard Spur Quadrangle (1973, and Plain City SW Quadrangle (1974).

N

0 750 1,500
Feet
1 inch = 1,500 feet

Figure 4. Facility Map
Compass Minerals Ogden Operations, Utah

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Outfall
East Ditch
Pond
Compass MInerals Ogden Operations Property Boundary

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Feet
1 inch = 1,000 feet

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Figure 5. Ponds 91, 94, 95, and 99
Compass Minerals Ogden Operations, Utah

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Attachment 6 – Proposed Permit Changes

Compass Minerals is proposing the following changes to the permit to reflect current operations and requirements.

1) Extension to the mineral return discharge period to correspond with Bear River flows. This would be through June for most years with potential for year-round discharge in peak water years. This has been discussed with various stakeholders on the Great Salt Lake (GSL), and concerns over impacts to birds feeding in the bitterns near the Outfalls have been raised. To alleviate these concerns, Compass Minerals commissioned Jacobs Engineering Group Inc. to conduct a year-long Outfall Bird Survey at the mineral return Outfalls from September 2017 to September 2018. Results of this survey confirm that birds are not using the mineral return Outfall locations or using them temporarily as they move to richer feeding grounds. Bird use appears to be more dependent on seasonal bird movements and not reflective of Compass Minerals operations. A copy of the Outfall Bird Survey report is included in Attachment 7.
2) Add ponds 91, 94, 95, and 99 to the mineral return discharge operations. This proposal was first presented in the "Report on Mineral Return Activity During 2012 thru 2015…" submitted to the Utah Division of Water Quality in October 2015. These ponds have historically been used as salt ponds and were inadvertently omitted from mineral return activity in previous applications. Compass has an operational need to conduct mineral return from these ponds, and Outfall 001 is the nearest discharge point. Compass proposes to expand the utility of Outfall 001 to include mineral return along with discharges listed in **Table 3**.
3) Update permit language to identify the new ditch used to convey effluent from the West Desert Ponds into Outfall 009. As salt deposits increase over time, the hydraulics of the ponds are altered, and a ditch was dug to transfer concentrated brine to Behrens Trench. This change is administrative and has no impact on effluent characteristics or quantities.
4) Remove Section I.C.3 (Compliance Schedule) from the permit, which incorporated the Sampling and Analysis Plan (SAP) developed in conjunction with the 2012 settlement agreement. Compass Minerals has consistently implemented the SAP beyond the required time period in the settlement. Monitoring results confirm the mineral return effluent rapidly mixes with freshwater from the Bear River and is diluted to background levels by the time it reaches the Union Pacific Causeway, which satisfies the original intent of the SAP and addresses the concerns in the settlement. Because the settlement has been fully satisfied, the SAP requirement should be removed from the permit. However, because all stakeholders appreciate the generation of reliable GSL water quality data, Compass proposes to continue voluntarily sampling the GSL during mineral return activities by following a revised SAP.

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Attachment 7 – Outfall Bird Surveys

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Memorandum

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Subject	**Compass Minerals Outfall Bird Surveys**
Attention	Joe Havasi/Compass Minerals
From	Gary Santolo/Jacobs Engineering Group (Jacobs)
Date	December 17, 2018
Copies to	Jeff Den Bleyker/Jacobs

Compass Minerals operates a 55,000-acre solar evaporation pond complex on the Great Salt Lake (GSL) for the purpose of extracting various salts (for example, sodium chloride, sulfate of potash, and magnesium chloride) from the lake's brines (see Figure 1). Brine from GSL's North Arm (Gunnison Bay) is pumped through solar evaporation into a series of shallow ponds on the west shore of Gunnison Bay where the lake brine is concentrated. Salts are precipitated in these west ponds and the concentrated brine is transferred to a series of shallow ponds located on the east shore of Bear River Bay via Outfall 009, the Behrens Trench, and a canal system (see Figure 1). The brine is then further concentrated through solar evaporation in another extensive series of shallow ponds, leaving behind crystallized minerals. Target minerals are gathered throughout the evaporative process and processed to produce all-natural products for the market. It typically takes approximately 3 years from withdrawal of brines from GSL to creation of the final mineral product.

Unused minerals, originally extracted from GSL during the original bulk withdrawal, remain in the ponds after target minerals are harvested. These must be returned to GSL as required by Compass Minerals' Royalty Agreement with the Utah Department of Natural Resources. Less-saline waters from various sources (for example, Bear River Bay) are pumped into the ponds to dissolve unused minerals. Dissolved minerals contain only materials native to and originally withdrawn from GSL and are then discharged back to GSL via Outfalls 001-008, as necessary.

Compass Minerals has historically discharged its dissolved minerals back to GSL during the non-solar season when flows in Bear River Bay are the greatest (November through March). This results in rapid mixing and short residence times within the "Trapezoid" area (see Figure 3) prior to crossing under the Union Pacific Railroad (UPRR) causeway and into GSL (see Figure 1). Sampling completed from 2012 to 2015 as part of the 2012 Settlement Agreement concluded that:

1) Metal concentrations in Trapezoid waters are at Gilbert Bay background levels by the time waters cross under the UPRR causeway.
2) The dissolved minerals are not raising the concentrations of metals found in Gilbert Bay above ambient concentrations.

Recent mineral return operations over the last 5 years, however, have resulted in an excess accumulation of unused minerals in the shallow ponds. Compass Minerals will need to extend its mineral return period beyond the typical end in March through the month of October to return the required minerals back to GSL. Compass Minerals desires to understand if and how extending the mineral return period may affect concentrations of metals in Gilbert Bay and habitat in the Trapezoid.

1.0 Objectives

Jacobs conducted a Point Count bird survey at each of Compass Minerals' Outfalls 001-009 (9 sites; Figure 1-3) at approximately 1-month intervals from September 2017 to September 2018 (12 survey events). The bird surveys followed the protocol described in Compass Minerals' Field Sampling Plan dated September 2017. Observers documented bird abundance, diversity, and patterns of use for feeding and nesting from a point near the terminus of each outfall site and generally documented observations of birds in the mudflats near Outfalls 001-004 and the Trapezoid (near Outfalls 005-008).

2.0 Site Description

Outfalls 001–008 from Compass Minerals' East Ponds are located on the northeast shore of GSL, north of the UPRR causeway, near the confluence of Bear River Bay with Gilbert Bay of GSL (see Figures 1, 2, and 3). These outfalls are accessible through Compass Minerals' main entrance located off Highway 39 west of Ogden, Utah. Outfall 009 is located at Compass Minerals' West Ponds in Gunnison Bay (see Figure 5). This outfall is accessible via a controlled access on the UPRR causeway. Safety and security are paramount, thus access to the outfalls along the causeway, berms, and dikes is tightly controlled by both Compass Minerals and UPRR.

Outfalls 001-004 discharge onto a mudflat area bounded by Compass Minerals' dikes on the north and west, UPRR's causeway on the south, and Little Mountain on the east (see Figure 2). If the area is not flooded by backwater from Bear River Bay, flows typically concentrate and flow along the toe of Compass Minerals' dikes to a wide channel area between Compass Minerals' dikes and UPRR's causeway near Outfall 004. Water then flows to the west and enters the Trapezoid area (see Figure 3). There is no vegetation in or along the channel conveying these waters to the Trapezoid.

Outfalls 005-008 discharge directly to the Trapezoid, an area bounded by Compass Minerals' causeway on the north, Compass Minerals' dikes on the east and west, and UPRR's causeway on the south (see Figure 3). The Trapezoid has typically been flooded by GSL (when lake levels are higher than 4,195 feet) or with flowing water from Bear River Bay (October to July) when Compass Minerals has discharged its dissolved minerals from its outfalls. Flow from these outfalls has typically entered the open water of the Trapezoid and conveyed into Gilbert Bay. If lake levels are low and there is no flow from Bear River Bay, effluent would likely disperse out onto the mudflats where it would infiltrate, evaporate, or possibly flow under UPRR's causeway and into Gilbert Bay. Proximity to fluctuating Gilbert Bay water levels and resulting high salinity in the soils of the Trapezoid precludes most vegetation from being established in this area.

Outfall 009 flows into the Behrens Trench, which discharges to Gunnison Bay. The Behrens Trench begins on the west mudflats of Gunnison Bay. The trench submerges under the waters of Gunnison Bay and conveys concentrated brines along the bottom of Gunnison Bay to the east where the brines are pumped into a canal for use in Compass Minerals' East Ponds (see Figures 4 and 5).

Figure 1. Vicinity Map, Compass Minerals and Great Salt Lake

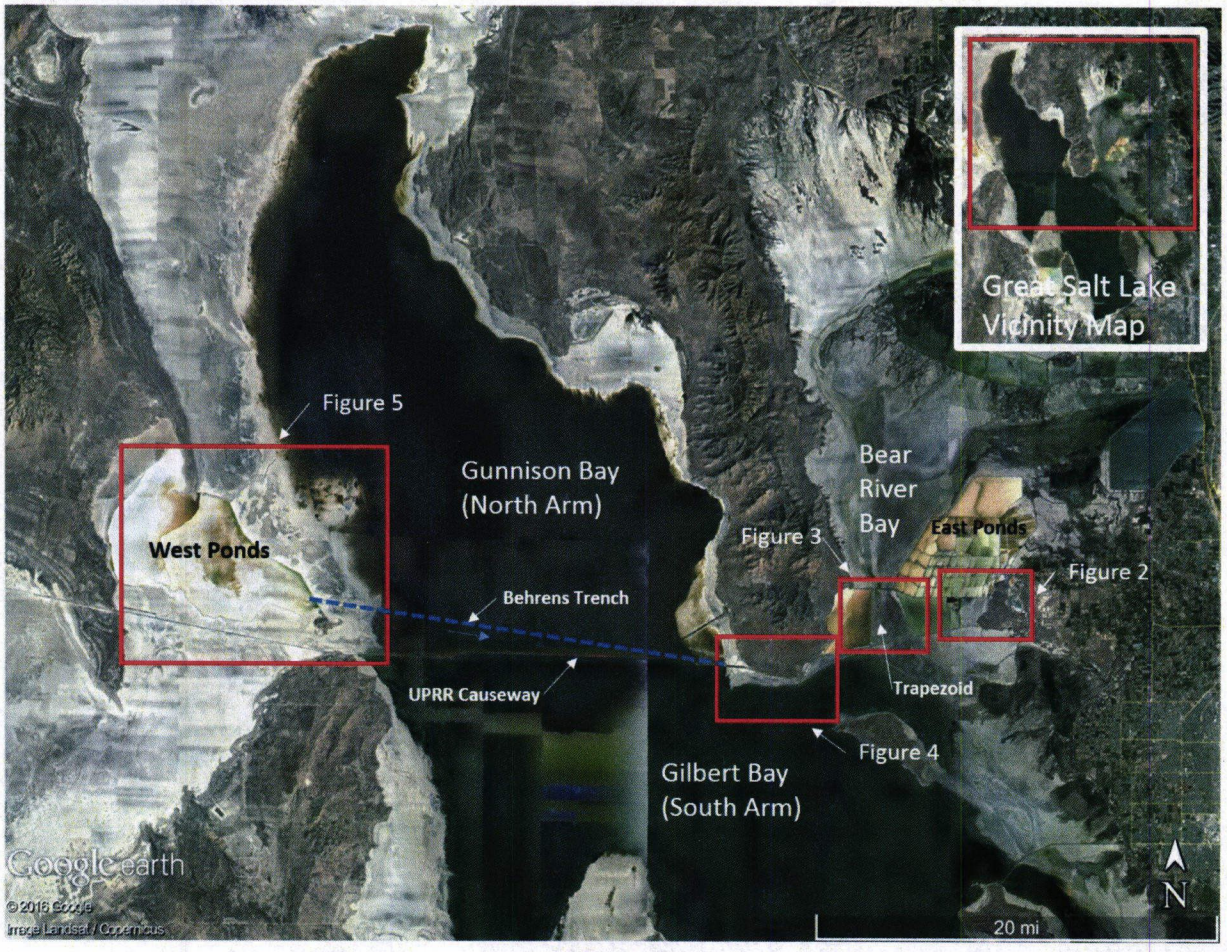


Figure 2. Sampling Locations at East Side Operation, Compass Minerals

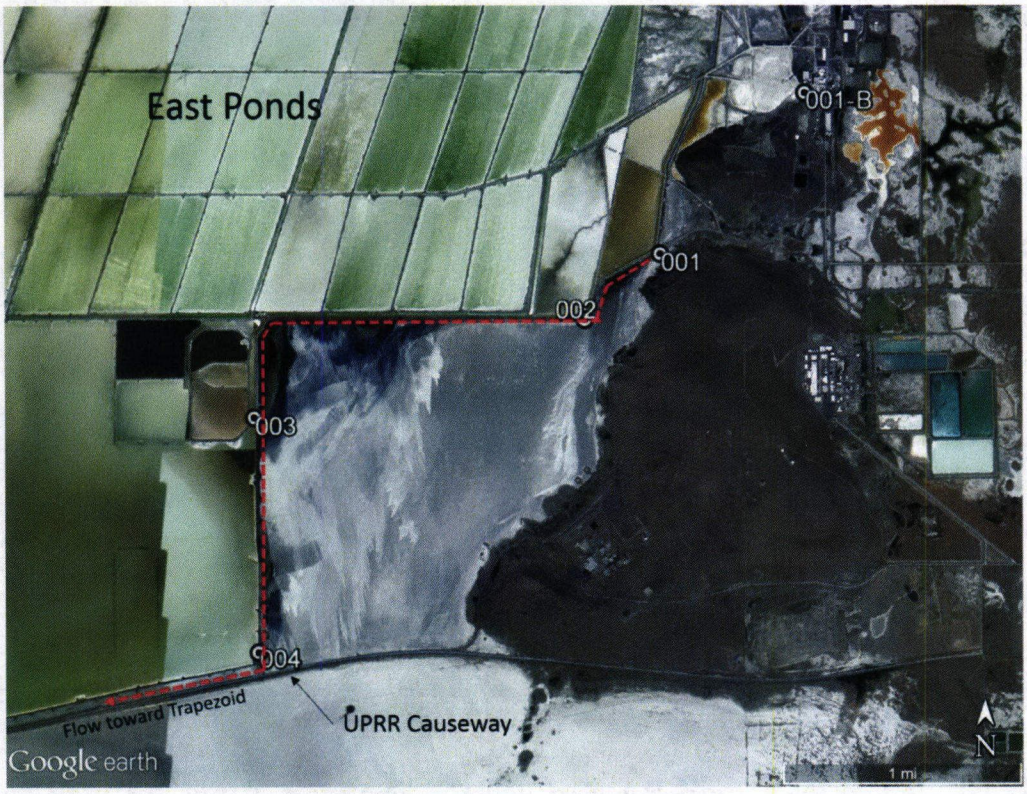
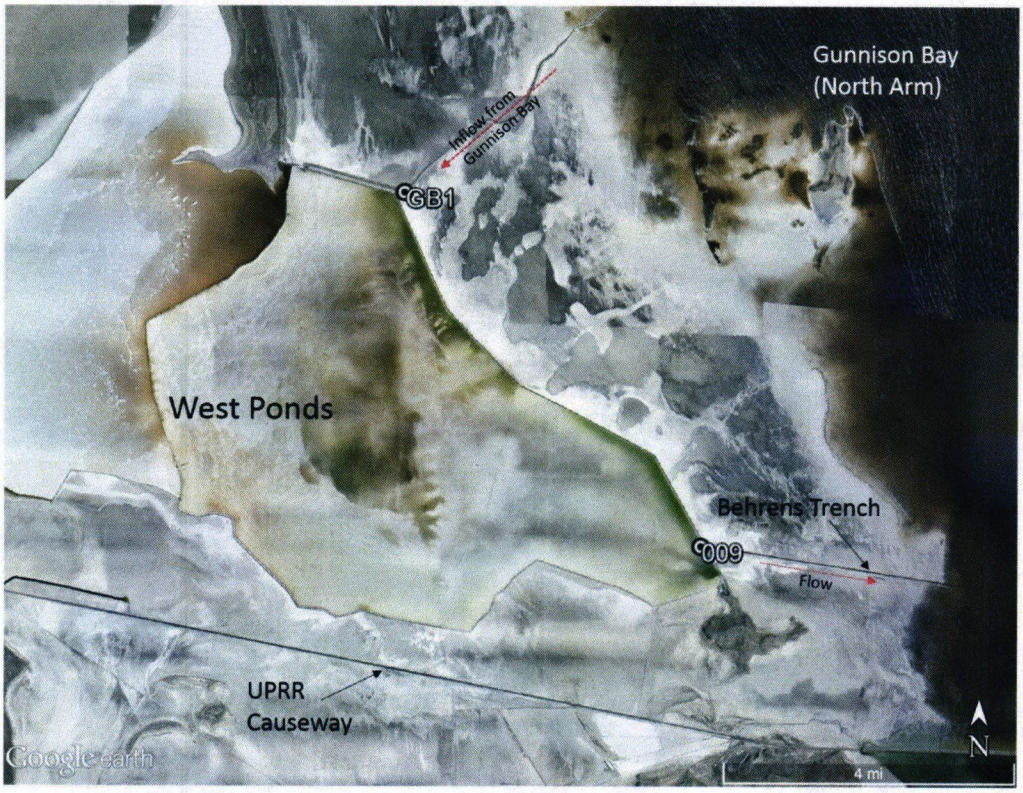


Figure 3. Sampling Locations at Trapezoid, Compass Minerals

Figure 4. Sampling Locations at Gilbert Bay, Compass Minerals

Figure 5. Sampling Locations at West Side Operation, Compass Minerals



3.0 Survey Method

Bird surveys were conducted monthly at Outfalls 1 through 9 from September through December 2017 and January and March through September 2018. Equal efforts were made among the areas in the various outfalls to enable a realistic comparison of bird counts and diversity for unit effort. Using binoculars, the observer surveyed from the area where the access road crossed each outfall for 10 minutes, recording all birds observed. Surveys began in the morning by crossing the UPRR causeway and starting at Outfall 9 and were conducted in reverse order from Outfall 9 to Outfall 1. Bird activity, time of day, temperature, wind speed, humidity, location, species, and counts were recorded. Birds observed outside of the outfalls, including the UPRR Causeway Bridge and Breach, were recorded separately and were not included in diversity and abundance calculations. In addition, nesting activity and the presence of nests were noted and counted, if present, as a measure of habitat quality and bird use.

4.0 Results

Bird surveys were conducted at Outfalls 1 through 9 on September 19, October 26, November 30 and December 13 in 2017, and January 18, March 15, April 19, May 24, June 21, July 19, August 8, and September 20 in 2018. Birds were observed at Outfalls 3, 7, and 8 in September 2017; in Outfalls 6, 7, and 8 in October 2017; and at Outfall 7 in all months except January and July 2018. Only swallows were observed during surveys conducted in August and September 2018. No birds were observed during any of the surveys at Outfalls 1, 2, 4, and 5. Birds were observed at the UPRR Causeway Bridge and Breach at the North Arm from September through December 2017 and August 2018, often in high numbers. Birds were observed at the UPRR Causeway Bridge April through August 2018 and at the UPRR Causeway Breach in September 2018 (Figure 6).

A total of 2,231 individuals of 22 water-associated species were counted (Table 1). Seventy-nine songbirds, less than 4 percent of all birds observed at the outfalls, were counted (31 barn swallows [*Hirundo rustica*], 6 cliff swallows [*Petrochelidon pyrrhonota*], 22 common ravens [*Corvus corax*}, and 20 yellow-headed blackbirds [*Xanthocephalus xanthocephalus*]) were counted at Outfall 7. Not surprisingly, Outfall 7, which is adjacent to Bear River Bay inflows to GSL and had freshwater inflows for most surveys, had the largest numbers of birds (1,152; 52 percent) and species (25; 96 percent) using it. The numbers and species of birds using Outfalls 3, 5, 6, 7, 8, and 9 generally reflected the habitat and probably the food resources available to birds at various times.

Figure 6. Outfall discharging and presence and absence of birds at the nine outfalls and the UPRR Causeway Bridge and Breach during bird surveys conducted beginning September 19, 2017, and September 20, 2018.

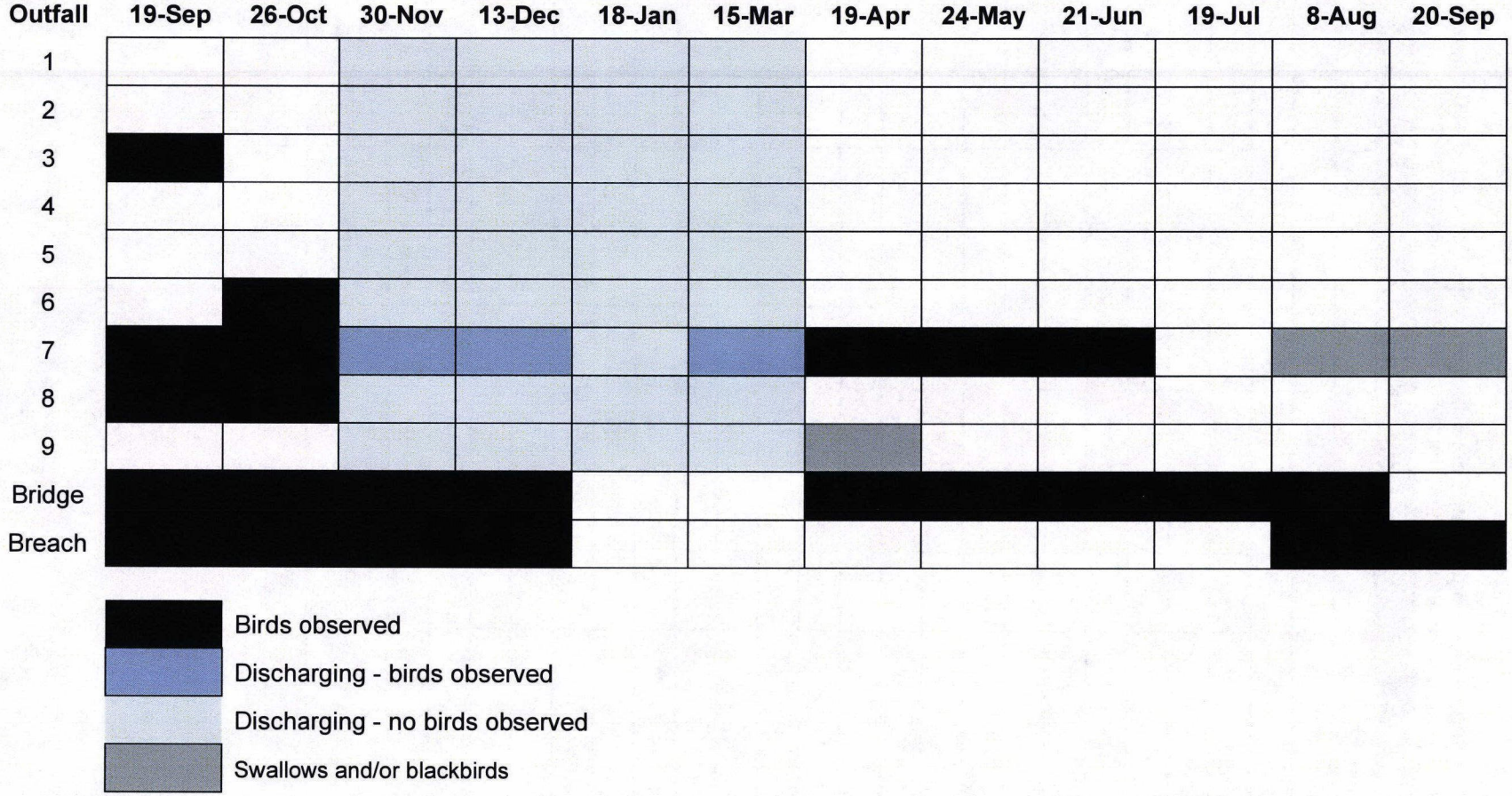


Table 1. Birds Observed and Aggregate Numbers during Surveys Conducted at Compass Minerals Outfalls 1 through 9 from September 19, 2017, to September 20, 2018.

Common Name	OF-9	OF-8	OF-7	OF-6	OF-5	OF-4	OF-3	0F-2	OF-1
Double-crested cormorant			2						
American white pelican			57						
Eared grebe			27						
American coot			25						
Canada goose			13						
Gadwall		30	69						
American wigeon			28						
Mallard		30	14						
Cinnamon teal		10	3						
Northern shoveler		60	282						
Northern pintail		20	44						
Green-winged teal			5						
Canvasback			8						
Redhead			45						
Ring-necked duck			10						
White-winged scoter			53						
Ruddy duck			10						
Mixed Waterfowl		500	290	250					
Black-necked stilt		50	10						
American avocet		20	58						
California gull		28	73				23		
Bonapart's gull			1						
Forster's tern			4						
Barn swallow	14	1	11	5					
Cliff swallow			6						
Common raven	1		4		17				
Yellow-headed blackbird	20								

California gulls (*Larus californicus*) were observed along the UPRR Causeway during all but two surveys (January and March 2018), often in large numbers; flocks of eared and pied-billed grebes (*Podiceps nigricollis*), and American avocets (*Recurvirostra americana*) were the most abundant shorebird observed. Terrestrial birds including horned larks (*Eremophila alpestris*) and western meadowlarks (*Sturnella neglecta*) were observed on the access roads. Other species noted between outfalls were sharp-shinned hawk (*Accipiter striatus*), peregrine falcon (*Falco peregrinus*), and loggerhead shrike (*Lanius ludovicianus*). Summaries of each of the surveys conducted, including site photographs, are presented in Appendix 1. No gull or other species nests were found at any of the outfalls. Overall, observations at the outfalls were as follows:

Outfall 1

No birds were observed during any of the surveys.

Outfall 2

No birds were observed during any of the surveys.

Outfall 3

Twenty-two California gulls were observed feeding and loafing in the water northeast of the outfall during the September 19, 2017 survey; in October, one gull was observed preening in the same location. No other birds were observed during any of the surveys.

Outfall 4

No birds were observed during any of the surveys.

Outfall 5

No birds were observed during any of the surveys.

Outfall 6

Waterfowl observed loafing during surveys conducted on October 26, 2017; no birds observed during other surveys.

Outfall 7

Birds observed during all surveys except January 18 and July 19, 2018. No waterbirds observed after July when Bear River was no longer flowing under the bridge.

Outfall 8

A flock of about 200 mixed waterfowl that included gadwall (*Anas strepera*), northern pintail (*Anas clypeata*), canvasback (*Aythya valisineria*), redhead (*Aythya americana*), ring-necked duck (*Aythya collaris*), and ruddy duck (*Oxyura jamaicensis*) were observed during the October 26, 2017 survey.

Outfall 9

Twenty yellow-headed blackbirds were observed during the April 19, 2018 survey perched on the bridge (see Figure 6), but these birds were likely just resting during their movements and were not foraging at Outfall 9. During the April survey, 12 American avocet were observed loafing in water west of the outfall (these weren't counted for the survey); again, these birds were likely resting during movement to other areas.

No survey was conducted at Outfall 9 on September 20, 2018; the gate was locked.

Bridge

Large flocks of California gulls and/or American avocets were observed during surveys conducted from September through December and April through August.

Breach

Large flocks of California gulls and/or American avocets were observed during surveys conducted from September through December and August through September.

Outfall 7 Survey Results

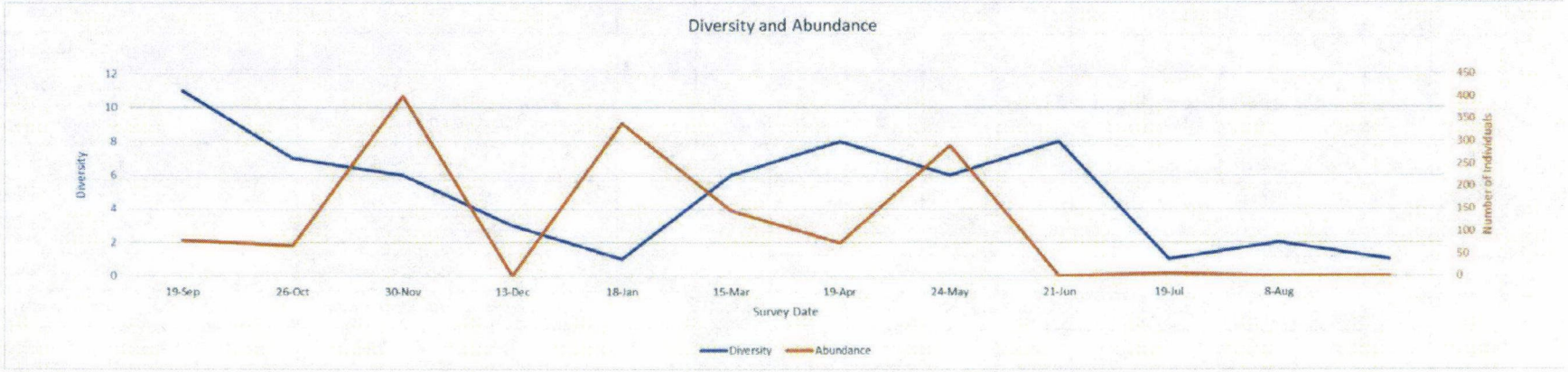
Species diversity (the number of species observed) and abundance (the number of birds observed) varied by survey date (see Table 2 and Figure 3). Bird abundance can be greatly affected by a flock of any one species using the site during a survey period. At Outfall 7, large flocks of a few species were observed during the surveys. Overall, diversity and abundance were highest at Outfall 7 where the Bear River fresh water flowed into the Great Salt Lake and the mixing zone likely presented feeding opportunities not found at the other outfalls.

JACOBS

Table 2. Birds Observed, Dates, and Aggregate Numbers from Surveys Conducted at Compass Minerals Outfall 7 in 2017 and 2018.

Common Name	Scientific Name	19-Sep	26-Oct	30-Nov	13-Dec	18-Jan	15-Mar	19-Apr	24-May	21-Jun	19-Jul	8-Aug	20-Sep
		2017				2018							
Double-crested cormorant	*Phalacrocorax auritus*									2			
American white pelican	*Pelecanus erythrorhynchos*									57			
Eared grebe	*Podiceps nigricollis*							27					
Canada goose	*Branta canadensis*	2								11			
Gadwall	*Anas strepera*	13	10		20				26				
American wigeon	*Anas americana*						10	12					
Mallard	*Anas platyrhynchos*	10						4					
Cinnamon teal	*Anas cyanoptera*	3											
Northern shoveler	*Anas clypeata*	9		3	180		60	24					
Northern pintail	*Anas acuta*	15	5	20			10						
Green-winged teal	*Anas crecca*		5										
Canvasback	*Aythya valisineria*			3									
Redhead	*Aythya americana*		5				40						
Ring-necked duck	*Aythya collaris*		10										
White-winged scoter	*Melanitta fusca*			3			50						
Ruddy duck	*Oxyura jamaicensis*		5	5									
American coot	*Fulica americana*	25											
Black-necked stilt	*Himantopus mexicanus*	10											
American avocet	*Recurvirostra americana*	40							2	16			
California gull	*Larus californicus*	20						2	1	50			
Bonapart's gull	*Chroicocephalus philadelphia*							1					
Forster's tern	*Sterna forsteri*							3					
Barn swallow	*Hirundo rustica*								4	9		3	
Common raven	*Corvus corax*								4				

Figure 2. Outfall 7 Diversity (number of species) and Abundance (number of individuals) Observed during Surveys Conducted at Compass Minerals Outfall 7 from September 19, 2017 through September 20, 2018.



5.0 Conclusions

The UPRR Causeway Bridge and Breach had the greatest number of birds and reflected the numbers and types of birds observed along the causeway. Bird use along the causeway is likely somewhat dependent on seasonal bird movements and is not reflective of Compass Minerals' operations.

Observations indicated that most outfalls were not used or were used only sporadically by birds during their movement to other areas. This was true whether there was an active Compass Minerals' discharge or not, suggesting a lack of food resources at these sites. The only outfall with consistent bird use was Outfall 7, where freshwater from the Bear River flows into the GSL and provides a mixing zone with the Compass Minerals' discharge water. Low water flows from the Bear River from July through the end of the survey period in September 2018 was probably the reason for the lack of birds observed at Outfall 7 after June 2018. During this time, Compass Minerals outfalls (1 through 6, and 8 and 9) were not discharging water and water levels throughout the survey area appeared low. No nesting, other than swallows that nested under the bridges at Outfalls 7 and 9, and a common raven that nested near Outfall 2, was observed at any of the outfalls.

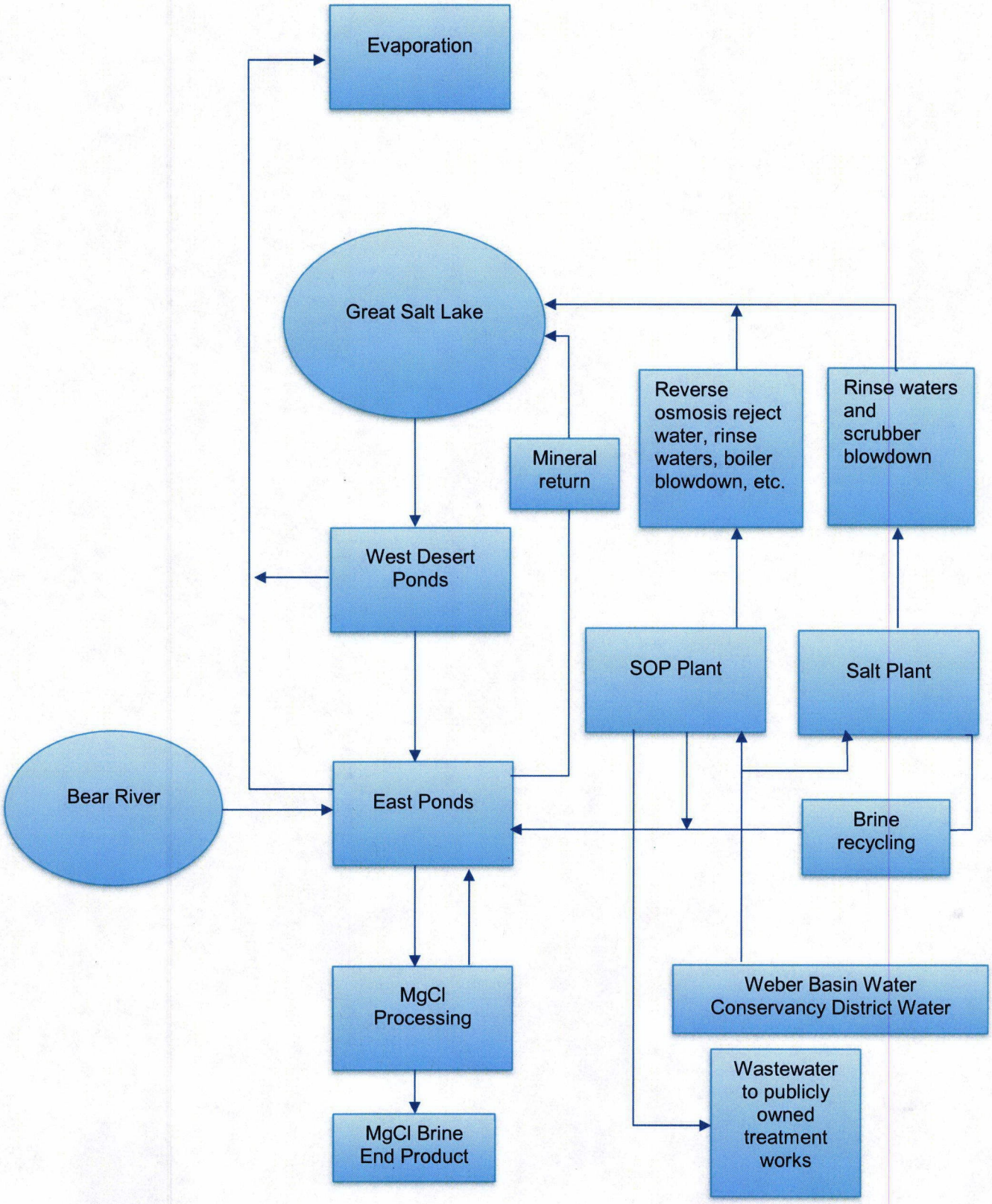
Attachment 8 – Water Balance

A schematic of water flow throughout the facility is represented in Figure 6. Because the process is dependent on solar energy over a period of several years from initial water withdrawal to processing salts in the production plants, actual flows between process steps are variable. **Table 5** provides representative water flow rates for key process steps.

Table 5. Process Flow Rates

Operation	Average Flow	Flow Units	Flow Reference
Plant wide discharges at Outfall 001 (includes stormwater)	3.8	Million gallons per day	Statement of Basis
Cooling tower evaporation	1.6	Million gallons per year	Compass Minerals 2013 estimate
Brine pumped from the Great Salt Lake	109.6	Million gallons per year	Compass Minerals 2013 estimate
Weber Basin Water Conservancy District fresh water	11.3	Million gallons per year	Compass Minerals 2013 estimate
Evaporative losses in ponds	48.9	Billion gallons per year	Compass Minerals 2013 estimate

Figure 6. Compass Minerals International, Ogden Operations Water Balance Schematic



Attachment 9 – Stormwater Pollution Sources

4.0 POTENTIAL POLLUTANT SOURCES

The Compass Minerals Ogden Site is an active industrial facility with operations that have the potential to adversely impact water quality if not managed properly. This section describes recognized potential pollutant sources, including significant inventory of pollutants associated with exposed materials and a description of potential pollutants by activity.

4.1 Pollutants Associated with Exposed Materials

This section and associated tables describes significant materials that are handled, stored, processed, treated or disposed of in a manner that has the potential for exposure to storm water. Tables 4 and 5 provide an inventory of significant material and summarize the risk and control information regarding these materials located at the Main Processing Plant Area and the Evaporation Pond Pumping Stations, respectively.

For the purposes of this plan a general exposure risk ranking is used with the following categories.

Low	Exposed material has little potential to pollute storm water runoff.
Moderate	Material or equipment is present that if not properly maintained has potential to pollute storm water. The potential is reduced by baseline best management practices.
High	Exposed material has a high probability to contaminant runoff when exposed to storm water. Baseline or advanced best management practices may reduce the potential.

TABLE 4 – SIGNIFICANT MATERIALS INVENTORY – MAIN PROCESSING PLANT AREA

MATERIAL TYPE & PHYSICAL STATE	STORAGE METHOD	MAP LOCATION	QUANTITY STORED	RISK TO STORM WATER QUALITY	POLLUTANT OF CONCERN	BMP INFO
Diesel Fuel, Liquid	(2) 10,000-gal ASTs, (1) 100-gal AST, & (1) 325-gal AST	Fig. 2 – Fuel Storage Area, Fire Pump House Building, Administrative Building	Up to 20,425-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Gasoline, Liquid	6,000-gal AST	Fig. 2 – Fuel Storage Area	Up to 6,000-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Motor Oil, Liquid	(2) 2,000-gal AST, (1) 1,000-gal AST, & (3) 120-gal ASTs	Fig. 2 – Mobile Maintenance Building & Circle A Building	Up to 3,910-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Hydraulic Oil, Liquid	2,000-gal ASTs	Fig. 2 – Mobile Maintenance Building	Up to 2,000-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Lubricating Gear Oil, Liquid	(2) 300-gal ASTs	Fig. 2 –Mobile Maintenance Building	Up to 600-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Used Oil, Liquid	(3) 500-gal ASTs	Fig. 2 – Mobile Maintenance Building & Circle A Building	Up to 1,500-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Ethylene Glycol (Antifreeze), Liquid	(1) 300-gal AST	Fig. 2 – Mobile Maintenance Building	Up to 300-gal	Low	Toxicity	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Heavy Dedust oil, Liquid	(1) 20,000-gal AST	Fig. 2 – SOP Plant	Up to 20,0 00-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Light Dedust Oil, Liquid	(1) 10,000-gal AST	Fig. 2 – SOP Plant	Up to 10,000-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Grease, Paste	(2-4) 55-gal drums	Fig. 2 – Mobile Maintenance Building & Circle A Building	Up to 220-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Titration Waste, Liquid	(2) 55-gal drums	Fig. 2 – SOP Plant	Up to 110-gal	Low	Hazardous Waste	Secondary containment structures in place to contain a release.
Methanol, Liquid	(2) 55-gal drums	Fig. 2 – Administrative Building	Up to 110-gal	Low	Toxicity	Secondary containment structures in place to contain a release.
Sodium Hypochlorite, Liquid	(1) 12,659-gal AST	Fig. 2 – Mag Plant	Up to 12,659-gal	Low	Corrosive, pH	Secondary containment structures in place to contain a release.
Methyl Isobutyl Carbinol Reagent, Liquid	(4) 55-gal drums	Fig. 2 – SOP Plant	Up to 220-gal	Low	Toxicity	Secondary containment structures in place to contain a release.
Flotation Reagent, Liquid	(1) 9,000-gal AST	Fig. 2 – SOP Plant	Up to 9,000-gal	Low	Toxicity	Secondary containment structures in place to contain a release.
Flocculant Reagent, Liquid	(1) 200-gal Tote	Fig. 2 – SOP Plant	Up to 200-gal	Low	Toxicity	Secondary containment structures in place to contain a release.

Defoamer, Liquid	(2) 200-gal Totes	Fig. 2 – SOP Plant	Up to 400-gal	Low	Toxicity	Secondary containment structures in place to contain a release.
Activated Carbon, Solid	(4-20) 300-gal super sacks	Fig. 2 – Mag Plant	Quantity varies	Moderate	TSS, & Color	Activated carbon is used in the process of concentrating mag brine. Activated carbon is loaded into tanks on a concrete pad. Spilled material is swept and placed in a solid waste bin for disposal.
Yellow Prussiate of Soda (YPS), Solid	Stockpiled on ground	Fig. 2 – Salt Plant	Quantity varies	Low	Toxicity	YPS is added to salt as a caking agent. Salt treated with YPS is stockpiled within a bermed. Precipitation exposed to this area is contained in a small low-lying area at the base of the salt stockpile.
Gypsum, Slurry	Transferred by pipe to gypsum pond	Fig. 2 – Gypsum Pond	Quantity varies	Moderate	TSS	Gypsum is produced through the process of concentrating mag brine. Gypsum Is transferred in a slurry form and contained in a pond.
Potassium Chloride (KCL), Solid	Stockpiled on ground	Fig. 2 – SOP Plant, and KCL Pond	Quantity varies	NA	Unused bitterns, may be returned to the GSL by permit	KCL is added to SOP to supplement production.
SOP, Solid	Stockpiled on ground	Fig. 2 – Potash Raw Material Stockpile	Quantity varies	NA	Unused bitterns, may be returned to the GSL by permit	Area surrounding the stockpiles gently slopes towards the stockpiles or the Plant. Unused bitterns may be returned to the GSL.
Salt, Solid	Stockpiled on ground	Fig. 2 – Salt Stockpile	Quantity varies	NA	Unused bitterns, may be returned to the GSL by permit	Area surrounding the stockpiles gently slopes towards the stockpiles or the Plant. Unused bitterns may be returned to the GSL.

TABLE 5 – SIGNIFICANT MATERIALS INVENTORY – EVAPORATION POND PUMPING STATIONS

MATERIAL TYPE & PHYSICAL STATE	STORAGE METHOD	MAP LOCATION	QUANTITY STORED	RISK TO STORM WATER QUALITY	POLLUTANT OF CONCERN	BMP INFO
Diesel Fuel, Liquid	(1) 2,000-gal AST, (2)12,000-gal ASTs	Fig. 1 – West Pond Pumping Stations PS113, PS114 & Mobile Transfer Pumping Locations	Up to 26,550-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Gasoline, Liquid	550-gal AST, SPCC Tank #31	Fig. 1 – West Pond Pumping Station PS113	Up to 550-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Lubricating Oil, Liquid	(1-2) 55-gal drum, (18-24) 5-gal pails	Fig. 1 – West Pond Pumping Stations PS112, PS113, & PS114	Up to 230-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Motor Oil, Liquid	(6-10) 55-gal drums	Fig. 1 – West Pond Pumping Stations PS112, PS113, & PS114	Up to 550-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Used Oil, Liquid	1,000-gal AST, SPCC Tank #29	Fig. 1 – West Pond Pumping Station PS112	Up to 1,000-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Mineral Oil, Liquid	Electrical Transformers (1) 677-gal tank, (1) 150-gal tank, (1) 75-gal tank, & (5) <500-gal tank	Fig. 1 – West Pond Pumping Stations PS001, PS006, PS009, PS010, PS013, PS014, & PS016	Up to 3,402-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
FR3 Fluid (Dielectric Oil), Liquid	Electrical Transformers (1) 713-gal tank, (1) 217-gal tank, (1) 196-gal tank, (1) 355-gal tank, (1) 133-gal tank, & (5) <500-gal tanks	Fig. 1 – West Pond Pumping Station PS002, PS003, PS004, PS005, PS008, PS011, & PS015	Up to 4,114-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Ethylene Glycol (Antifreeze), Liquid	(2-4) 55-gal drums	Fig. 1 – West Pond Pumping Stations PS112, PS113, & PS114	Up to 220-gal	Low	Ethylene Glycol	Secondary containment structures in place to contain a release. Refer to SPCC plan.
Grease, Paste	Small containers: (18-20) 15-gal drums	Fig. 1 – West Pond Pumping Stations PS112, PS113, & PS114	Up to 300-gal	Low	Hydrocarbons	Secondary containment structures in place to contain a release. Refer to SPCC plan.

4.2 Pollutants Associated with Industrial Activity

This section describes activities at the Ogden Operations Site that have the potential to affect storm water quality, via Table 6 below:

TABLE 6 – POTENTIAL POLLUTANT SOURCES

POLLUTANT SOURCE	POLLUTANT OF CONCERN	RISK POTENTIAL	BMP INFORMATION
Material Transfer Operations – Main Processing Plant Area			
Fuel Transfer Operations	Hydrocarbons	High	Drop pans are located at the oil storage tanks and engines to collect small spills during oil transfer operations and engine use. Delivery trucks and equipment park on an impervious pad when transferring fuel to or from the diesel tanks. Personnel are in attendance during all transfers of petroleum products.
Concentrated Sugar Byproduct (Binder) in Spilled SOP Product	Binder	Low	Material is stored in a covered dome to minimize exposure to storm water. A retractable spout is used when loading railcars and trucks to minimize spillage.
Vehicle wash Station	TSS	Low	Vehicle wash water is directed to the Process Water Holding Pond where TSS would settle prior to water reuse throughout the facility.
Heavy Equipment Maintenance	O&G	Moderate	Heavy equipment is moved inside the maintenance building for routine maintenance. The maintenance building provides control of potential pollutants and limits exposure to precipitation.
Salt Bulk Transfer and Storage	TSS, YPS	Low	A retractable spout is used when loading railcars and trucks to minimize spillage.
Material Storage (Bagged Salt Products)	NA, Unused bitterns may be returned to the GSL by permit	NA, Unused bitterns may be returned to the GSL by permit	Material is staged in organized rows for ease of inspection. Product is bagged in solid form. Spills are quickly identified and removed.
Potassium Chloride Bulk Transfer and Storage	NA, Unused bitterns may be returned to the GSL by permit	NA, Unused bitterns may be returned to the GSL by permit	Material is stored in a covered dome to minimize exposure to storm water.
SOP transfer and loadout	NA, Unused bitterns may be returned to the GSL by permit	NA, Unused bitterns may be returned to the GSL by permit	Material is stored in a covered dome to minimize exposure to storm water. A retractable spout is used when loading railcars and trucks to minimize spillage.

Mag Chloride Bulk Transfer and Storage	NA, Unused bitterns may be returned to the GSL by permit	NA, Unused bitterns may be returned to the GSL by permit	Material is staged in organized rows for ease of inspection. Product is bagged in solid form. Spills are quickly identified and removed.
Material Transfer Operations – Evaporation Pond Area (Pump Stations)			
Fuel Transfer Operations	Hydrocarbons	High	Drop pans are located at the oil storage tanks and engines to collect small spills during oil transfer operations and engine use. Delivery trucks and equipment park on an impervious pad when transferring fuel to or from the diesel tanks. Personnel are in attendance during all transfers of petroleum products.
Waste Disposal Practices			
Trash	Hydrocarbons and Wind-blown debris	Very Low	Trash is collected in drums and transported to the Main Processing Plant area where it is transferred into a dumpster. Used oils and lubricants are collected in receptacles or aboveground storage tanks. These materials are periodically picked up for recycling.

4.3 EPCRA, Section 313 Water Priority Chemicals

Compass Minerals has reviewed chemicals stored and used at the facility and determined that no EPCRA Section 313 Water Priority Chemicals are present.

Compass Minerals
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Ogden, Utah 84404
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801-732-3118

Attention: Lonnie Shull
Utah Division of Water Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

Project Name: Compass Minerals UPDES Renewal Application

August 16, 2019

Subject: UPDES #UT0000647 Renewal Application Correction

Dear Mr. Shull,

Per your request, attached is an updated EPA Form 3510-2C for UPDES #UT0000647 Renewal application submitted via email August 2, 2019. Changes were made to Table B to reflect metals found in samples of the mineral return waters conducted as part of the Section I.C.3 (Compliance Schedule) of the permit. Per the Sampling and Analysis Plan, samples were analyzed for a suite of metals believed to be present in the mineral return discharge. It is important to note that these metals are not added in the production process. Rather, they are present in the brine extracted from the Great Salt Lake (GSL) and precipitate with the salts in the evaporation process. Periodically, select evaporation ponds are flooded with fresh water where these precipitates are dissolved and discharged back to the GSL through any one of Outfalls 002-008.

These discharges are consistent with Effluent Limitation Guidelines found in 40 CFR 436 Subpart L and 40 CFR 415 Subpart P. Both Subparts specify, respectively, that " there shall be no discharge of process waste water … on a net basis" if "the source of the applicant's water supply is the same body of water into which the discharge is made" and that "unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn." Additionally, per the lease agreement with the Utah Department of Natural Resources, minerals extracted from the GSL that cannot be economically sold must be returned to the lake. Table B has been amended to show these metals may be present at all Outfalls. Results of the mineral return sampling and analysis performed in the 2018/2019 mineral return season are attached for reference.

Compass Minerals appreciates the opportunity to work with the Division and GSL stakeholders to renew the facility's UPDES permit. Please contact Holly Hurst, P.E. at (801) 732-3251 or HurstH@compassminerals.com or Jared Carling at jared.carling@jacobs.com or (385) 474-8509 with any questions.

Yours sincerely

Joseph Havasi

Joseph Havasi
Interim Leader, Environmental, Health and Safety
801-793-8601
havasij@compassminerals.com

Copies to: Jared Carling/Jacobs, Jeff Den Bleyker/Jacobs, Ashley Peck/Holland and Hart

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA Form 3510-2C Revised March 2019

Water Permits Division

Application Form 2C

Existing Manufacturing, Commercial, Mining, and Silvicultural Operations

NPDES Permitting Program

Note: Complete this form ***and*** Form 1 if your facility is an existing manufacturing, commercial, mining, or silvicultural facility that currently discharges process wastewater.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	

Form 2C NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURE OPERATIONS

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below.

Outfall Number	Receiving Water Name	Latitude	Longitude
	See Attachment 1	° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "

SECTION 2. LINE DRAWING (40 CFR 122.21(g)(2))

Line Drawing

2.1 Have you attached a line drawing to this application that shows the water flow through your facility with a water balance? (See instructions for drawing requirements. See Exhibit 2C–1 at end of instructions for example.)

☑ Yes ☐ No

SECTION 3. AVERAGE FLOWS AND TREATMENT (40 CFR 122.21(g)(3))

Average Flows and Treatment

3.1 For each outfall identified under Item 1.1, provide average flow and treatment information. Add additional sheets if necessary.

Outfall Number 001

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge

Average Flows and Treatment Continued

3.1 cont.

Outfall Number 001-B

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
Reverse osmosis system for boiler feed water.	1-S	none
Water is pH adjusted prior to discharge.		

Outfall Number 002-009

Operations Contributing to Flow

Operation	Average Flow
See Attachment 2	mgd
	mgd
	mgd
	mgd

Treatment Units

Description (include size, flow rate through each treatment unit, retention time, etc.)	Code from Table 2C-1	Final Disposal of Solid or Liquid Wastes Other Than by Discharge
none		

System Users

3.2 Are you applying for an NPDES permit to operate a privately owned treatment works?

☐ Yes ☑ No ➔ SKIP to Section 4.

3.3 Have you attached a list that identifies each user of the treatment works?

☐ Yes ☑ No

SECTION 4. INTERMITTENT FLOWS (40 CFR 122.21(g)(4))

Intermittent Flows

4.1 Except for storm runoff, leaks, or spills, are any discharges described in Sections 1 and 3 intermittent or seasonal?

☑ Yes ☐ No ➔ SKIP to Section 5.

4.2 Provide information on intermittent or seasonal flows for each applicable outfall. Attach additional pages, if necessary.

Outfall Number	Operation (list)	Frequency		Flow Rate		Duration
		Average Days/Week	Average Months/Year	Long-Term Average	Maximum Daily	
	See Attachment 3	days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days
		days/week	months/year	mgd	mgd	days

SECTION 5. PRODUCTION (40 CFR 122.21(g)(5))

Applicable ELGs

5.1 Do any effluent limitation guidelines (ELGs) promulgated by EPA under Section 304 of the CWA apply to your facility?

☑ Yes ☐ No ➔ SKIP to Section 6.

5.2 Provide the following information on applicable ELGs.

ELG Category	ELG Subcategory	Regulatory Citation
Mineral Mining	Saline from Brine Lakes	40 CFR 436 Subpart L
Inorganic Chemicals Manufacturir	Sodium Chloride Production	40 CFR 415 Subpart P
	See Attachment 4 for process description	

Production-Based Limitations

5.3 Are any of the applicable ELGs expressed in terms of production (or other measure of operation)?

☐ Yes ☑ No ➔ SKIP to Section 6.

5.4 Provide an actual measure of daily production expressed in terms and units of applicable ELGs.

Outfall Number	Operation, Product, or Material	Quantity per Day	Unit of Measure
NA			

SECTION 6. IMPROVEMENTS (40 CFR 122.21(g)(6))

Upgrades and Improvements

6.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Item 6.3.

6.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall number)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected
NA				

6.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? *(optional item)*

☐ Yes ☐ No ☑ Not applicable

SECTION 7. EFFLUENT AND INTAKE CHARACTERISTICS (40 CFR 122.21(g)(7))

Effluent and Intake Characteristics

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

Table A. Conventional and Non-Conventional Pollutants

7.1 Are you requesting a waiver from your NPDES permitting authority for one or more of the Table A pollutants for any of your outfalls?

☑ Yes ☐ No ➔ SKIP to Item 7.3.

7.2 If yes, indicate the applicable outfalls below. Attach waiver request and other required information to the application.

Outfall Number All Outfall Number _____ Outfall Number _____

7.3 Have you completed monitoring for all Table A pollutants at each of your outfalls for which a waiver has not been requested and attached the results to this application package?

☐ Yes ☑ No; a waiver has been requested from my NPDES permitting authority for all pollutants at all outfalls.

Table B. Toxic Metals, Cyanide, Total Phenols, and Organic Toxic Pollutants

7.4 Do any of the facility's processes that contribute wastewater fall into one or more of the primary industry categories listed in Exhibit 2C-3? (See end of instructions for exhibit.)

☐ Yes ☑ No ➔ SKIP to Item 7.8.

7.5 Have you checked "Testing Required" for all toxic metals, cyanide, and total phenols in Section 1 of Table B?

☐ Yes ☑ No

7.6 List the applicable primary industry categories and check the boxes indicating the required GC/MS fraction(s) identified in Exhibit 2C-3.

Primary Industry Category	Required GC/MS Fraction(s) (Check applicable boxes.)			
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide
	☐ Volatile	☐ Acid	☐ Base/Neutral	☐ Pesticide

Effluent and Intake Characteristics Continued

7.7	Have you checked "Testing Required" for all required pollutants in Sections 2 through 5 of Table B for each of the GC/MS fractions checked in Item 7.6? ☐ Yes ☑ No
7.8	Have you checked "Believed Present" or "Believed Absent" for all pollutants listed in Sections 1 through 5 of Table B where testing is not required? ☑ Yes ☐ No
7.9	Have you provided (1) quantitative data for those Section 1, Table B, pollutants for which you have indicated testing is required or (2) quantitative data or other required information for those Section 1, Table B, pollutants that you have indicated are "Believed Present" in your discharge? ☐ Yes ☑ No
7.10	Does the applicant qualify for a small business exemption under the criteria specified in the instructions? ☐ Yes ➔ Note that you qualify at the top of Table B, then SKIP to Item 7.12. ☑ No
7.11	Have you provided (1) quantitative data for those Sections 2 through 5, Table B, pollutants for which you have determined testing is required or (2) quantitative data or an explanation for those Sections 2 through 5, Table B, pollutants you have indicated are "Believed Present" in your discharge? ☑ Yes ☐ No
	Table C. Certain Conventional and Non-Conventional Pollutants
7.12	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed on Table C for all outfalls? ☑ Yes ☐ No
7.13	Have you completed Table C by providing (1) quantitative data for those pollutants that are limited either directly or indirectly in an ELG and/or (2) quantitative data or an explanation for those pollutants for which you have indicated "Believed Present"? ☑ Yes ☐ No
	Table D. Certain Hazardous Substances and Asbestos
7.14	Have you indicated whether pollutants are "Believed Present" or "Believed Absent" for all pollutants listed in Table D for all outfalls? ☑ Yes ☐ No
7.15	Have you completed Table D by (1) describing the reasons the applicable pollutants are expected to be discharged and (2) by providing quantitative data, if available? ☑ Yes ☐ No
	Table E. 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD)
7.16	Does the facility use or manufacture one or more of the 2,3,7,8-TCDD congeners listed in the instructions, or do you know or have reason to believe that TCDD is or may be present in the effluent? ☐ Yes ➔ Complete Table E. ☑ No ➔ SKIP to Section 8.
7.17	Have you completed Table E by reporting *qualitative* data for TCDD? ☐ Yes ☐ No

SECTION 8. USED OR MANUFACTURED TOXICS (40 CFR 122.21(g)(9))

Used or Manufactured Toxics

8.1	Is any pollutant listed in Table B a substance or a component of a substance used or manufactured at your facility as an intermediate or final product or byproduct? ☐ Yes ☑ No ➔ SKIP to Section 9.
8.2	List the pollutants below.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 9. BIOLOGICAL TOXICITY TESTS (40 CFR 122.21(g)(11))

Biological Toxicity Tests

9.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made within the last three years on (1) any of your discharges or (2) on a receiving water in relation to your discharge?

☐ Yes ☑ No ➔ SKIP to Section 10.

9.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 10. CONTRACT ANALYSES (40 CFR 122.21(g)(12))

Contract Analyses

10.1 Were any of the analyses reported in Section 7 performed by a contract laboratory or consulting firm?

☑ Yes ☐ No ➔ SKIP to Section 11.

10.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm	Brooks Applied Labs	University of Utah Geo-sciences Lab	
Laboratory address	18804 North Creek Parkway, Suite 100 Bothell, WA 98011 U.S.A.	GEOLOGY & GEOPHYSICS FREDERICK ALBERT SUTTON BUILDING 115 S 1460 E, ROOM 383	
Phone number	(206) 632-6206	(801) 581-7062	
Pollutant(s) analyzed	See previously submitted discharge monitoring reports and Sampling and Analysis Plan results.	See previously submitted discharge monitoring reports and Sampling and Analysis Plan results.	

SECTION 11. ADDITIONAL INFORMATION (40 CFR 122.21(g)(13))

Additional Information

11.1 Has the NPDES permitting authority requested additional information?

☐ Yes ☑ No ➔ SKIP to Section 12.

11.2 List the information requested and attach it to this application.

1.	4.
2.	5.
3.	6.

SECTION 12. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

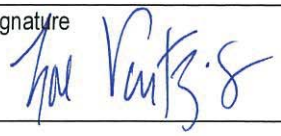
Checklist and Certification Statement

12.1 In Column 1 below, mark the sections of Form 2C that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☑ Section 1: Outfall Location	☑ w/ attachments
☑ Section 2: Line Drawing	☑ w/ line drawing ☐ w/ additional attachments
☑ Section 3: Average Flows and Treatment	☑ w/ attachments ☐ w/ list of each user of privately owned treatment works
☑ Section 4: Intermittent Flows	☑ w/ attachments
☑ Section 5: Production	☐ w/ attachments
☑ Section 6: Improvements	☐ w/ attachments ☐ w/ optional additional sheets describing any additional pollution control plans
☑ Section 7: Effluent and Intake Characteristics	☑ w/ request for a waiver and supporting information ☐ w/ explanation for identical outfalls ☐ w/ small business exemption request ☑ w/ other attachments ☐ w/ Table A ☐ w/ Table B ☐ w/ Table C ☐ w/ Table D ☐ w/ Table E ☐ w/ analytical results as an attachment
☑ Section 8: Used or Manufactured Toxics	☐ w/ attachments
☑ Section 9: Biological Toxicity Tests	☐ w/ attachments
☑ Section 10: Contract Analyses	☐ w/ attachments
☑ Section 11: Additional Information	☐ w/ attachments
☑ Section 12: Checklist and Certification Statement	☐ w/ attachments

12.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
Zoe A. Vantzos	Interim General Counsel and Assistant Secretary
Signature 	Date signed

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(iii)) [1]

	Pollutant	Waiver Requested (if applicable)	Units (specify)		Effluent				Intake (Optional)	
					Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☑	Check here if you have applied to your NPDES permitting authority for a waiver for *all* of the pollutants listed on this table for the noted outfall.									
1.	Biochemical oxygen demand (BOD_5)	☐	Concentration							
			Mass							
2.	Chemical oxygen demand (COD)	☐	Concentration							
			Mass							
3.	Total organic carbon (TOC)	☐	Concentration							
			Mass							
4.	Total suspended solids (TSS)	☐	Concentration							
			Mass							
5.	Ammonia (as N)	☐	Concentration							
			Mass							
6.	Flow	☐	Rate							
7.	Temperature (winter)	☐	°C	°C						
	Temperature (summer)	☐	°C	°C						
8.	pH (minimum)	☐	Standard units	s.u.						
	pH (maximum)	☐	Standard units	s.u.						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	001-009

Form Approved 03/05/19
OMB No. 2040-0004

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you qualify as a small business per the instructions to Form 2C and, therefore, do not need to submit quantitative data for any of the organic toxic pollutants in Sections 2 through 5 of this table. Note, however, that you must still indicate in the appropriate column of this table if you believe any of the pollutants listed are present in your discharge.											
Section 1. Toxic Metals, Cyanide, and Total Phenols												
1.1	Antimony, total (7440-36-0)	☐	☐	☑	Concentration							
					Mass							
1.2	Arsenic, total (7440-38-2)	☐	☑	☐	Concentration		See Lab Res					
					Mass							
1.3	Beryllium, total (7440-41-7)	☐	☐	☑	Concentration							
					Mass							
1.4	Cadmium, total (7440-43-9)	☐	☑	☐	Concentration		See Lab Res					
					Mass							
1.5	Chromium, total (7440-47-3)	☐	☐	☑	Concentration							
					Mass							
1.6	Copper, total (7440-50-8)	☐	☐	☑	Concentration							
					Mass							
1.7	Lead, total (7439-92-1)	☐	☐	☑	Concentration							
					Mass							
1.8	Mercury, total (7439-97-6)	☐	☐	☑	Concentration							
					Mass							
1.9	Nickel, total (7440-02-0)	☐	☑	☐	Concentration		See Lab Res					
					Mass							
1.10	Selenium, total (7782-49-2)	☐	☑	☐	Concentration		See Lab Res					
					Mass							
1.11	Silver, total (7440-22-4)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
1.12	Thallium, total (7440-28-0)	☐	☐	☑	Concentration							
					Mass							
1.13	Zinc, total (7440-66-6)	☐	☑	☐	Concentration		See Lab Resul					
					Mass							
1.14	Cyanide, total (57-12-5)	☐	☐	☑	Concentration							
					Mass							
1.15	Phenols, total	☐	☐	☑	Concentration							
					Mass							
Section 2. Organic Toxic Pollutants (GC/MS Fraction—Volatile Compounds)												
2.1	Acrolein (107-02-8)	☐	☐	☑	Concentration							
					Mass							
2.2	Acrylonitrile (107-13-1)	☐	☐	☑	Concentration							
					Mass							
2.3	Benzene (71-43-2)	☐	☐	☑	Concentration							
					Mass							
2.4	Bromoform (75-25-2)	☐	☐	☑	Concentration							
					Mass							
2.5	Carbon tetrachloride (56-23-5)	☐	☐	☑	Concentration							
					Mass							
2.6	Chlorobenzene (108-90-7)	☐	☐	☑	Concentration							
					Mass							
2.7	Chlorodibromomethane (124-48-1)	☐	☐	☑	Concentration							
					Mass							
2.8	Chloroethane (75-00-3)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.9	2-chloroethylvinyl ether (110-75-8)	☐	☐	☑	Concentration							
					Mass							
2.10	Chloroform (67-66-3)	☐	☐	☑	Concentration							
					Mass							
2.11	Dichlorobromomethane (75-27-4)	☐	☐	☑	Concentration							
					Mass							
2.12	1,1-dichloroethane (75-34-3)	☐	☐	☑	Concentration							
					Mass							
2.13	1,2-dichloroethane (107-06-2)	☐	☐	☑	Concentration							
					Mass							
2.14	1,1-dichloroethylene (75-35-4)	☐	☐	☑	Concentration							
					Mass							
2.15	1,2-dichloropropane (78-87-5)	☐	☐	☑	Concentration							
					Mass							
2.16	1,3-dichloropropylene (542-75-6)	☐	☐	☑	Concentration							
					Mass							
2.17	Ethylbenzene (100-41-4)	☐	☐	☑	Concentration							
					Mass							
2.18	Methyl bromide (74-83-9)	☐	☐	☑	Concentration							
					Mass							
2.19	Methyl chloride (74-87-3)	☐	☐	☑	Concentration							
					Mass							
2.20	Methylene chloride (75-09-2)	☐	☐	☑	Concentration							
					Mass							
2.21	1,1,2,2- tetrachloroethane (79-34-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
2.22	Tetrachloroethylene (127-18-4)	☐	☐	☑	Concentration							
					Mass							
2.23	Toluene (108-88-3)	☐	☐	☑	Concentration							
					Mass							
2.24	1,2-trans-dichloroethylene (156-60-5)	☐	☐	☑	Concentration							
					Mass							
2.25	1,1,1-trichloroethane (71-55-6)	☐	☐	☑	Concentration							
					Mass							
2.26	1,1,2-trichloroethane (79-00-5)	☐	☐	☑	Concentration							
					Mass							
2.27	Trichloroethylene (79-01-6)	☐	☐	☑	Concentration							
					Mass							
2.28	Vinyl chloride (75-01-4)	☐	☐	☑	Concentration							
					Mass							
Section 3. Organic Toxic Pollutants (GC/MS Fraction—Acid Compounds)												
3.1	2-chlorophenol (95-57-8)	☐	☐	☑	Concentration							
					Mass							
3.2	2,4-dichlorophenol (120-83-2)	☐	☐	☑	Concentration							
					Mass							
3.3	2,4-dimethylphenol (105-67-9)	☐	☐	☑	Concentration							
					Mass							
3.4	4,6-dinitro-o-cresol (534-52-1)	☐	☐	☑	Concentration							
					Mass							
3.5	2,4-dinitrophenol (51-28-5)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
3.6	2-nitrophenol (88-75-5)	☐	☐	☑	Concentration							
					Mass							
3.7	4-nitrophenol (100-02-7)	☐	☐	☑	Concentration							
					Mass							
3.8	p-chloro-m-cresol (59-50-7)	☐	☐	☑	Concentration							
					Mass							
3.9	Pentachlorophenol (87-86-5)	☐	☐	☑	Concentration							
					Mass							
3.10	Phenol (108-95-2)	☐	☐	☑	Concentration							
					Mass							
3.11	2,4,6-trichlorophenol (88-05-2)	☐	☐	☑	Concentration							
					Mass							
Section 4. Organic Toxic Pollutants (GC/MS Fraction—Base /Neutral Compounds)												
4.1	Acenaphthene (83-32-9)	☐	☐	☑	Concentration							
					Mass							
4.2	Acenaphthylene (208-96-8)	☐	☐	☑	Concentration							
					Mass							
4.3	Anthracene (120-12-7)	☐	☐	☑	Concentration							
					Mass							
4.4	Benzidine (92-87-5)	☐	☐	☑	Concentration							
					Mass							
4.5	Benzo (a) anthracene (56-55-3)	☐	☐	☑	Concentration							
					Mass							
4.6	Benzo (a) pyrene (50-32-8)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.7	3,4-benzofluoranthene (205-99-2)	☐	☐	☑	Concentration							
					Mass							
4.8	Benzo (ghi) perylene (191-24-2)	☐	☐	☑	Concentration							
					Mass							
4.9	Benzo (k) fluoranthene (207-08-9)	☐	☐	☑	Concentration							
					Mass							
4.10	Bis (2-chloroethoxy) methane (111-91-1)	☐	☐	☑	Concentration							
					Mass							
4.11	Bis (2-chloroethyl) ether (111-44-4)	☐	☐	☑	Concentration							
					Mass							
4.12	Bis (2-chloroisopropyl) ether (102-80-1)	☐	☐	☑	Concentration							
					Mass							
4.13	Bis (2-ethylhexyl) phthalate (117-81-7)	☐	☐	☑	Concentration							
					Mass							
4.14	4-bromophenyl phenyl ether (101-55-3)	☐	☐	☑	Concentration							
					Mass							
4.15	Butyl benzyl phthalate (85-68-7)	☐	☐	☑	Concentration							
					Mass							
4.16	2-chloronaphthalene (91-58-7)	☐	☐	☑	Concentration							
					Mass							
4.17	4-chlorophenyl phenyl ether (7005-72-3)	☐	☐	☑	Concentration							
					Mass							
4.18	Chrysene (218-01-9)	☐	☐	☑	Concentration							
					Mass							
4.19	Dibenzo (a,h) anthracene (53-70-3)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.20	1,2-dichlorobenzene (95-50-1)	☐	☐	☑	Concentration							
					Mass							
4.21	1,3-dichlorobenzene (541-73-1)	☐	☐	☑	Concentration							
					Mass							
4.22	1,4-dichlorobenzene (106-46-7)	☐	☐	☑	Concentration							
					Mass							
4.23	3,3-dichlorobenzidine (91-94-1)	☐	☐	☑	Concentration							
					Mass							
4.24	Diethyl phthalate (84-66-2)	☐	☐	☑	Concentration							
					Mass							
4.25	Dimethyl phthalate (131-11-3)	☐	☐	☑	Concentration							
					Mass							
4.26	Di-n-butyl phthalate (84-74-2)	☐	☐	☑	Concentration							
					Mass							
4.27	2,4-dinitrotoluene (121-14-2)	☐	☐	☑	Concentration							
					Mass							
4.28	2,6-dinitrotoluene (606-20-2)	☐	☐	☑	Concentration							
					Mass							
4.29	Di-n-octyl phthalate (117-84-0)	☐	☐	☑	Concentration							
					Mass							
4.30	1,2-Diphenylhydrazine (as azobenzene) (122-66-7)	☐	☐	☑	Concentration							
					Mass							
4.31	Fluoranthene (206-44-0)	☐	☐	☑	Concentration							
					Mass							
4.32	Fluorene (86-73-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.33	Hexachlorobenzene (118-74-1)	☐	☐	☑	Concentration							
					Mass							
4.34	Hexachlorobutadiene (87-68-3)	☐	☐	☑	Concentration							
					Mass							
4.35	Hexachlorocyclopentadiene (77-47-4)	☐	☐	☑	Concentration							
					Mass							
4.36	Hexachloroethane (67-72-1)	☐	☐	☑	Concentration							
					Mass							
4.37	Indeno (1,2,3-cd) pyrene (193-39-5)	☐	☐	☑	Concentration							
					Mass							
4.38	Isophorone (78-59-1)	☐	☐	☑	Concentration							
					Mass							
4.39	Naphthalene (91-20-3)	☐	☐	☑	Concentration							
					Mass							
4.40	Nitrobenzene (98-95-3)	☐	☐	☑	Concentration							
					Mass							
4.41	N-nitrosodimethylamine (62-75-9)	☐	☐	☑	Concentration							
					Mass							
4.42	N-nitrosodi-n-propylamine (621-64-7)	☐	☐	☑	Concentration							
					Mass							
4.43	N-nitrosodiphenylamine (86-30-6)	☐	☐	☑	Concentration							
					Mass							
4.44	Phenanthrene (85-01-8)	☐	☐	☑	Concentration							
					Mass							
4.45	Pyrene (129-00-0)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
4.46	1,2,4-trichlorobenzene (120-82-1)	☐	☐	☑	Concentration							
					Mass							
Section 5. Organic Toxic Pollutants (GC/MS Fraction—Pesticides)												
5.1	Aldrin (309-00-2)	☐	☐	☑	Concentration							
					Mass							
5.2	α-BHC (319-84-6)	☐	☐	☑	Concentration							
					Mass							
5.3	β-BHC (319-85-7)	☐	☐	☑	Concentration							
					Mass							
5.4	γ-BHC (58-89-9)	☐	☐	☑	Concentration							
					Mass							
5.5	δ-BHC (319-86-8)	☐	☐	☑	Concentration							
					Mass							
5.6	Chlordane (57-74-9)	☐	☐	☑	Concentration							
					Mass							
5.7	4,4'-DDT (50-29-3)	☐	☐	☑	Concentration							
					Mass							
5.8	4,4'-DDE (72-55-9)	☐	☐	☑	Concentration							
					Mass							
5.9	4,4'-DDD (72-54-8)	☐	☐	☑	Concentration							
					Mass							
5.10	Dieldrin (60-57-1)	☐	☐	☑	Concentration							
					Mass							
5.11	α-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.12	β-endosulfan (115-29-7)	☐	☐	☑	Concentration							
					Mass							
5.13	Endosulfan sulfate (1031-07-8)	☐	☐	☑	Concentration							
					Mass							
5.14	Endrin (72-20-8)	☐	☐	☑	Concentration							
					Mass							
5.15	Endrin aldehyde (7421-93-4)	☐	☐	☑	Concentration							
					Mass							
5.16	Heptachlor (76-44-8)	☐	☐	☑	Concentration							
					Mass							
5.17	Heptachlor epoxide (1024-57-3)	☐	☐	☑	Concentration							
					Mass							
5.18	PCB-1242 (53469-21-9)	☐	☐	☑	Concentration							
					Mass							
5.19	PCB-1254 (11097-69-1)	☐	☐	☑	Concentration							
					Mass							
5.20	PCB-1221 (11104-28-2)	☐	☐	☑	Concentration							
					Mass							
5.21	PCB-1232 (11141-16-5)	☐	☐	☑	Concentration							
					Mass							
5.22	PCB-1248 (12672-29-6)	☐	☐	☑	Concentration							
					Mass							
5.23	PCB-1260 (11096-82-5)	☐	☐	☑	Concentration							
					Mass							
5.24	PCB-1016 (12674-11-2)	☐	☐	☑	Concentration							
					Mass							

TABLE B. TOXIC METALS, CYANIDE, TOTAL PHENOLS, AND ORGANIC TOXIC POLLUTANTS (40 CFR 122.21(g)(7)(v))[1]

	Pollutant/Parameter (and CAS Number, if available)	Testing Required	Presence or Absence (check one)		Units (specify)		Effluent				Intake (optional)	
			Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
5.25	Toxaphene (8001-35-2)	☐	☐	☑	Concentration							
					Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
UTD041571092	UT0000647	Compass Minerals Ogden Inc.	001

Form Approved 03/05/19
OMB No. 2040-0004

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
☐	Check here if you believe all pollutants on Table C to be ***present*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
☐	Check here if you believe all pollutants on Table C to be ***absent*** in your discharge from the noted outfall. You need *not* complete the "Presence or Absence" column of Table C for *each* pollutant.										
1.	Bromide (24959-67-9)	☐	☑	Concentration							
				Mass							
2.	Chlorine, total residual	☑	☐	Concentration							
				Mass							
3.	Color	☐	☑	Concentration							
				Mass							
4.	Fecal coliform	☐	☑	Concentration							
				Mass							
5.	Fluoride (16984-48-8)	☐	☑	Concentration							
				Mass							
6	Nitrate-nitrite	☐	☑	Concentration							
				Mass							
7.	Nitrogen, total organic (as N)	☐	☑	Concentration							
				Mass							
8.	Oil and grease	☐	☑	Concentration							
				Mass							
9.	Phosphorus (as P), total (7723-14-0)	☐	☑	Concentration							
				Mass							
10.	Sulfate (as SO_4) (14808-79-8)	☑	☐	Concentration							
				Mass							
11.	Sulfide (as S)	☐	☑	Concentration							
				Mass							

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
12.	Sulfite (as SO_3) (14265-45-3)	☐	☑	Concentration							
				Mass							
13.	Surfactants	☐	☑	Concentration							
				Mass							
14.	Aluminum, total (7429-90-5)	☐	☑	Concentration							
				Mass							
15.	Barium, total (7440-39-3)	☐	☑	Concentration							
				Mass							
16.	Boron, total (7440-42-8)	☐	☑	Concentration							
				Mass							
17.	Cobalt, total (7440-48-4)	☐	☑	Concentration							
				Mass							
18.	Iron, total (7439-89-6)	☐	☑	Concentration							
				Mass							
19.	Magnesium, total (7439-95-4)	☐	☑	Concentration							
				Mass							
20.	Molybdenum, total (7439-98-7)	☐	☑	Concentration							
				Mass							
21.	Manganese, total (7439-96-5)	☐	☑	Concentration							
				Mass							
22.	Tin, total (7440-31-5)	☐	☑	Concentration							
				Mass							
23.	Titanium, total (7440-32-6)	☐	☑	Concentration							
				Mass							

TABLE C. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.21(g)(7)(vi))[1]

	Pollutant	Presence or Absence (check one)		Units (specify)		Effluent				Intake (Optional)	
		Believed Present	Believed Absent			Maximum Daily Discharge (required)	Maximum Monthly Discharge (if available)	Long-Term Average Daily Discharge (if available)	Number of Analyses	Long-Term Average Value	Number of Analyses
24.	Radioactivity										
	Alpha, total	☐	☑	Concentration							
				Mass							
	Beta, total	☐	☑	Concentration							
				Mass							
	Radium, total	☐	☑	Concentration							
				Mass							
	Radium 226, total	☐	☑	Concentration							
				Mass							

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
1.	Asbestos	☐	☑		
2.	Acetaldehyde	☐	☑		
3.	Allyl alcohol	☐	☑		
4.	Allyl chloride	☐	☑		
5.	Amyl acetate	☐	☑		
6.	Aniline	☐	☑		
7.	Benzonitrile	☐	☑		
8.	Benzyl chloride	☐	☑		
9.	Butyl acetate	☐	☑		
10.	Butylamine	☐	☑		
11.	Captan	☐	☑		
12.	Carbaryl	☐	☑		
13.	Carbofuran	☐	☑		
14.	Carbon disulfide	☐	☑		
15.	Chlorpyrifos	☐	☑		
16.	Coumaphos	☐	☑		
17.	Cresol	☐	☑		
18.	Crotonaldehyde	☐	☑		
19.	Cyclohexane	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
20.	2,4-D (2,4-dichlorophenoxyacetic acid)	☐	☑		
21.	Diazinon	☐	☑		
22.	Dicamba	☐	☑		
23.	Dichlobenil	☐	☑		
24.	Dichlone	☐	☑		
25.	2,2-dichloropropionic acid	☐	☑		
26.	Dichlorvos	☐	☑		
27.	Diethyl amine	☐	☑		
28.	Dimethyl amine	☐	☑		
29.	Dintrobenzene	☐	☑		
30.	Diquat	☐	☑		
31.	Disulfoton	☐	☑		
32.	Diuron	☐	☑		
33.	Epichlorohydrin	☐	☑		
34.	Ethion	☐	☑		
35.	Ethylene diamine	☐	☑		
36.	Ethylene dibromide	☐	☑		
37.	Formaldehyde	☐	☑		
38.	Furfural	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
39.	Guthion	☐	☑		
40.	Isoprene	☐	☑		
41.	Isopropanolamine	☐	☑		
42.	Kelthane	☐	☑		
43.	Kepone	☐	☑		
44.	Malathion	☐	☑		
45.	Mercaptodimethur	☐	☑		
46.	Methoxychlor	☐	☑		
47.	Methyl mercaptan	☐	☑		
48.	Methyl methacrylate	☐	☑		
49.	Methyl parathion	☐	☑		
50.	Mevinphos	☐	☑		
51.	Mexacarbate	☐	☑		
52.	Monoethyl amine	☐	☑		
53.	Monomethyl amine	☐	☑		
54.	Naled	☐	☑		
55.	Naphthenic acid	☐	☑		
56.	Nitrotoluene	☐	☑		
57.	Parathion	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
58.	Phenolsulfonate	☐	☑		
59.	Phosgene	☐	☑		
60.	Propargite	☐	☑		
61.	Propylene oxide	☐	☑		
62.	Pyrethrins	☐	☑		
63.	Quinoline	☐	☑		
64.	Resorcinol	☐	☑		
65.	Strontium	☐	☑		
66.	Strychnine	☐	☑		
67.	Styrene	☐	☑		
68.	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	☐	☑		
69.	TDE (tetrachlorodiphenyl ethane)	☐	☑		
70.	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]	☐	☑		
71.	Trichlorofon	☐	☑		
72.	Triethanolamine	☐	☑		
73.	Triethylamine	☐	☑		
74.	Trimethylamine	☐	☑		
75.	Uranium	☐	☑		
76.	Vanadium	☐	☑		

TABLE D. CERTAIN HAZARDOUS SUBSTANCES AND ASBESTOS (40 CFR 122.21(g)(7)(vii))[1]

	Pollutant	Presence or Absence (check one)		Reason Pollutant Believed Present in Discharge	Available Quantitative Data (specify units)
		Believed Present	Believed Absent		
77.	Vinyl acetate	☐	☑		
78.	Xylene	☐	☑		
79.	Xylenol	☐	☑		
80.	Zirconium	☐	☑		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE E. 2,3,7,8 TETRACHLORODIBENZO P DIOXIN (2,3,7,8 TCDD) (40 CFR 122.21(g)(7)(viii))

Pollutant	TCDD Congeners Used or Manufactured	Presence or Absence (check one)		Results of Screening Procedure
		Believed Present	Believed Absent	
2,3,7,8-TCDD	☐	☐	☑	

Table 1 - Outfall 006
Mineral Return Data -
2018/2019 Mineral Return Season
Compass Minerals Ogden, Inc.

Outfall 006 - Brooks Applied Labs																			
	Units	Day 1		Duplicate		Day 3		Day 9		Day 27		Duplicate		Day 81		Last Day MR		Duplicate	
		10/27/2018		10/27/2018		10/31/2018		11/05/2018		11/21/2018		11/21/2018		01/17/2019		3/20/2019		3/20/2019	
Arsenic	µg/L	1160		1220		1360		815		314		311		175		251		251	
Iron	µg/L	107		96.7		88.6		229		128		143		103		379		395	
Mercury	ng/L	24.0		23.3		25.6		19.1		8.62		7.34		7.97		30.3		26.7	
Manganese	µg/L	524		460		409		456		197		199		139		356		372	
pH	SU	7.01		7.05		7.04		7.23		7.94		7.95		8.03		9.01	H	8.98	H
Selenium	µg/L	1.58		1.52		1.32		1.51		0.637		0.712		0.614		0.711		0.697	
Cadmium	µg/L	0.0640	J	0.063		0.0412	J	0.110		0.0532	J	0.0534		0.0404	U	0.150		0.153	
Cobalt	µg/L	1.23		1.21		1.14		1.15		0.452		0.457		0.397		0.680		0.713	
Copper	µg/L	3.28		3.28		3.23		3.94		2.37		2.41		1.77		4.65		4.87	
Nickel	µg/L	3.73		3.69		3.58		3.62		1.85		1.88		1.24		2.04		2.11	
Lead	µg/L	4.09		3.98		1.74		5.59		2.38		2.39		1.41		8.19		8.58	
Zinc	µg/L	26.0		25.9		23.1		20.0		14.5		6.93		4.93		9.07		9.31	
Barium	µg/L	816	U	816	U	20.9		816	U	102		99.6		112		150		144	
Iron	µg/L	16300	U	16300	U	108		16300	U	191		187		61.9		296		342	

J: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

H: pH was measured upon arrival by Brooks Applied Labs, but outside of the 48 hour hold time.

Samples were not submitted U of U Labs for the Last of Day of Mineral Return sampling event.

Outfall 006 - U of U Geoscience Lab											
	Units	Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
		10/27/2018		10/31/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	800		868		611		261		165			
Iron	µg/L	119		697		275		128		28			
Mercury	ng/L	18.36		19.28		18.16		11.23		9.47			
Manganese	µg/L	493		419		384		205		127			
Selenium	µg/L	35		23		28		15		<3			
Cadmium	µg/L	14		13		11		7		<0.3			
Cobalt	µg/L	25		32		21		9		1			
Copper	µg/L	8		8		11		7		<2			
Nickel	µg/L	23		35		24		14		12			
Lead	µg/L	3		2		4		2		1			
Zinc	µg/L	330		342		241		106		48			
Barium	µg/L	12		23		127		100		98			

Table 2 - Background North
Mineral Return Data -
2018/2019 Mineral Return Season
Compass Minerals Ogden, Inc.

Background North / Ambient - Brooks Applied Labs													
		Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
	Units	10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	5.43		14.5		11.3		6.87				7.74	
Iron	µg/L	16300	U	379		16300	U	219				845	
Mercury	ng/L	5.11		5.24		12.9		2.80				5.87	
Manganese	µg/L	40.6		39.8		286		20.3				23.5	
pH	SU	8.56		8.72		8.86		8.50				8.03	H
Selenium	µg/L	0.488		0.626		1.02		0.470				0.595	
Cadmium	µg/L	0.0413	J	0.0404	U	0.341		0.0404	U			0.0404	U
Cobalt	µg/L	0.459		0.357		2.70		0.185				0.483	
Copper	µg/L	3.15		2.68		14.5		1.92				2.63	
Nickel	µg/L	1.74		1.64		7.70		0.993				1.95	
Lead	µg/L	1.53		1.20		13.3		0.653				0.903	
Zinc	µg/L	4.46		3.89		28.6		1.64				5.04	
Barium	µg/L	816	U	74.9		816	U	55.5				65.8	
Iron	µg/L	721		405		5330		194				1180	

J: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

H: pH was measured upon arrival by Brooks Applied Labs, but outside of the 48 hour hold time.

Samples were not submitted U of U Labs for the Last of Day of Mineral Return sampling event.

Samples were not collected from Background North, Mid-Trapezoid, GSL-Northeast, or South Promontory Point for Day 81 due to frozen conditions on the GSL.

Background North - U of U Geoscience Lab													
		Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
	Units	10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	mg/L	<9		11		14		<9					
Iron	mg/L	599		174		1319		100					
Mercury	ng/L	4.37		4.36		8.79		3.23					
Manganese	mg/L	46		36		96		17					
Selenium	mg/L	<5		<5		<5		<5					
Cadmium	mg/L	<2		<2		<2		<2					
Cobalt	mg/L	<0.9		<0.9		2		1					
Copper	mg/L	6.0		6.3		12.1		5.7					
Nickel	mg/L	2.6		3.0		10.1		3.5					
Lead	mg/L	1.5		1.0		4.2		0.8					
Zinc	mg/L	10.8		15.8		23.3		9.7					
Barium	mg/L	71		75		183		55					

Table 3 - Mid Trapezoid
Mineral Return Data -
2018/2019 Mineral Return Season
Compass Minerals Ogden, Inc.

Mid-Trapezoid - Brooks Applied Labs																	
	Units	Day 1		Day 3		Duplicate		Day 9		Day 27		Day 81		Last Day MR			
		10/26/2018		10/30/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019			
Arsenic	µg/L	15.2		151		131		51.4		25.4				9.89			
Iron	µg/L	16300	U	849		1100		544		178				738			
Mercury	ng/L	4.93		7.98		8.41		6.11		2.22				4.03			
Manganese	µg/L	36.1		154		163		98.5		32.8				23.5			
pH	SU	8.82		8.19		8.45		8.28		8.45				8.09	H		
Selenium	µg/L	0.564		0.878		0.809		0.623		0.461				0.472			
Cadmium	µg/L	0.0404	U	0.183		0.187		0.0749	J	0.0404	U			0.0404	U		
Cobalt	µg/L	0.349		0.681		0.773		0.419		0.185				0.430			
Copper	µg/L	3.26		5.60		6.0		3.79		2.20				2.91			
Nickel	µg/L	1.63		2.59		2.85		1.86		1.09				1.77			
Lead	µg/L	0.991		11.5		11.1		3.20		0.731				0.835			
Zinc	µg/L	2.72		6.97		7.92		4.50		1.51				3.81			
Barium	µg/L	816	U	114		105		816	U	70.6				57.6			
Iron	µg/L	369		945		1320		16300	U	104				679			

J: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

H: pH was measured upon arrival by Brooks Applied Labs, but outside of the 48 hour hold time.

Samples were not submitted U of U Labs for the Last of Day of Mineral Return sampling event.

Samples were not collected from Background North, Mid-Trapezoid, GSL-Northeast, or South Promontory Point for Day 81 due to frozen conditions on the GSL.

Mid-Trapezoid - U of U Geoscience Lab													
	Units	Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
		10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	14.4		94.2		46.0		18.8					
Iron	µg/L	179		705		348		81					
Mercury	ng/L	4.99		6.54		5.87		3.74					
Manganese	µg/L	33		132		96		22					
Selenium	µg/L	<5		<5		<5		<5					
Cadmium	µg/L	<2		2.9		<2		<2					
Cobalt	µg/L	<0.9		3.5		1.8		0.9					
Copper	µg/L	2.7		306.7		8.1		3.5					
Nickel	µg/L	<2		6.7		4.9		2.6					
Lead	µg/L	0.7		8.1		3.5		0.6					
Zinc	µg/L	<6		43.6		33.9		9.0					
Barium	µg/L	112.3		100.0		118.3		67.6					

Table 4 - GSL - NE
(Formerly known as Background South)
Mineral Return Data -
2018/2019 Mineral Return Season
Compass Minerals Ogden, Inc.

GSL - Northeast - Brooks Applied Labs													
		Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
	Units	10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	15.9		222		179		57.3				43.7	
Iron	µg/L	16300	U	517		178		964				564	
Mercury	ng/L	4.46		8.34		6.60		4.35				4.97	
Manganese	µg/L	32.2		193		30.3		81.6				34.6	
Lead	µg/L	1.08		58.5		4.26		3.09				9.05	H
pH	SU	8.86		8.13		8.03		8.44				0.476	
Selenium	µg/L	0.538		0.983		0.506		0.527				0.0465	J
Cadmium	µg/L	0.0627	J	1.70		0.159		0.0733	J			0.379	
Cobalt	µg/L	0.340		0.602		0.277		0.620				3.40	
Copper	µg/L	3.81		6.71		2.47		3.62				1.61	
Nickel	µg/L	1.67		2.40		1.14		2.04				1.35	
Zinc	µg/L	2.56		6.17		2.35		5.82				3.61	
Barium	µg/L	816	U	117		816	U	80.1				78.5	
Iron	µg/L	321		692		16300	U	563				530	

J: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
H: pH was measured upon arrival by Brooks Applied Labs, but outside of the 48 hour hold time.

Samples were not submitted U of U Labs for the Last of Day of Mineral Return sampling event.

Samples were not collected from Background North, Mid-Trapezoid, GSL-Northeast, or South Promontory Point for Day 81 due to frozen conditions on the GSL.

Great Salt Lake NE - U of U Geoscience Lab													
		Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
	Units	10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	20		185		115		56					
Iron	µg/L	230		330		356		399					
Mercury	ng/L	5.87		8.86		8.86		4.67					
Manganese	µg/L	34		187		148		77					
Selenium	µg/L	<5		10		<5		<5					
Cadmium	µg/L	<2		5		3		4					
Cobalt	µg/L	<0.9		7		5		3					
Copper	µg/L	10.0		8.1		8.1		13.8					
Nickel	µg/L	6.1		9.4		9.4		7.0					
Lead	µg/L	1.1		47.8		13.3		3.9					
Zinc	µg/L	12.7		78.9		51.2		32.9					
Barium	µg/L	86		110		98		173					

Table 5 -South Promontory Pt
Mineral Return Data -
2018/2019 Mineral Return Season
Compass Minerals Ogden, Inc.

South Promontory Point - Brooks Applied Labs													
	Units	Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
		10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	22.8		185		147		174				157	
Iron	µg/L	16300	U	79.0		188		104				145	
Mercury	ng/L	4.52		7.48		6.35		7.38				8.10	
Manganese	µg/L	29.4		14.5		31.8		19.8				16.7	
pH	SU	8.70		8.16		8.28		8.19				9.03	H
Selenium	µg/L	0.619		0.512		0.714		0.455				0.536	
Cadmium	µg/L	0.0509	J	0.0820	J	0.163		0.0759	J			0.0840	J
Cobalt	µg/L	0.273		0.228		0.293		0.223				0.251	
Copper	µg/L	3.74		3.08		2.52		2.71				4.19	
Nickel	µg/L	1.58		0.944		1.17		0.946				1.07	J
Lead	µg/L	0.900		1.55		4.39		1.41				1.47	
Zinc	µg/L	1.82		2.07		2.53		1.79				3.02	
Barium	µg/L	816	U	133		816	U	131				120	
Iron	µg/L	174		78.5	J	16300	U	86.2	J			131	

J: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

H: pH was measured upon arrival by Brooks Applied Labs, but outside of the 48 hour hold time.

Samples were not submitted U of U Labs for the Last of Day of Mineral Return sampling event.

Samples were not collected from Background North, Mid-Trapezoid, GSL-Northeast, or South Promontory Point for Day 81 due to frozen conditions on the GSL.

South Promontory Point - U of U Geoscience Lab													
	Units	Day 1		Day 3		Day 9		Day 27		Day 81		Last Day MR	
		10/26/2018		10/30/2018		11/05/2018		11/21/2018		01/17/2019		3/20/2019	
Arsenic	µg/L	19		154		165		163					
Iron	µg/L	171		168		205		91					
Mercury	ng/L	4.07		6.41		5.29		9.62					
Manganese	µg/L	32		19		36		31					
Selenium	µg/L	<5		6.82		7.69		13.99					
Cadmium	µg/L	<2		7.00		6.44		7.16					
Cobalt	µg/L	<0.9		5.69		4.78		5.93					
Copper	µg/L	6.97		8.83		6.29		4.30					
Nickel	µg/L	3.43		17.3		14.4		18.4					
Lead	µg/L	0.62		1.2		3.2		1.3					
Zinc	µg/L	14.5		48		49		51					
Barium	µg/L	84.2		159		134		141					

Compass Minerals currently produces approximately 1,000 pounds per day of waste salt that has been mixed with citric acid as a preservative. This salt is accumulated in the Junk Salt Pile with other waste salt that has been altered from its original state for off-site disposal in a nearby municipal landfill. Due to the benign nature of citric acid and the low concentration in the salt, Compass Minerals would like to request the ability to dissolve the waste salt and citric acid in water and return it to the Great Salt Lake. This is the process that is currently employed for salt that has not been altered from its original state and is allowed per Compass Minerals' UPDES permit. The attached SDS outlines the nature of the citric acid and the attached table shows that the concentration of citric acid at the outfall to the Great Salt Lake would be approximately 0.075 ppm. This is significantly lower than the static test for daphnia magna of 1,535 mg/l. We believe that this low concentration poses little risk to the environment

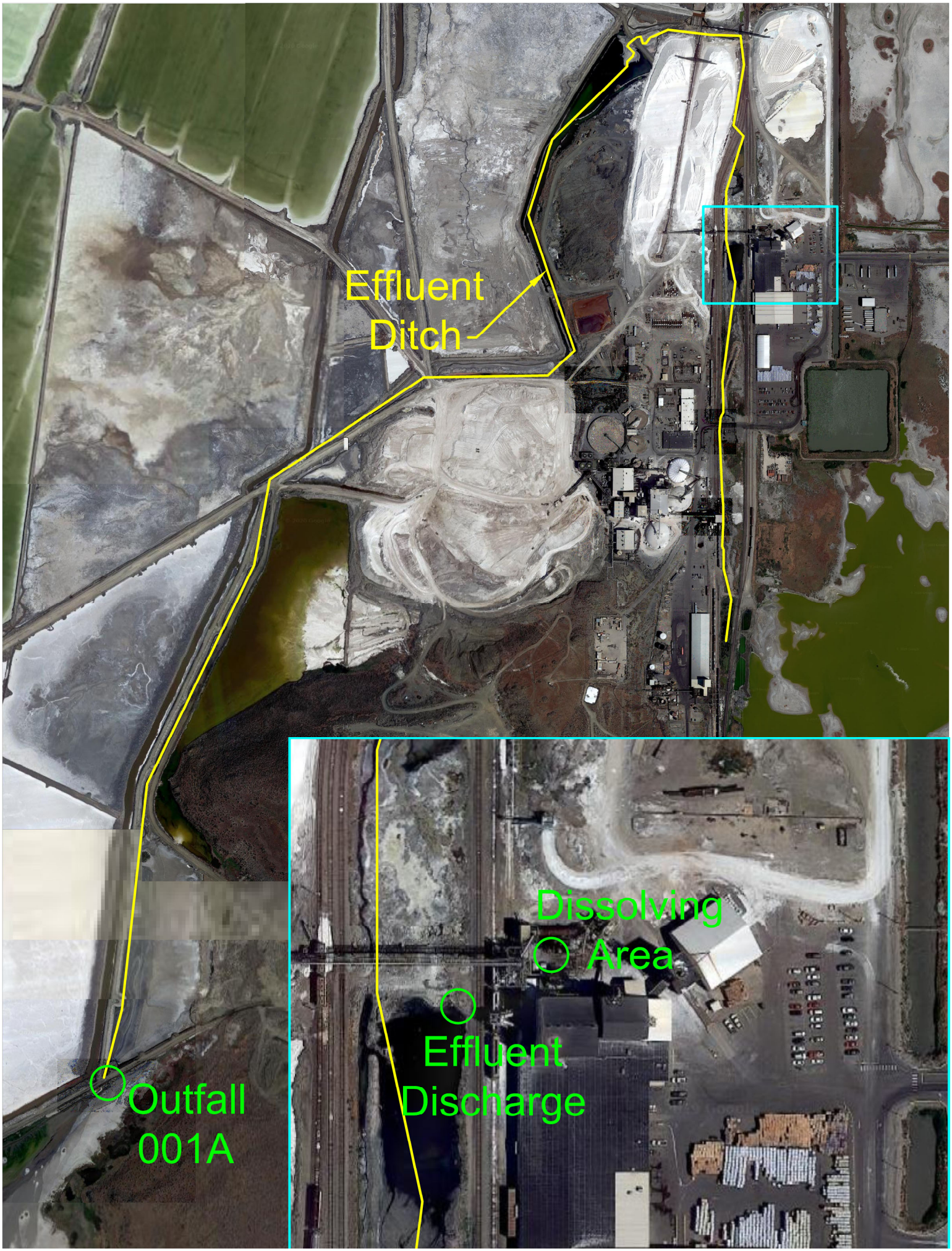

Effluent
Ditch
Dissolving
Area
Effluent
Discharge
Outfall
001A

Figure 1 Salt with Citric Acid, Cube Form

Figure 2 Salt with Citric Acid, Granular Form

Salt Plant

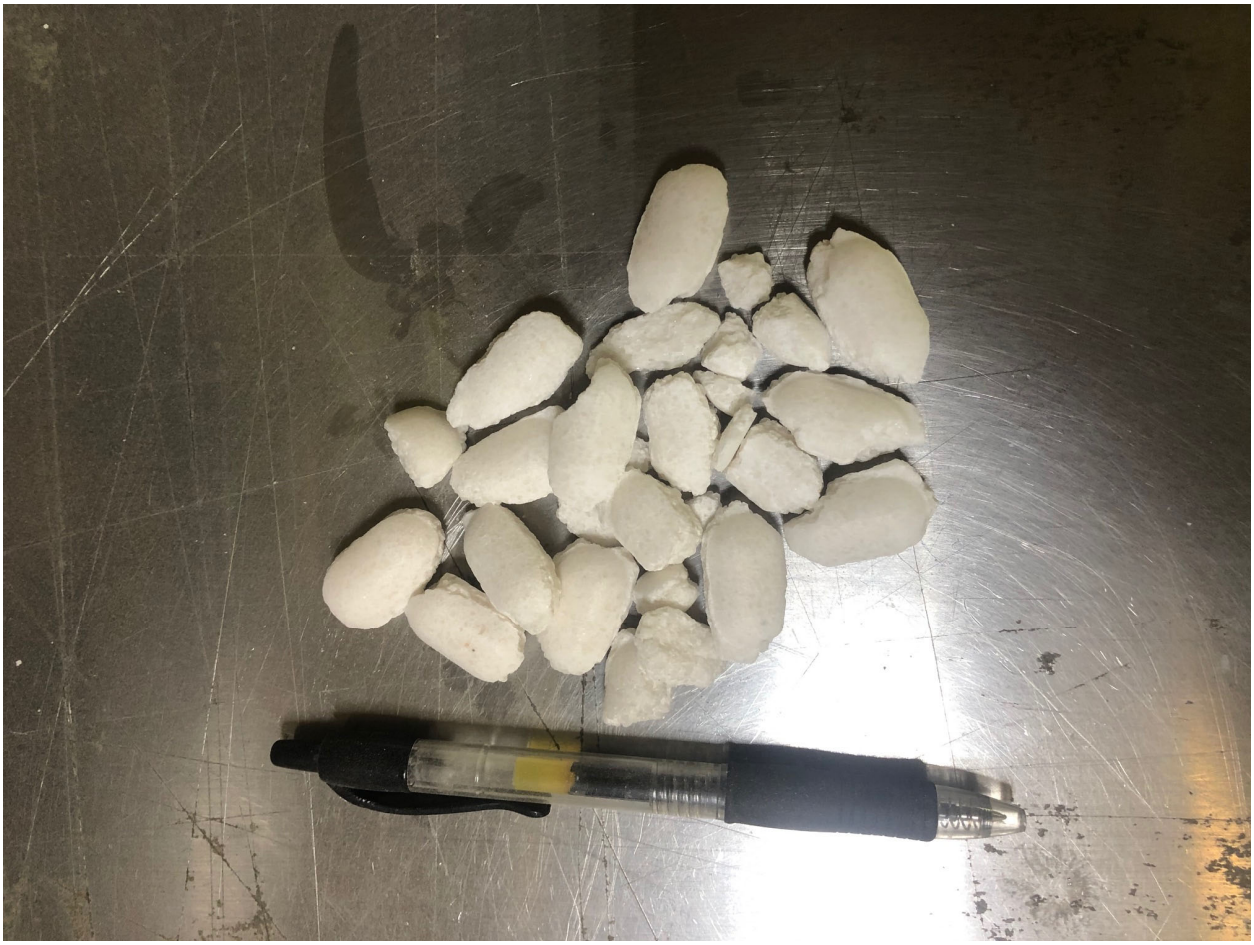


Figure 3 Salt with Citric Acid, Pellet Form

Table 1. Citric Acid Salt Disposal

Typical citric acid conc. (% wt)	0.15%
Typical salt disposed (lbs/day)	1,000
Average outfall flow (gal/day)	2,385,000
Max concentration at outfall (mg/l)	0.075

Safety Data Sheet

Citric Acid, Anhydrous, Granular USP

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Citric Acid, Anhydrous, Granular USP

Synonyms/Generic Names: Citric Acid; 2-Hydroxy-1,2,3-propanetricarboxylic acid

Product Number: 1500

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Irritant

Target Organs: Not Available

Signal Words: Warning

Pictograms:

GHS Classification:

Eye irritation	Category 2A

GHS Label Elements, including precautionary statements:

Hazard Statements:

H319	Causes serious eye irritation.

Precautionary Statements:

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May cause respiratory tract irritation.
Skin	May cause skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	1
Fire	0
Reactivity	0
Personal	Not Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Citric Acid, Anhydrous	>99	77-92-9	201-069-1	$C_6H_8O_7$	192.12 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention if irritation persists.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if irritation persists.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if irritation persists.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if irritation persists.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use flooding quantities of water to cool containers.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Contains no substances with occupational exposure limit values.

Personal Protection

Eyes	Wear chemical safety glasses with side shields or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White crystalline solid.
Odor	Odorless
Odor threshold	Not Available
pH	1.8 at ca. 50 g/l at 25°C (77°F)
Melting point/freezing point	153°C (307°F)
Initial boiling point and boiling range	175°C
Flash point	100°C (212°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable solid when heated above flash point.
Upper/lower flammability or explosive limit	LEL: 0.28%; UEL: 2.29%
Vapor pressure	Not Available
Vapor density	Not Available
Density	1.665 g/cm^3
Solubility (ies)	Soluble in water; 383 g/l at 25°C (77°F)
Partition coefficient: n-octanol/water	Log Pow: -1.64 at 20°C (68°F)
Auto-ignition temperature	1,010°C (1,850°F)
Decomposition temperature	175°C

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Excess heat.

Incompatible Materials	Strong oxidizing agents, bases, reducing agents, nitrates.
Hazardous Decomposition Products	Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal – rat - >2,000 mg/kg
Eyes	Eyes – rabbit – Irritating to eyes – OECD Test Guideline 405
Respiratory	Not Available
Ingestion	LD50 Oral – rat – 5,400 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, itching, swelling, redness, and pain.
Eyes	Irritation, itching, redness, pain.
Respiratory	Irritation.
Ingestion	Gastrointestinal discomfort and possible pain.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Mortality LC50 – Leuciscus idus melanotus – 440 mg/l – 48 hours Method: OECD Test Guideline 203
Aquatic Invertebrate	Static test – Daphnia magna (water flea) – 1,535 mg/l – 24 hours
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard
SARA 312	Acute Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class E: Corrosive material.

16. OTHER INFORMATION

Revision	Date
Revision 1	07/09/2012
Revision 2	07/20/2017

Disclaimer: The information provided in this Safety Data Sheet (“SDS”) is correct to the best of our knowledge, information and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPOSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.

Compass Minerals is in the process of replacing the cooling tower located at the Magnesium Chloride Plant. As part of commissioning of the new system, a passivating chemical, GENGARD GN8224, must be used for the first six to eight weeks to condition the cooling tower (see attached SDS). At the end of the initial conditioning period a lower concentration of this same chemical will be used to maintain the cooling tower going forward.

Typically, blowdown from the cooling tower is routed back into facility to be used as feed stock in the process. However, a portion of the water in the cooling tower leaks to the ground outside the facility and drains to the effluent ditch. While it is difficult to determine the concentration of the passivating chemical that could be lost to the effluent ditch, the maximum concentration of the passivating chemical would theoretically occur should the entire cooling tower system be drained out. . Using this assumption, the concentration of the passivating chemical at Outfall 001A was estimated as shown in the following table. This concentration is significantly lower than the NOEL for daphnia magna which is 1,035 mg/l.

Based on the extremely low concentrations predicted at Outfall 001A, and the fact that this is a worst case scenario, we believe that using GENGARD GN8224 in the cooling tower of the Magnesium Chloride Plant at Compass Minerals poses little risk to the Great Salt Lake.


Effluent
Ditch
Outfall
001A
Cooling
Tower
Storm
Drain

Table 1 Chemical Concentrations at Outfall 001A

	Initial	Steady State
Concentration (ppm)	175	10
Drain Down (gal)	365	365
Avg Flow 001A (gal/day)	2,385,000	2,385,000
Conc at Outfall 001A	0.027	0.0015
Phosphoric Acid Conc at 001A	0.0013	7.7E-05
Maleic Acid Conc at 001A	0.00027	1.5E-05

Water Technologies & Solutions
fact sheet

GenGard* GN8224

alkaline cooling water treatment

- Controls deposition and scale with patented technology
- Stable in presence of halogens
- Maximizes protection against deposition and corrosion
- Minimizes or eliminates acid feed

description and use

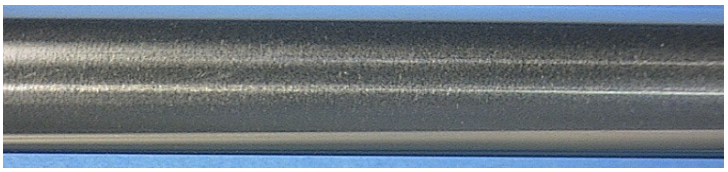
GenGard GN8224 contains a inorganic phosphate-based steel corrosion inhibitor and a blend of deposit control agents designed to prevent both scale formation and particulate fouling in open recirculating cooling water circuits. The product combines a unique Alkaline Enhanced Chemistry (AEC) for calcium carbonate scale control and a Stress Tolerant Polymer (STP) to provide complete deposition control for highly supersaturated waters over the alkaline pH range of 7.8 to 9.0 plus. GenGard GN8224 should be applied with a copper alloy corrosion inhibitor to ensure total system protection.

SUEZ's Alkaline Enhanced Chemistry is a major breakthrough in calcium carbonate scale control. AEC allows high cycles of concentration to be achieved while maintaining heat transfer efficiency. AEC is the only effective non-phosphorus calcium carbonate inhibitor for alkaline pH operation.

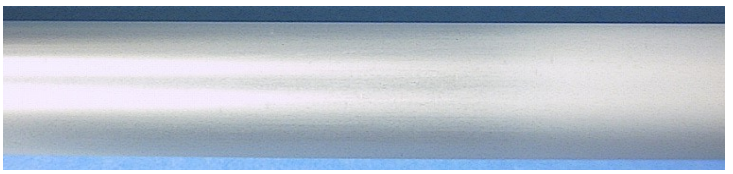
Unlike conventional phosphonate deposit control additives, AEC and STP are completely halogen stable. Phosphonates are susceptible to breakdown in

the presence of halogen (chlorine and bromine), leading to loss of calcium carbonate inhibition. The superior stability of the AEC/STP combination allows halogen disinfectants to be effectively utilized to maintain system cleanliness and to control Legionella bacteria.

AEC and STP ensure complete deposition control under the most stressful conditions of temperature, flow and water chemistry. The performance of the AEC/STP dispersant package is unmatched by conventional phosphonate/polymer programs.



AEC/STP



Conventional Phosphonate/Polymer

Calcium carbonate deposition studies under heat transfer conditions at 135°F (57°C), pH 8.6, 600 ppm Ca Hardness and LSI 2.5 for 6 Days.

treatment and feeding requirements

Proper treatment levels for GenGard GN8224 depend on many factors such as the potential scaling conditions particular to a given installation. The product should be used in accordance with control procedures that SUEZ establishes for a specific application.

GenGard GN8224 should be fed to a point in the cooling system where it rapidly mixes with the bulk cooling water.

For best results, GenGard GN8224 should be fed neat (undiluted). Dilutions, if necessary, should only be made with low hardness water.

Find a contact near you by visiting www.suezwatertechnologies.com and clicking on "Contact Us."

*Trademark of SUEZ; may be registered in one or more countries.

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The feed of GenGard GN8224 is controlled either by a simple and accurate grab sample test or continuously with an on-line monitor. Tanks, pumps, piping, and valves should be made of stainless steel, polyethylene, or PVC.

general properties

Physical properties of GenGard GN8224 are shown on the Material Safety Data Sheet, a copy of which is available on request.

packaging information

GenGard GN8224 is a liquid blend, available in a wide variety of customized containers and delivery methods. Contact your SUEZ representative for details.

storage

Store GenGard GN8224 at moderate temperatures and protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

safety precautions

A Material Safety Data Sheet containing detailed information about this product is available on request.

SAFETY DATA SHEET
GENGARD* GN8224

1. Identification

Product identifier	**GENGARD GN8224**
Other means of identification	None.
Recommended use	Corrosion inhibitor
Recommended restrictions	None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1A
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	May be corrosive to metals. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.
Precautionary statement	
Prevention	Keep only in original container. Avoid breathing mist/vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.
Response	IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material-damage.
Storage	Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
CARBOXYLIC ACID POLYMER	TSRN 125438 - 5052P	
Phosphoric Acid	7664-38-2	1 - 5
Maleic acid	110-16-7	0.1 - 1

Composition comments This product is a preparation. Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Provide eyewash station and safety shower. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection
Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

Other
Wear appropriate chemical resistant clothing.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Color Dark amber

Physical state Liquid

Odor Slight sweet

Odor threshold Not available.

pH (concentrated product) 2.6

pH in aqueous solution 3 (5% SOL.)

Melting point/freezing point 27 °F (-3 °C)

Initial boiling point and boiling range > 212 °F (> 100 °C)

Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.15
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	12 cps
Viscosity temperature	70 °F (21 °C)
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	32 °F (0 °C)
Specific gravity	1.155
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Metals. Avoid contact with strong bases. Avoid contact with strong oxidizers. Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon and phosphorus evolved in fire.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause burns in mouth, throat and/or stomach.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
GENGARD GN8224 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
CARBOXYLIC ACID POLYMER (CAS TSRN 125438 - 5052P)		
Acute		
Oral		
LD50	Rat	4563 mg/kg
Maleic acid (CAS 110-16-7)		
Acute		
Dermal		
LD50	Rabbit	1560 mg/kg
Inhalation		
LC50	Rat	> 2.88 mg/L, 4 Hour
Oral		
LD50	Rat	708 mg/kg
Phosphoric Acid (CAS 7664-38-2)		
Acute		
Dermal		
LD50	Rabbit	2740 mg/kg
Oral		
LD50	Rat	300 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
GENGARD GN8224 (CAS Mixture)			
	LC50	Fathead Minnow	429 mg/L, Acute Toxicity, 96 hour, (Estimated)
	NOEL	Fathead Minnow	300 mg/L, Acute Toxicity, 96 hour, (Estimated)
Aquatic			
Crustacea	LC50	Daphnia magna	1489 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	1035 mg/L, Acute Toxicity, 48 hour, (Estimated)

Persistence and degradability Not available.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Maleic acid	-0.48

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

- COD (mgO2/g)	240
- BOD 5 (mgO2/g)	16 (calculated data)
- BOD 28 (mgO2/g)	39 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	15 (calculated data)
- TOC (mg C/g)	94

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (PHOSPHORIC ACID, CARBOXYLIC ACID POLYMER)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	154

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

IATA

UN number	UN1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Phosphoric Acid; Carboxylic Acid Polymer)

Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards No.
ERG Code 154
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1760
UN proper shipping name CORROSIVE LIQUID, N.O.S. (Phosphoric Acid; Carboxylic Acid Polymer)
Transport hazard class(es)

Class	8
Subsidiary risk	-

Packing group III
Environmental hazards

Marine pollutant	No.

EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Maleic acid (CAS 110-16-7)	Listed.
Phosphoric Acid (CAS 7664-38-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories	Corrosive to metal Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Acrylic acid (CAS 79-10-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)	Hazardous substance
Safe Drinking Water Act (SDWA)	Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Phosphoric Acid (CAS 7664-38-2) High priority

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets USDA (according to 1998 guidelines):	Registration No. – 145781 Category Code(s): G5 Cooling and retort water treatment products G7 Boiler, steam line treatment products – nonfood contact

US state regulations

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date	Nov-17-2014
Revision date	Feb-21-2019
Version #	4.0
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
NFPA ratings	

List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists DOT: Department of Transportation (49 CFR 172.101). GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer. HMIRA: Hazardous Materials Information Review Act (Canada). HPR: Hazardous Products Regulations (Canada). OSHA: Occupational Safety & Health Administration. TDG: Transportation of Dangerous Goods Regulations, Canada TSRN indicates a Trade Secret Registry Number is used in place of the CAS number. WHMIS: Workplace Hazardous Materials Information System.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.

Compass Minerals has nine large compressors on site that provide compressed air for industrial processes. The blowdown from these compressors was previously treated by an oil/water separator that achieved typical oil and grease (O&G) concentrations around 15 ppm. As this oil and grease concentration exceeds surface water quality standards, treated compressor blowdown is currently pumped into totes and disposed of off-site as oily water. Compass Minerals recently changed the oil/water separators on each of the nine compressors to a new system that can achieve O&G concentrations in the treated effluent below 5 ppm (see attached). These separators use multi-stage absorption technology to get the effluent to the level needed. As the effluent from these treatment units is below the O&G limit of 10 mg/L found in the facility UPDES permit, Compass would like to request the ability to discharge treated compressor blowdown to the drainage system.


Effluent
Ditch
Salt
Plant
Mobile
Shop
SOP
Plant
SOP
Loadout
Mag
Plant
Outfall
001A

Figure 1 Installed oil/water separators

Table 1 Compressor and separator information

Compressor	Brand	Model	Size (SCFM)	Total SCFM	Separator Size (SCFM)	Area
AC504	Gardner Denver	SAV 150EAQ	608	1216	2500	Salt Plant
AC505	Gardner Denver	SAV 150 EAQ	608			
AC692	Gardner Denver	L55-75	333	666	1250	Mag Plant
AC693	Gardner Denver	L55-75	333			
AC017	Kaeser	BSD50	236	1319	2500	Loadout
AC018	Kaeser	DSD250	1083			
AC001	Gardner Denver		800	800	2500	SOP Plant
AC011	Gardner Denver		800	800	2500	
AC022	Ingersol Rand	T30	100	100	350	Mobile

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www.zeks.com

Includes Element Replacement Indicator

OSB™ Oil/Water Separators

Separate Lubricant Carryover From Air Treatment Condensate

Oil carryover from oil-lubricated compressors is common in compressed air systems. The oily condensate mixture that accumulates from compressed air dryers, filters and aftercoolers is unsafe for legal discharge into surface water, sanitary sewers and wastewater treatment plants.

Using absorption technology, OSB™ Oil/Water Separators remove over 99% of oil content and stable emulsions from liquid condensate. Replaceable filter element bags trap lubricants but allow water to pass through. With lubricant carryover demonstrated to be 10 PPM or less, the conditioned water meets stringent EPA guidelines and conforms to State and local codes for safe discharge.

Disposable elements trap and contain compressor lubricants

OSB™ models 175 and larger feature a **Visual Media Indicator** that retracts over time to clearly show when element replacement is required. This promotes proper maintenance of the separator to assure effective operation. A secondary indicator communicates a high condensate level if a blockage occurs downstream of the separator.

These dual-tower separators have no moving parts and require no electrical hookup. The seamless molded-plastic construction will not crack or leak, while removable lids provide easy access for periodic element replacement.

See reverse side for Technical Specifications.

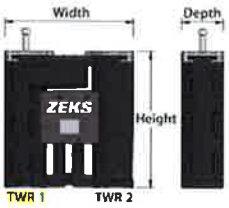
Effective In All Compressed Air Systems

- Separates mineral, synthetic and semi-synthetic lubricants, stable emulsions and polyglycol[1]
- Operates with all makes of compressors
- Easy to install - requires no electricity
- Visual indication of absorbing element condition
- Signals in the event separator drain line becomes blocked
- Light weight elements for convenient maintenance
- Accepts condensate discharged from automatic drains, timed solenoid drains, manual drains or float style drains

[1] Special Polyglycol Elements required for air systems with compressors that utilize polyglycol lubricant. OSB™ models for polyglycol application are designated with a 'PG' suffix on model number.

OSB™ Oil/Water Separators

Available In 7 Sizes



OSB™ model selection is based on air compressor capacity and lubricant type. Refer to the Technical Specifications table below to choose the model that meets or exceeds the total compressor capacity (SCFM) in the air system.

Technical Specifications

MODEL	APPLICATION	AIR COMPRESSOR CAPACITY	CONNECTION SIZE INLET (Qty.)	CONNECTION SIZE OUTLET	DIMENSIONS WIDTH	DIMENSIONS DEPTH	DIMENSIONS HEIGHT	SHIPPING WEIGHT (lbs.)
OSB70* **OSB70PG***	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	Up to 70 SCFM	1/2" (1)	1/2"	10.1"	9.1"	9.7"	9
OSB125 **OSB125PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	71–125 SCFM	1/2" (1)	1/2"	15.5"	8.9"	15.1"	15
OSB175 **OSB175PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	126–175 SCFM	1/2" (2)	1"	22.8"	7.5"	24.0"	23
OSB350 **OSB350PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	176–350 SCFM	1/2" (2)	1"	25.6"	9.5"	29.5"	42
OSB750 **OSB750PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	351–750 SCFM	1/2" (2)	1"	30.8"	12.0"	35.4"	71
OSB1250 **OSB1250PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	751–1,250 SCFM	1/2" (2)	1"	38.2"	15.0"	35.4"	106
OSB2500 **OSB2500PG**	Mineral, Synthetic, Semi-Synthetic Oils Polyglycol	1,251–2,500 SCFM	1/2" (2)	1"	45.5"	18.9"	40.9"	200

* OSB70/70PG models have no serviceable elements. Dispose of entire unit in accordance with Federal and municipal guidelines.

Elements in OSB125/125PG, OSB175/175PG, OSB350/350PG, OSB750/750PG, OSB1250/1250PG, and OSB2500/2500PG models must be disposed of in accordance with Federal and municipal guidelines.

Deutsches Institut für Bautechnik DIBt

OSB™ Series Oil/Water Separators are certified to the latest DIBt protocol.

CAGI

ZEKS COMPRESSED AIR SOLUTIONS®

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Web: www.zeks.com

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Mitchell Tice

From: Cahoon, Brad <BCAHOON@zeks.com>
Sent: Monday, February 17, 2020 3:42 PM
To: Mitchell Tice
Subject: OSB Performance

Mitch,

The OSB performance for oil carry was independently test in Europe during development. A OSB1250 is rated at 1250 CFM @ 10PPM. This rating is based on 1 year application of not exceeding 10PPM during the year. Testing found that the OSB performed at 3.8 PPM. As the surface area gets used up the life the performance degrades at the end of the life. The OSB in your application would need greater working surface area to give the elements a 1 year life. By going slightly greater than double the size, the OSB performance doubles giving us the surface area to maintain performance below 5PPM for the year.

Best Regards,

Brad Cahoon
Western Regional Manager
(816) 589-7471

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ECLIPSE DESICCANT DRYERS

- *5-Year Valve Warranty*
- *Remote Communication*
- *Maintenance-Friendly*

ZEKS COMPRESSED AIR SOLUTIONS

The boiler plant at Compass Minerals uses a reverse osmosis (RO) system to purify the makeup water for the boilers. The 4100 gallon RO concentrate tank develops algae and other biological films over time and must be decontaminated and cleaned approximately three times per year. The current method for cleaning the tank involves dosing the tank with a concentrated bleach solution and aerating the tank for several days. The water is then diluted and released into the discharge vaults where it is further diluted and tested for total residual chlorine (TRC) before being discharged to outfall 001B. Often, the bleach solution is not completely effective and can lead to difficulty in meeting the TRC limits contained in the facility UPDES permit. Compass Minerals would like the flexibility to potentially use a second cleaning agent, Spectrus BD1507 (see attached SDS) as needed. This chemical will be more effective and require lower concentrations to clean the tank. It is also less harmful than bleach. The method for cleaning the tank would remain the same, as would the frequency of cleaning. The attached table shows the concentration at both outfall 001B (where it enters the effluent ditch) and outfall 001A (Where it exits Compass Minerals' property). Both concentrations are very low and would pose little risk to water quality standards. The concentration of the chemical at Outfall 001A is 0.052 mg/l which is much lower than the NOEL for daphnia magna of 0.25 mg/l.

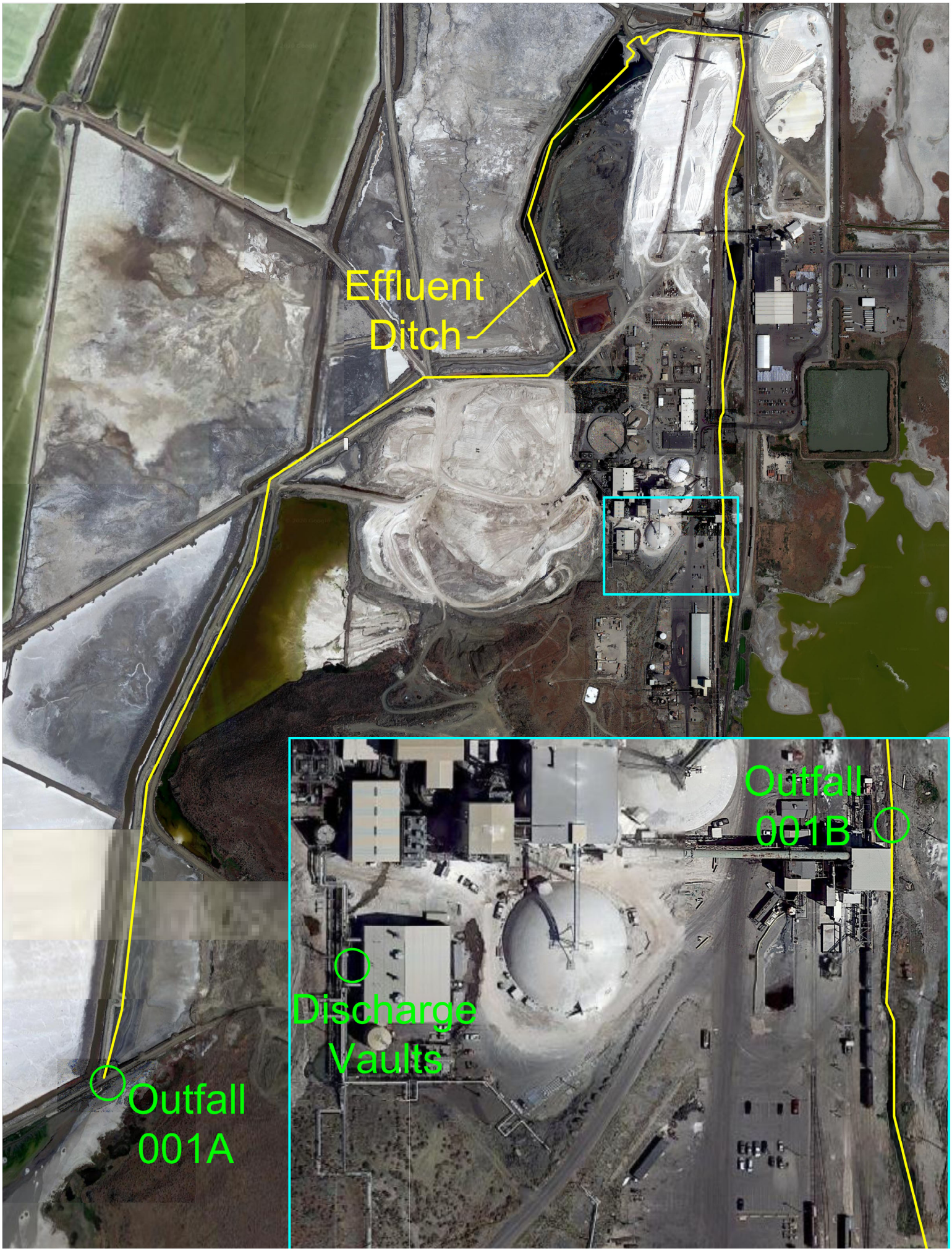

Effluent
Ditch
Outfall
001B
Discharge
Vaults
Outfall
001A

Figure 1 RO concentrate tank

Figure 2 Effluent storage vaults

Table 1 Chemical Concentrations at Outfalls

Dosing rate (mg/l)	50
Tank Size (gal)	4,100
Avg flow 001B (gal/day)	43,000
Avg flow 001A (gal/day)	2,385,000
1,2-Ethanediamine Conc. at 001B (mg/l)	2.61
1,2-Ethanediamine Conc. at 001A (mg/l)	0.052

SAFETY DATA SHEET
SPECTRUS* BD1507

1. Identification

Product identifier **SPECTRUS BD1507**

Other means of identification None.

Recommended use Biodispersant

Recommended restrictions None known.

Company/undertaking identification

SUEZ WTS USA, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355 3300, F 215 953 5524

Emergency telephone

(800) 877 1940

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1B
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage.

Precautionary statement

Prevention Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

Response Rinse mouth. If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container to approved local facility.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Components	CAS #	Percent
1,2-Ethanediamine, polymer with aziridine	25987-06-8	40 - 60

Composition comments Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Do not feed anything by mouth to an unconscious or convulsive victim. Seek medical attention. Dilute contents of stomach using 2-8 fluid ounces (60-240ml) of milk or water. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not get this material in contact with eyes. Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities	Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store containers closed when not in use. Preferably stored between 5-38°C Store away from incompatible materials (see Section 10 of the SDS). Keep container tightly closed.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash proof chemical goggles. Face shield is recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Color	Colorless to yellow
Physical state	Liquid
Odor	Slight ammonia
Odor threshold	Not available.
pH in aqueous solution	11 (1% SOL.)
Melting point/freezing point	-4 °F (-20 °C)
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 212 °F (> 100 °C) P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	23 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.08
Relative density temperature	70 °F (21 °C)

Solubility(ies)

Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	450 cps
Viscosity temperature	70 °F (21 °C)

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	1 °F (-17 °C)
Specific gravity	1.079
VOC	0 % (Estimated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid contact with strong oxidizers. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire. Ammonia and volatile amines.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed. Harmful if swallowed. May cause gastrointestinal irritation with possible nausea, vomiting, constipation or diarrhea, shock and respiratory changes. Symptoms may be delayed for several hours.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
SPECTRUS BD1507 (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	300 - 2000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
1,2-Ethanediamine, polymer with aziridine (CAS 25987-06-8)		
Acute		
Oral		
LD50	Rat	100 - 1000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
SPECTRUS BD1507 (CAS Mixture)			
	LC50	Fathead Minnow	0.15 mg/L, Static Acute Bioassay, 96 hour
		Golden Orfe	> 1 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp	8.8 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead Minnow	0.0625 mg/L, Static Acute Bioassay, 96 hour
		Mysid Shrimp	1.56 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
Aquatic			
Crustacea	EC50	Daphnia magna	0.53 mg/L, Static Acute Bioassay, 48 hour
	NOEL	Daphnia magna	0.25 mg/L, Static Acute Bioassay, 48 hour
Fish	LC50	Rainbow Trout	0.17 mg/L, Static Acute Bioassay, 96 hour
	NOEL	Rainbow Trout	0.125 mg/L, Static Acute Bioassay, 96 hour

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects Not available.

Persistence and degradability

Not biodegradable.
Well eliminable from water by adsorption on activated sludge.

- **COD (mgO2/g)** 950
- **BOD 5 (mgO2/g)** 0
- **BOD 28 (mgO2/g)** 0

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

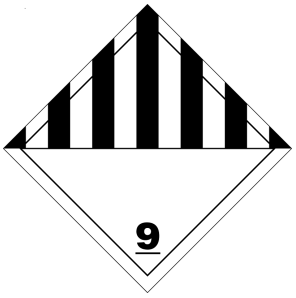
IATA

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (1,2-ETHANEDIAMINE, POLYMER WITH AZIRIDINE)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	171
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

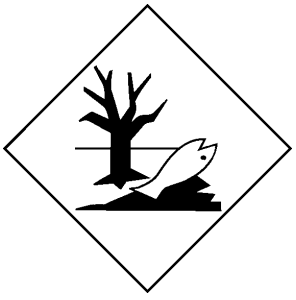
IMDG

UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2-ETHANEDIAMINE, POLYMER WITH AZIRIDINE), RQ(AZIRIDINE (ETHYLENIMINE)), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

AZIRIDINE (CAS 151-56-4) Listed: January 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

No ingredient listed.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

No ingredient listed.

US - Massachusetts RTK - Substance List

Not regulated.

US - Pennsylvania RTK - Hazardous Substances

Not regulated.

US - Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

16. Other information, including date of preparation or last revision

Issue date	Nov-19-2014
Revision date	Dec-18-2017
Version #	3.1
List of abbreviations	CAS: Chemical Abstract Service Registration Number TWA: Time Weighted Average STEL: Short Term Exposure Limit LD50: Lethal Dose, 50% LC50: Lethal Concentration, 50% NOEL: No Observed Effect Level COD: Chemical Oxygen Demand BOD: Biochemical Oxygen Demand TOC: Total Organic Carbon IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods Code ACGIH: American Conference of Governmental Industrial Hygienists TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Hazard(s) identification: Prevention Physical & Chemical Properties: Multiple Properties Toxicological information: Acute toxicity Transport Information: Material Transportation Information Other information, including date of preparation or last revision: Prepared by
Prepared by	This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

* Trademark of SUEZ. May be registered in one or more countries.