Exhibit 96.2

TECHNICAL REPORT SUMMARY
POTASSIUM AND SULFATE OF POTASH, MAGNESIUM CHLORIDE AND SALT

MINERAL RESERVE STATEMENT

COMPASS MINERALS INTERNATIONAL, INC.
GSL / OGDEN SITE
OGDEN, UTAH, USA

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List of Abbreviations

Abbreviation	Unit or Term
%	percent
~	approximately
°	degree
AuEq	gold equivalent
C$	Canadian dollar(s)
EA	Environmental Assessment
EIS	environmental impact statement or environmental impact study
ft	foot or feet
g	Gram
G&A	general and administrative
g/t	grams per ton
gpm	gallons per minute
GSL	Great Salt Lake
h or hr	hour(s)
koz	thousand ounces
kt	thousand tons
L/s	liters per second
lb	pound or pounds
Mg/L	Milligrams per liter
min	minute
Mt	million tons
sec	second
SMU	selective mining unit
SRM	standard reference material
STM	short term modeling
t	ton(s) (2,000 lb)
t/d	tons per day
t/h	tons per hour
t/y	tons per year
TSF	tailings storage facility
US$	United States Dollar
y or yr	Year

1 Executive Summary

The Ogden facility is a production stage property that separates and processes potassium, sodium and magnesium salts from brine sourced from the Great Salt Lake in Utah. The primary product currently produced at the Ogden facility is sulfate of potash ("SOP") (which is a potassium-rich salt used as plant fertilizer), with coproduct production of sodium chloride (which is used for highway deicing and chemical applications) and magnesium chloride (which is used in deicing, dust control and unpaved road surface stabilization applications). The Company has also identified lithium and lithium carbonate equivalent ("LCE") as mineral resources at the Ogden facility and is currently investigating expanding its existing operations to add lithium and LCE extraction as a coproduct to SOP production. The Ogden facility relies upon solar evaporation to concentrate brine extracted from the north arm of the Great Salt Lake and precipitate the salts into a series of large evaporation ponds located on the east and west sides of the lake, referred to as the east ponds and the west ponds, respectively, prior to harvesting and processing at its related plant (the "Ogden plant").

The Great Salt Lake is the largest saltwater lake in the western hemisphere, and the fourth largest terminal lake in the world, covering approximately 1,700 square miles. It is also one of the most saline lakes in the world, with a chemical composition very similar to the world's oceans. Salinity throughout the Great Salt Lake is governed by lake level, freshwater inflows, precipitation and re-solution of salt, mineral extraction, and circulation and constriction between bays of the lake.

The infrastructure associated with the Ogden facility, including the Ogden plant, is located on the shores of the Great Salt Lake in Box Elder and Weber Counties in the State of Utah. The Ogden plant is located at the approximate coordinates of 41˚16'51" North and 112˚13'53" West on the east side of the lake approximately 15 miles (by road) to the west of Ogden, Utah, and 50 miles (by road) to the northwest of Salt Lake City, Utah. The east ponds are located adjacent (to the north and west) to the Ogden plant in Bear River Bay. The west ponds are located on the opposite side of the Great Salt Lake (due west) in Clyman and Gunnison Bays. Access to the Ogden facility is via Ogden, Utah, and its vicinity on paved two-lane roads. From Salt Lake City, Utah, located 40 miles to the south, Ogden is accessible via Interstate Highway 15. The Ogden facility is connected to the local municipal water distribution system, Weber Basin Water Conservation District. The Ogden facility is also connected to the local electrical and natural gas distribution systems provided by Rocky Mountain Power and Dominion Energy, respectively, and houses an existing substation that services the operations at the east ponds. Rail access is provided by Union Pacific Railroad on an existing siding at the Ogden plant.

The Ogden facility is located on approximately 171,114.53 acres of land, of which approximately 7,434.16 acres are owned by the Company. The Great Salt Lake and minerals associated with it are owned by the State of Utah. The Company is able to extract and produce salts from the lake by rights derived from a combination of: (i) lakebed lease agreements (the "Lakebed Leases") with the Utah Department of Natural Resources, Division of Forestry, Fire and State Lands (the "Utah FFSL"); (ii) two leases for upland evaporation ponds (the "Upland Pond Leases") with the State of Utah School and Institutional Trust Lands Administration (the "Utah SITLA"); (iii) seven non-solar leases and easements; (iv) water rights for consumption of brines and freshwater (the "Water Rights") through the Utah Department of Natural Resources, Division of Water Rights; (v) a large mine operation mineral extraction permit (GSL Mine M/057/0002) (the "Mineral Extraction Permit") through the Utah Department of Natural Resources, Division of Oil, Gas and Mining (the "Utah DOGM"); and (vi) a royalty agreement, dated September 1, 1962 (as amended from time to time, the "Royalty Agreement"), with the Utah State Land Board.

Leasable areas for mineral extraction on the Great Salt Lake lakebed are identified in the Great Salt Lake Comprehensive Management Plan (the "GSL Plan"), which is managed by the Utah FFSL. The GSL Plan is updated approximately every ten years, or when there are major changes to the Great Salt Lake environment and setting. A party interested in leasing lakebed for mineral extraction may nominate an area within the area designated by the GSL Plan as leasable, at which time, the Utah FFSL will issue

public notice of lease nomination, conduct an environmental assessment on the nominated lease area, and ultimately consider approval of the lease nomination. This process was followed historically in the acquisition of existing Lakebed Leases held by the Company for the Ogden facility.

The Lakebed Leases and Upland Pond Leases provide the Company the right to develop mineral extraction and processing facilities on the shore of the Great Salt Lake. The Lakebed Leases and Upland Pond Leases were issued between 1965 and 2012 and cover a total lease area of approximately 163,681 acres among 12 active leases, though not all are currently utilized.

Each of the Lakebed Leases remains in effect until the termination of the Royalty Agreement. Most of the Lakebed Leases provide the State of Utah with the opportunity to periodically adjust the lease's terms, except for the royalties to be paid. These readjustment opportunities occur at intervals ranging from five to 20 years. In the past, these periodic readjustments have not materially hindered the business**.**

Pursuant to each of the Lakebed Leases (except for Mineral Lease 20000107), the Company is obligated to pay rent at rates ranging from $0.50 to $2.00 per acre per year, and some leases have a minimum rent of $10,000 per year. The rent paid pursuant to each lease is credited against the Company's royalty obligations pursuant to the Royalty The Lakebed Leases do not impose any material conditions on the Company's retention of the property except for the continued production of commercial quantities of minerals and payment of rent and royalties.

The Upland Pond Leases consist of Special Use Lease Agreement ("SULA") 1186, which was acquired in May 1999, and SULA 1267, which was acquired from Solar Resources International in 2013. SULA 1186 and SULA 1267 expire in April 2049 and December 2041, respectively, but the Company has options to extend each agreement for two successive five-year periods. Both Upland Pond Leases allow for the construction and operation of evaporation ponds on the subject properties. The Company also holds seven non-solar leases and easements granted by Utah FFSL or Utah SITLA covering approximately 1,258 acres.

The Water Rights are procured by application to the Utah Department of Natural Resources, Division of Water Rights, which reviews the application and evaluates the proposed nature of use, place of use, and point of diversion in light of availability of water pursuant to hydrology and/or prior claims relative to the available water, and whether the proposed use would impair existing water right holders. The Water Rights control the actual extraction of minerals from the Great Salt Lake and dictate the amount of brine that can be pumped from the lake on an annual basis. The Company has 156,000 acre-feet extraction rights from the north arm of the Great Salt Lake under five Water Rights, on which it relies for its current production. The Company holds additional 205,000 acre-feet water extraction rights that can be utilized on either the north or south arms of the Great Salt Lake under two Water Rights that are currently unutilized. As a limit on the volume of brine that can be pumped from the lake in a year, the Water Rights effectively cap the aggregate production of salt that is possible in any year. The Company has certificated all of its Water Rights, meaning that demonstration of actual use in order to retain the right in perpetuity has been approved and authorized.

The Mineral Extraction Permit (GSL Mine M/057/0002) was granted by the Utah DOGM. The Mineral Extraction Permit enables extraction of brine from the Great Salt Lake and ultimate mineral extraction from the brine. The Mineral Extraction Permit also enables all lake extraction, pond operations, and plant and processing operations conducted by the Company at the Ogden facility. The Mineral Extraction Permit is supported by a reclamation plan that documents all aspects of current operations and mandates certain closure and reclamation requirements in accordance with Utah Rule R647-4-104. Financial assurance for the ultimate reclamation of facilities is documented in the reclamation plan, and security for costs that will be incurred to execute site closure is provided by a third-party insurer to the State of Utah in the form of a surety bond. The total future reclamation obligation is estimated to be $4.36 million. The Company expects that its lithium extraction plans are allowed under the terms of the Mineral Extraction Permit. Any greenfield expansion of ponds or appurtenances beyond the existing

facility footprint would require a modification to the Mineral Extraction Permit regardless of the mineral(s) developed.

Pursuant to the Royalty Agreement, the Company has rights to all salts from the Great Salt Lake, and in exchange, the Company pays a royalty to the State of Utah based on net revenues per pound of salts produced. The Royalty Agreement contains a most favored nations clause that effectively provides that the Company always pays the lowest royalty rate for any particular salts as any other person pays to the State of Utah for extraction of such salts. The current royalty rate for SOP under the Royalty Agreement is 4.8%. The Royalty Agreement does not expire so long as paying quantities of minerals are produced and the Company pays a minimum royalty of not less than $10,000 per year.

The Ogden facility is the largest SOP production site in the western hemisphere, and one of only four large-scale solar brine evaporation operations for SOP in the world. The Ogden facility has the capability to produce up to 325,000 tons of solar pond-based SOP, approximately 750,000 tons of magnesium chloride and 1.5 million tons of sodium chloride annually when weather conditions are typical. These recoverable minerals exist in vast quantities in the Great Salt Lake.

Solar evaporation is used in areas of the world where high-salinity brine is available and weather conditions provide for a high natural evaporation rate. Mineral-rich lake water, or brine, from the Great Salt Lake is drawn into the solar evaporation ponds. The brine moves through a series of solar evaporation ponds over a two- to three-year production cycle. As the water evaporates and the mineral concentration increases, some of those minerals naturally precipitate out of the brine and are deposited on the pond floors. These deposits provide the minerals necessary for processing into SOP, solar salt and magnesium chloride. The evaporation process is dependent upon sufficient lake brine levels and hot, arid summer weather conditions. The potassium-bearing salts are mechanically harvested out of the solar evaporation ponds and refined to high-purity SOP through flotation, crystallization and compaction at the Ogden plant. After sodium chloride and potassium-rich salts precipitate from brine, a concentrated magnesium chloride brine solution remains, which becomes the raw material used to produce several magnesium chloride products. Recent analysis and evaluations conducted by the Company have also demonstrated that this magnesium chloride solution contains material quantities of lithium, which, when combined with the naturally occurring lithium content of the Great Salt Lake, forms the basis for the estimates of the lithium mineral resources at the Ogden facility summarized below.

Operations have been ongoing at the Ogden facility since the late 1960s, with commercial production starting in 1970. Lithium Corporation of America ("Lithcoa"), separately, and then in a partnership with a wholly owned subsidiary of Salzdetfurth, A.G., carried out initial exploration and development activities between 1963 and 1966. In 1993, D.G. Harris & Associates acquired the Ogden facility, and in 1994, constructed the west ponds, which are connected to the east ponds by a 21-mile, open, underwater canal called the Behrens Trench, which was dredged in the lakebed from the west ponds' outlet to a pump station near the east ponds. Ownership of the Ogden facility was transferred in 1997 to IMC Global, following its acquisition of Harris Chemical Group (part of D.G. Harris & Associates). IMC sold a majority ownership of its salt operations, including the Cote Blanche Mine, to Apollo Management V, L.P. through an entity called Compass Minerals Group in 2001. Following a leveraged recapitalization, the Company now known as Compass Minerals International, Inc. completed an initial public offering in 2003.

The Great Salt Lake is a terminal lake that hosts enriched brine containing dissolved minerals at concentrations sufficient for economic recovery of certain resources. The mineral resource of the Great Salt Lake currently supports economic recovery of sodium (as NaCl), potassium (as SOP), and magnesium (as $MgCl_2$). The GSL Facility is located on the shore of the Great Salt Lake in northern Utah. This location is within the geographic transition from the Rocky Mountains, to the Basin and Range Province to the west.

Evaporation rates higher than input from precipitation and runoff have driven the lake contraction and has served to concentrate dissolved minerals in the lake water. The GSL is one of the most saline lakes in

the world. Over the course of modern record keeping, the water level of the Great Salt Lake has not varied by more than 20 ft. This is controlled through the balance of recharge and discharge from the lake. Lake level data indicated that historical lows were seen in the 1960s, while historical highs were seen in the mid-1980s, which required discharge of the Great Salt Lake brine into the west desert by the Utah Division of Water Resources and Utah Department of Natural Resources in an effort to control the lake level.

Inflow contributions to the Great Salt Lake are from surface water (66%), rainwater (31%), and groundwater (3%), with seasonal variation impacting the annual contribution (UGS, 1980). Discharge from the Great Salt Lake is primarily through evaporation.

Exploration activities related to the potassium and SOP mineral resources at Compass Minerals' GSL Facility include sampling and surveys of the GSL. The following describes the exploration activities undertaken to develop the data utilized within the mineral resource and reserve estimate.

Data to support the potassium and SOP resource and reserve estimates for the Great Salt Lake were sourced from historical literature and data produced by the UGS or USGS related to the Great Salt Lake, supplemented by recent sampling data performed by Compass Minerals. Compass Minerals did not conduct an independent audit of historic exploration methods or sampling and analytical analysis. However, given that almost all data is sourced from the USGS and UGS, in the QP's opinion, it is reasonable and appropriate to rely upon this data, especially given the wide range of data over many years that reflects consistency from data set to data set, including recent sample data collected by Compass Minerals.

The data available for the Great Salt Lake include the following:

- Lake level elevation data and trends to estimate total brine volume, measured by the USGS
- Historical potassium concentrations within the Great Salt Lake, measured by the UGS
- Recent potassium concentrations within the Great Salt Lake, measured by Compass Minerals
- Recent potassium concentrations at the intake for brine into Compass Minerals' evaporation ponds, measured by Compass Minerals
- Bathymetry data for the lake bottom, measured by the USGS

The water level within the Great Salt Lake is monitored at several points within the north and south arms of the lake. Sample data is collected by the USGS and the locations utilized for this resource estimate include USGS 10010100 Saline (North Arm) and USGS 10010000 Saltair Boat Harbor (south arm).

Surface water elevation in the lake has varied significantly over time. Over the past 50 years, the lake elevation has ranged from a low of approximately 4,189 ft amsl to a high of approximately 4,213 ft amsl in the north arm of the lake, equating to a variation of more than 20 ft in elevation. As seen in this figure, the water elevation in the south arm is close to that in the north arm although almost always higher, with the average differential typically around 1 ft.

Data to support the resource estimate was sourced from historical literature and data related to the Great Salt Lake. The QP did not conduct an independent review of exploration methods or sampling and analytical analysis. However, given that almost all data is sourced from the USGS and UGS, the QP is comfortable that sampling and analysis is reliable and appropriate, especially given the wide range of data over many years that reflects consistency from data set to data set.

In general, data relied upon includes the following:

- Brine samples collected from a number of sampling points throughout the north and south arms of the lake (Notably, brine samples have largely been collected at a regular interval (i.e. five feet) across the entire depth profile of the lake. This allows for a reasonable estimate of the

concentration of the full depth of lake water versus single point samples. This is critical given that ion concentration over the water column can vary significantly, generally increasing at depth, especially in the south arm),

- Lake elevation measurements collected at two primary locations (Saline - north arm and Saltair - south arm),
- Bathymetry collected by sonar survey,
- Flow rates (pumping and inflow to the Operation's evaporation ponds), and
- Evaporation rates developed over the timeline of the data available.

Recent Potassium and other Ion Concentration Data in Great Salt Lake Brine

During 2020 and the first half of 2021, Compass Minerals has conducted independent sampling within the GSL from the three of the five sampling locations used by the UGS. Sampling has been completed from LGV-4 and RD-2 in the north arm, and from FB-2 in the south arm.

Sampling procedures have been designed where possible to mimic the methodology used by UGS in the historical database.

Sampling is completed using the following procedures

- Travel by boat to the defined coordinates using the boats navigational systems
- Sampling is completed by using a graduated high density polyethylene (HDPE) hose with a weighted metal screen
- Sample intervals of 5 ft have been used
- Prior to each sample being taken, the hose is flushed with water from the desired depth to clear brine from the previous sample and reduce potential contamination
- Samples are collected in pre-labelled 250 mL bottles, and dispatched to the laboratory.

Compass Minerals has taken a total of 70 samples during this period plus additional sampling for quality control including field duplicates and field blanks, from the three locations. Compass Minerals has split each of the sampling locations into four portions which are defined as the deep, intermediate, shallow and surface samples.

It is the QP's opinion the sampling methods involved are appropriate and representative of the GSL and by using a similar process to the UGS allows for the databases to be combined within the current estimates. The QP believes that the samples labelled as shallow, intermediate and deep in the north arm of the GSL are the most indicative of lake concentration since surface samples are susceptible to recent precipitation events and the stratification of fresher water.

The mineral resource estimation process was a collaborative effort between the QP and Compass Minerals staff. The QP sourced a suite of historical documents from public record, including brine chemistry and lake hydrological reports from the 1960s through current. In addition, Compass Minerals provided the QP with recent mineral reserve reports (2003, 2007, 2011, and 2016). Compass Minerals also provided historical pumping and chemistry data for the East and West Ponds.

This section describes the resource estimation methodology and summarizes the key assumptions considered by the QP. In the opinion of the QP, the resource evaluation reported herein is a reasonable representation of potassium mass load in the brine win the north and south arm of the GSL. Once the mass load is estimated, the result is used to determine the mass of SOP.

The QP has considered economic factors likely to influence the prospect of economic extraction, including site assets and infrastructure including solar evaporation ponds, water (brine) rights,

processing facilities, permitting and entitlements, and the natural, dynamic characteristics of the GSL system in terms of lake elevation and its effects on suspended mass load in its brine.

The potassium and SOP resource in the GSL is unique compared to other solid ore bodies in that the potassium mass load is suspended in solution in an open-water body. The combination of Compass Minerals water rights, lakebed leases, and permitting and entitlements on the GSL give it access to the ambient brine of the GSL, and therefore the potassium mass therein. Compass Minerals' position on the north arm of the GSL places its pumping facilities at the lowest hydraulic point in the GSL as freshwater flows into the GSL from the south arm from the uplands, and brine naturally flows to the north arm, where there is no natural outlet, except for seasonal evaporation. Thus, all the brine in the GSL eventually flows to the north arm, unimpeded, where the potassium is held suspended in solution. While the scale of the evaporation ponds and pumping capacity, the pond concentration process, limits on the volume of brine that can be pumped annually as dictated by water rights and throughput of the plant places limits on annual throughput capacity, there is no limitation or bounds placed on Compass Minerals' right to the potassium mineral resource in the GSL when the QP considers the mineral resource from a life of mine standpoint, and the fact that Compass Minerals is the only extractor selectively extracting potassium from the GSL. There are no physical boundaries or impediments to the entire potassium mass load of the GSL, only limitations on annual throughput governed by scope of annual consumption of brine, and pond and plant throughput capacities.

Considering that Compass Minerals has been extracting brine from the GSL for over 50 years and has experience interrogating the resource, the QP estimates the entire potassium mass load of the GSL as a mineral resource, from which the volume of SOP can then be estimated. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.

The Mineral Resource Statement for Potassium, Magnesium Chloride and Salt at the GSL Facility presented in Tables 1-1, 1-2 and 1-3, respectively, were prepared by Joseph Havasi. Mineral Resources have been reported in situ and are presented as both inclusive and exclusive of Mineral Reserves.

	As of September 30, 2021				As of December 30, 2021			
Resource Area	**Average Potassium Grade (mg/L)[7]**	**Potassium Resource (tons)[1][2][4][5]**	**Cut-Off Grade[6] (mg/L)**	**SOP Resource (tons)[1][2][3][4][5]**	**Average Potassium Grade (mg/L)[7]**	**Potassium Resource (tons)[1][2][4][5]**	**Cut-Off Grade[6] (mg/L)**	**SOP Resource (tons)[1][2][3][4][5]**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	7,320	14,480,978	4,000	32,231,855	7,320	14,521,604	4,000	32,322,279
Great Salt Lake South Arm	3,060	26,057,971	1,660	58,000,000	3,060	26,057,971	1,660	58,000,000
Total Indicated Resources		40,538,949		90,231,855		40,579,575		90,322,279
Measured + Indicated Resources								
Great Salt Lake North Arm	7,320	14,480,978	4,000	32,231,855	7,320	14,521,604	4,000	32,322,279
Great Salt Lake South Arm	3,060	26,057,971	1,660	58,000,000	3,060	26,057,971	1,660	58,000,000
Total Measured + Indicated Resources		40,538,949		90,231,855		40,579,575		90,322,279
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

able 1-1. Ogden Facility -- Summary of Potassium and SOP Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2021

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of potassium to SOP uses a factor of 2.2258 tons of SOP per ton of potassium.
(4) Included process recovery is approximately 7.8% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for SOP of $573 per ton. Gross sales prices are projected to increase to approximately and $8,529 per ton for SOP through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 4,000 milligrams of potassium per liter of brine extracted from the north arm of the Great Salt Lake, and a cut-off grade of 1,660 milligrams of potassium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the

north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of potassium and SOP.

(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Resource Area	**Average Magnesium Grade (mg/L)(7)**	**Magnesium Resource (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**MgCl Resource (tons)(1)(2)(3)(4)(5)**	**Average Magnesium Grade (mg/L)(7)**	**Magnesium Resource (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**MgCl Resource (tons)(1)(2)(3)(4)(5)**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	11,120	52,000,000	8,638	204,000,000	11,120	52,163,000	8,638	204,640,000
Great Salt Lake South Arm	4,785	40,000,000	3,039	157,000,000	4,785	40,000,000	3,039	157,000,000
Total Indicated Resources		92,000,000		360,000,000		92,163,000		360,640,000
Measured + Indicated Resources								
Great Salt Lake North Arm	11,120	52,000,000	8,638	204,000,000	11,120	52,163,000	8,638	204,640,000
Great Salt Lake South Arm	4,785	40,000,000	3,039	157,000,000	4,785	40,000,000	3,039	157,000,000
Total Measured + Indicated Resources		92,000,000		360,000,000		92,163,000		360,640,000
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

Table 1-2: Summary of Magnesium and MgCl Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of magnesium to MgCl uses a factor of 3.913 tons of MgCl per ton of magnesium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for MgCl of $52.08 per ton. Gross sales prices are projected to increase to approximately and $816.73 per ton for MgCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 8,638 milligrams of magnesium per liter of brine extracted from the north arm of the Great Salt Lake, and a cut-off grade of 3,039 milligrams of magnesium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the

north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of magnesium and MgCl.

(7) Reported magnesium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Resource Area	**Average Sodium Grade (mg/L)(7)**	**Sodium Resource (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Resource (tons)(1)(2)(3)(4)(5)**	**Average Sodium Grade (mg/L)(7)**	**Sodium Resource (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Resource (tons)(1)(2)(3)(4)(5)**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	97,530	437,000,000	75,757	1,111,000,000	97,530	437,420,000	75,757	1,112,067,000
Great Salt Lake South Arm	46,298	406,000,000	40,365	1,032,000,000	46,298	406,000,000	40,365	1,032,000,000
Total Indicated Resources		843,000,000		2,143,000,000		843,420,000		2,144,067,000
Measured + Indicated Resources								
Great Salt Lake North Arm	97,530	437,000,000	75,757	1,111,000,000	97,530	437,420,000	75,757	1,112,067,000
Great Salt Lake South Arm	46,298	406,000,000	40,365	1,032,000,000	46,298	406,000,000	40,365	1,032,000,000
Total Measured + Indicated Resources		843,000,000		2,143,000,000		843,420,000		2,144,067,000
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

Table 1-3: Summary of Sodium and NaCl Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of sodium to NaCl uses a factor of 2.542 tons of NaCl per ton of sodium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for NaCl of $62.41 per ton. Gross sales prices are projected to increase to approximately and $215.66 per ton for NaCl through year 2161 (the current expected end of mine life).

(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 75,757 milligrams of sodium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 40,365 milligrams of sodium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of sodium and NaCl.

(7) Reported sodium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

Resources are converted to reserves based on the following parameters:

Measured or indicated resource only. Inferred resources are not eligible for conversion to reserves.

While all the resources estimated in Section 11 were determined to be indicated, the controlling factor is the throughput through Compass Minerals' existing facility. Key aspects controlling throughput include:

- Water right volume
- Potassium concentration in GSL brine
- Current pond acreage
- Processing Plant capacity

The current available throughput potential of the facility's pond evaporation and plant process is 325,000 tons. The current extent of evaporation ponds and plant throughput have achieved production of 325,000 tons of SOP, which relates to a depletion of 148,533 tons of potassium from the GSL resource annually. Increase in production of SOP would require additional evaporation pond footprint. Increases in potassium concentration in GSL brine during low lake level stages have no bearing on ultimate throughput as the pond process design is the limiting factor, and enhanced concentration only accelerates the evaporative process, but does not expand it.

The concentration and potassium load in suspension in the GSL pool increases and decreases with lake level. But the only true depletion from the GSL system occurs through anthropogenic removal of potassium salts, and are limited to Compass Minerals' operations and Morton Salt's operations. The current maximum annual depletion that can occur based on these depletions is 178,048 tons of potassium per annum. While temporal process losses can occur from infiltration of raw brines into underlying salt masses, Compass Minerals has initiated a process to recover brines that have infiltrated into underlying accumulated salt, known as interstitial brine. Approximately 75% of interstitial brine is recoverable. To that end, the QP has calculated a loss factor of 14,582 tons of potassium into its underlying salt mass that is not immediately recoverable. Based on these factors, the QP calculates that 192,630 tons of potassium are depleted from the GSL system annually. Rounding the depletion to 200,000 tons of potassium per annum from the system, the QP estimates that potassium concentration from ambient north arm GSL brine will reach 0.4%, the cutoff grade in 140 years, or 2161.

At the end of Compass Minerals Ogden facility's mine life in 2161, 28,200,000 million tons of potassium will have been depleted between Compass Minerals and Morton Salt's operations, and Compass Minerals will have depleted 20,562,500 tons of potassium at the end of Life of Mine. The Mineral Reserve figure for the Ogden facility is therefore 20,562,500 tons of potassium.

Resources that meet the above criteria were utilized for estimation of the reserve. A summary of Ogden facility's potassium and SOP, Magnesium chloride and salt mineral reserves as of September 30, 2021 and December 30, 2020 are shown in Tables 1-4, 1-5 and 1-6 respectively. Joseph Havasi, who is employed full-time as the Director, Natural Resources of the Company, served as the QP and prepared the estimates of salt mineral resources and mineral reserves at the Ogden facility.

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)[7]**	**Potassium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Reserve (tons)[1][2][3][4][5]**	**Average Grade (mg/L)[7]**	**Potassium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Reserve (tons)[1][2][3][4][5]**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Great Salt Lake South Arm	—	—	—	—	—	—	—	—
Total Probable Reserves	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Total Reserves								
Great Salt Lake North Arm	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Great Salt Lake South Arm	—	—	—	—	—	—	—	—
Total Reserves	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592

Table 1-4. Ogden Facility -- Summary of Potassium and SOP Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for SOP are 325,000 tons per year. This relates to a depletion of 145,833 tons of potassium per year. Based on the QP's reserve model, the life of mine is estimated to be 140 years.
(3) Conversion of potassium to SOP uses a factor of 2.2258 tons of SOP per ton of potassium.
(4) Included process recovery is approximately 7.8% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for SOP of $573 per ton. Gross sales prices are projected to increase to approximately $8,529 per ton for SOP through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 4,000 milligrams of potassium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 1,660 milligrams of potassium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of potassium and SOP.
(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)[7]**	**Magnesium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Reserve (tons)[1][2][3][4][5]**	**Average Grade (mg/L)[7]**	**Magnesium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Reserve (tons)[1][2][3][4][5]**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	11,120	24,373,669	8,638	95,480,000	11,120	24,536,500	8,638	96,118,000
Great Salt Lake South Arm	4,785	—	3,039	—	4,785	—	3,039	—
Total Probable Reserves		20,562,500		95,480,000		24,536,500		96,118,000
Total Reserves								
Great Salt Lake North Arm	11,120	24,373,669	8,638	95,480,000	11,120	24,536,500	8,638	96,118,000
Great Salt Lake South Arm	4,785	—	3,039	—	4,785	—	3,039	—
Total Reserves		20,562,500		95,480,000		24,536,500		96,118,000

Table 1-5: Ogden Facility -- Summary of Magnesium and MgCl Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for MgCl are 620,000 tons per year. This relates to a depletion of 158,271 tons of magnesium per year. Based on the QP's reserve model, the life of mine is estimated to be 140 years, based on potash operational longevity.
(3) Conversion of potassium to SOP uses a factor of 3.91 tons of MgCl per ton of magnesium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for MgCl of $52.08 per ton. Gross sales prices are projected to increase to approximately $816.73 per ton for MgCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 8,638 milligrams of magnesium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 3,039 milligrams of magnesium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of magnesium and MgCl.
(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)(7)**	**Sodium Reserve (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Reserve (tons)(1)(2)(3)(4)(5)**	**Average Grade (mg/L)(7)**	**Sodium Reserve (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Reserve (tons)(1)(2)(3)(4)(5)**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	97,530	63,305,000	75,757	160,930,000	97,530	63,716,000	75,757	161,975,000
Great Salt Lake South Arm	46,298	—	40,365	—	46,298	—	40,365	—
Total Probable Reserves		63,305,000		160,930,000		63,716,000		161,975,000
Total Reserves								
Great Salt Lake North Arm	97,530	63,305,000	75,757	160,930,000	97,530	63,716,000	75,757	161,975,000
Great Salt Lake South Arm	46,298	—	40,365	—	46,298	—	40,365	—
Total Reserves		63,305,000		160,930,000		63,716,000		161,975,000

Table 1-6: Ogden Facility -- Summary of Sodium and NaCl Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for NaCl are 1,045,000 tons per year. This relates to a depletion of 411,074 tons of sodium per year. Based on the QP's reserve model, the life of mine is estimated to be 140 years, based on potash operational longevity.
(3) Conversion of potassium to SOP uses a factor of 2.542 tons of NaCl per ton of sodium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for NaCl of $62.41 per ton. Gross sales prices are projected to increase to approximately $215.66 per ton for NaCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 75,757 milligrams of sodium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 40,365 milligrams of sodium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of sodium and NaCl.
(7) Reported sodium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

When the Ogden Site was commissioned, the high concentration of potassium and other minerals relative to the potential to extract potassium using solar evaporation made possible by the site's location in a high desert with high summer season evaporation made the prospect of solar evaporation to concentrate brines attractive and appropriate. Further, the shallow bathymetry around the perimeter of the GSL renders the construction and operation of solar evaporation ponds feasible.

Mining operations at the Ogden facility are not typical when compared to a normal mine in that there is no actual open pit or underground extraction. The mining of the potassium and other salt effectively involves pumping of brine from the Great Salt Lake into evaporation ponds. From that point, the extraction of the salt from the brine is more of a mineral processing exercise.

In total, Compass Minerals has approximately 361,000 acre-ft of pumping rights to lake brine that it can extract from the north arm of the Great Salt Lake on an annual basis. Based on recent operational data, the Operation has typically extracted, on average, around 125,000 acre-ft of brine per year. Most of this

brine (approximately 85%, on average) is pumped into the West Ponds with the remainder going into the East Ponds.

Brine that is pumped into the West Ponds has a residence time of approximately one year, during which it is concentrated approximately 2.5 times, prior to transfer to the East Ponds. To make this transfer, the West Pond brine is pumped into the 21-mile-long Behrens Trench, where it flows under north arm lake brine to the East Pond. Due to the higher density of the concentrated West Pond outflow, this dense brine stays at the bottom of the trench and limits the mixing with the lake brine (Compass Minerals reports approximately 30% dilution). The transit time takes approximately one week.

East Pond feed brine is predominantly from the Behrens Trench, which is effectively partially diluted West Pond concentrated brine. There is a limited amount of additional lake brine that supplements the East Pond inflow. Total inflow to the East Ponds, including Behrens Trench flow, is on average approximately 32,000 acre-ft per year.

Since 2017, total operating costs per ton have ranged from $242 per ton in 2019 to $325 per ton in 2017. Headcount has remained fairly stable overt the period with 363 total salaried and hourly employees in 2017 to 374 employees in 2021. The average annual capital expenditure since 2017 at the GSL Facility is $17,125,000, with a high of $30,053,000 in 2017 and a low of $11,255,000 in nine-month fiscal 2021 (Table 18-1). The higher than average capital spend in 2017 was associated with SOP Plant improvements undertaken as maintenance of business. The average annual capital expenditure excluding the SOP Plant improvements is $15,041,000, which is more indicative of a typical annual capital expenditure. All actual capital costs incurred since 2017 were provided by the owner.

The GSL Facility, as well as all Compass Minerals facilities, maintains a five-year capital forecast for all planned capital expenditures to support current production. A summary of foreseen capital expenditures through 2026 is provided on Table 18-2. As shown on Table 18-2, total estimated capital expenditure through 2026 is $186,066,000, and is comprised of MOB capital and capital spend for major foreseen capital projects through 2026 including:

- Raising dikes, intake canal maintenance and pump station re-builds: $58,041,000.
- Maintenance, replacement and rebuilds of key SOP plant facilities: $110,589,000.

The balance of the forecasted capital expenditure through 2026 is $17,436,000 and primarily includes routine replacement and maintenance of mine vehicles and equipment. Listed expenditures are based on historic cost data, vendor/contractor quotations, and similar operation comparisons and are within +/-15% level of accuracy. There are risks regarding the current capital costs estimates through 2026, including escalating costs of raw materials and energy, equipment availability and timing due to either production delays or supply chain gaps.

For the mass load estimations in the Great Salt Lake brine, the Utah Geological Survey (“UGS”) as of September 2020 (water samples across five locations) and United States Geological Survey bathymetry data from 2000 (sonar sampling) were used as the basis for the modeling of sodium, magnesium, potassium and lithium mass loads, the critical ions of interest. Key data from the common sampling points were compared to confirm data correlated. Because these reports are independently produced, undergo inter-agency review, and their key data points correlate, no further evaluation of sampling methods or quality control were reviewed by Company management or the QP. In addition, the Company conducted its own sampling at UGS sample locations to further define potassium resource, in addition to lithium. The Company collected potassium and other ion data during this campaign in order to relate ion relationships and ratios in its modelling as well. These data were derived from samples collected by the QP in hermetically sealed samples containers, sent to an external laboratory under chain of custody, analyzed by an accredited laboratory for metals analysis, and data were reviewed and validated by SRK Consulting. Review of the data derived from the Company’s sampling campaign revealed that the data were of sufficient quality to integrate in to the historic UGS data set for further mass load modelling.

The GSL facility resource model was developed and reviewed and by the QP, who also made refinements to the hydrologic model. The mineral resources stated in this TRS are based upon currently available exploration information. This data includes historical information that was collected prior to current standards. However, the uncertainty and risk associated with this historic data has been mitigated through the addition of modern sampling that has been subjected to strict QA/QC protocols that met or exceeded the industry best practices at the time.

The QP is satisfied that the hydrological/chemical model for the Great Salt Lake reflects the current hydrological and chemical information and knowledge. The mineral resource model is informed by brine sampling data spanning approximately 55 years and recent bathymetry data. Continuity of the resource is not a concern, as the lake is a visible, continuous body. The Company's experience in extracting potassium and other salts from the Great Salt Lake for over 50 years under dynamic conditions, such as changing lake elevations and ion concentrations, lends confidence regarding the ability to operate under varying conditions, utilizing ion concentrations as a tool to monitor reserve estimates and make operational decisions.

Sensitivity analysis indicates that this is a robust project that can withstand 20% increases in the key cash flow components.

- If mining operating costs were to increase 20% from those currently estimated, the project would still remain viable by interpolation of the sensitivities shown in Table 19-1.
- If capital construction costs were to increase 20% from those currently estimated, the project would still remain viable by interpolation of the sensitivities shown in Table 19-1.
- The facility can also withstand a decrease in average selling price of SOP, Magnesium chloride and Salt of 10%, but the NPV is negative with a 20% reduction of price for SOP, Magnesium chloride and Salt from those currently estimated according to the sensitivities shown in Table 19-2.

2 Introduction

2.1 Registrant

This Technical Report Summary (this "TRS") was prepared in accordance with Items 601(b)(96) and 1300 through 1305 of Regulation S-K (Title 17, Part 229, Items 601(b)(96) and 1300 through 1305 of the Code of Federal Regulations) promulgated by the Securities and Exchange Commission ("SEC") for Compass Minerals International, Inc. ("Compass Minerals" or the "Company") with respect to estimation of potassium and SOP mineral resources and reserves, sodium and NaCl mineral resources and reserves, and magnesium and MgCl mineral resources and reserves for Compass Minerals' existing operation producing various minerals from the Great Salt Lake ("GSL"), located in Ogden, Utah (referred to as the "GSL Facility", the "Operation" or the "Ogden Plant").

2.2 Terms of Reference and Purpose

The quality of information, conclusions, and estimates contained herein are based on: i) information available at the time of preparation and ii) the assumptions, conditions, and qualifications set forth in this TRS.

Unless stated otherwise, all volumes and grades are in U.S. customary units and currencies are expressed in constant third quarter 2021 U.S. dollars. Distances are expressed in U.S. customary units.
The purpose of this TRS is to report potassium and sulfate of potash mineral resources and reserves, sodium and sodium chloride mineral resources and reserves, and magnesium and magnesium chloride mineral resources and reserves for the GSL Facility.

The effective date of this Technical Report Summary is September 30, 2021.

2.3 Sources of Information

This TRS is based upon technical information and engineering data developed and maintained by local personnel at the GSL Facility, Compass Minerals' corporate supporting resources and from work undertaken by third-party contractors and consultants on behalf of the Operation, in addition to public data sourced from the Utah Geological Survey ("UGS") and United States Geological Survey ("USGS"), internal Compass Minerals technical reports, previous technical studies, maps, Compass Minerals letters and memoranda, and public information as cited throughout this TRS and listed in Section 24 "References."

Information provided by the registrant upon which the QP relied is listed in Section 25, where applicable.

This report was prepared by Joseph R. Havasi, MBA, CPG-12040, a qualified person.

2.4 Details of Inspection

The following table summarizes the details of the personal inspections on the property by the qualified person.

QP	Date(s) of Visit	Details of Inspection
Joe Havasi	August 2017 – Present	Mr. Havasi is employed full time, works and has offices at the Ogden GSL Facility. He commonly visits west and east pond facilities, pump stations, intake facilities, and plant operations.
Joe Havasi	September 2020 – May 2021	Conducted six excursions in the GSL to collect ambient lake brine samples from RD-2, LVG4, and FB-2 sample locations.

Source: Compass Minerals

able 2-1: Site Visits

2.5 Report Version

This TRS is an update of the TRS with respect to SOP, Magnesium chloride and Salt sodium and Salt resource estimates at the Ogden facility, dated November 29, 2021, with an Effective Date of September 30, 2021, prepared by Joseph Havasi as the qualified person, which was previously filed as Exhibit 96.2 to Compass Minerals' Transition Report on Form 10-KT for the transition period from January 1, 2021 to September 30, 2021, filed November 30, 2021.

3 Property Description

The Ogden facility is located on approximately 171,114.53 acres of land, of which approximately 7,434.16 acres are owned by the Company. The Great Salt Lake and minerals associated with it are owned by the State of Utah. The Company is able to extract and produce salts from the lake by rights derived from a combination of: (i) lakebed lease agreements (the "Lakebed Leases") with the Utah Department of Natural Resources, Division of Forestry, Fire and State Lands (the "Utah FFSL"); (ii) two leases for upland evaporation ponds (the "Upland Pond Leases") with the State of Utah School and Institutional Trust Lands Administration (the "Utah SITLA"); (iii) seven non-solar leases and easements; (iv) water rights for consumption of brines and freshwater (the "Water Rights") through the Utah Department of Natural Resources, Division of Water Rights; (v) a large mine operation mineral extraction permit (GSL Mine M/057/0002) (the "Mineral Extraction Permit") through the Utah Department of Natural Resources, Division of Oil, Gas and Mining (the "Utah DOGM"); and (vi) a royalty agreement, dated September 1, 1962 (as amended from time to time, the "Royalty Agreement"), with the Utah State Land Board.

3.1 Property Location

The infrastructure associated with the Ogden facility, including the Ogden plant, is located on the shores of the Great Salt Lake in Box Elder and Weber Counties in the State of Utah. The Ogden plant is located at the approximate coordinates of 41˚16'51" North and 112˚13'53" West on the east side of the lake approximately 15 miles (by road) to the west of Ogden, Utah, and 50 miles (by road) to the northwest of Salt Lake City, Utah. The east ponds are located adjacent (to the north and west) to the Ogden plant in Bear River Bay. The west ponds are located on the opposite side of the Great Salt Lake (due west) in Clyman and Gunnison Bays. (Figure 3-1).

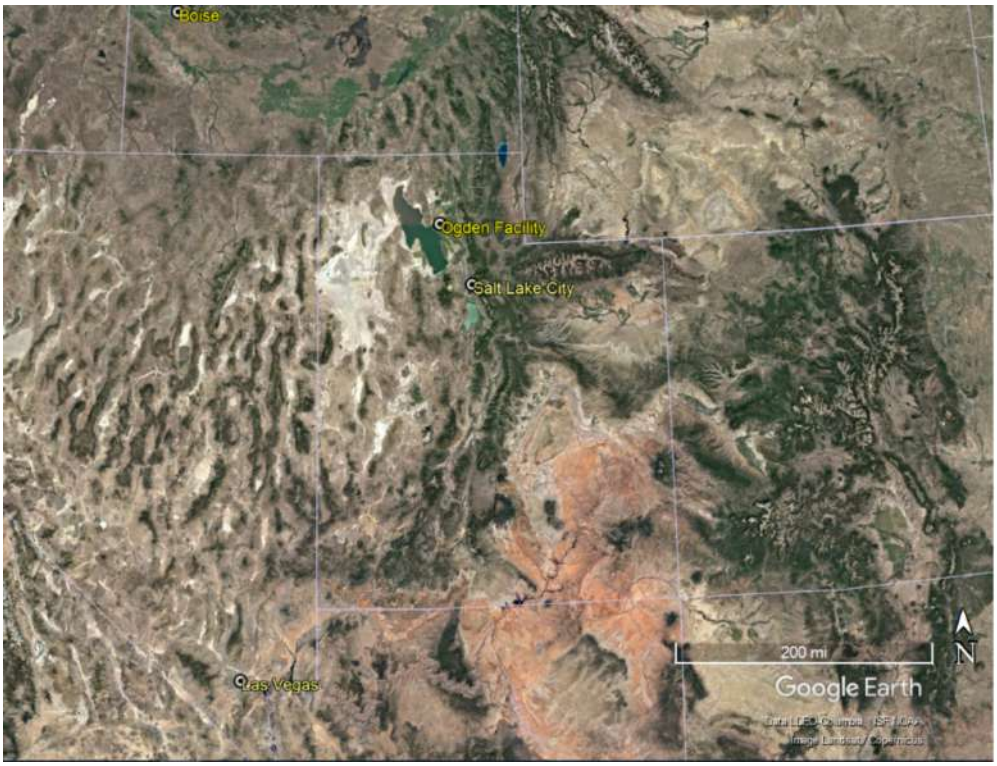


Figure 3-1: Location of Compass Minerals' Ogden Facility within Northern Utah
Source: Compass Minerals

3.2 Property Area

The GSL Facility is comprised of fee-owned land, lakebed leases and upland leases. The Great Salt Lake and minerals associated with the lake are owned by the State of Utah. As summarized on Table 3-1, Compass Minerals has title to 7,434 acres on both the east side and west side of the GSL. The Compass Minerals plant locations are exclusively situated on 918 acres of fee-owned land on the East side of the GSL, with additional holdings on Promontory Point, Clyman Bay and Dove Creek (Figure 3-2).

Relative Location	Parcel Identification Number	Utility	Location	County	Area (acres)	Area (acres)
East Ponds / Plant	100320020	Plant Site	W450N / Near Side Track	Weber	76.02	1,398.97
	100320016		Side Track Parcel	Weber	7.83	
	100320010		Boiler Plant Parcel	Weber	3.09	
	100320011		South of Mag Plant	Weber	21.48	
	100510001		West Little Mountain	Weber	24.00	
	100510003		Pond / Shoreline Boundary	Weber	158.20	
	100320005		Idle Land / Mag Ponds	Weber	324.46	
	100320019		Plant Site	Weber	145.37	
	100320018		NW Plant Site	Weber	118.44	
	100320003		Salt Stockpile	Weber	40.00	
	010110037	Promontory Point: Brine Transfer / Aggregate Resources	Brine Canal Tract	Box Elder	0.03	
	010110039		Brine Canal Tract	Box Elder	0.35	
	010110001		Pokes Point Shoreline	Box Elder	242.72	
	010110003		Pokes Point West	Box Elder	236.98	
West GSL	020130016	Northwest Playa in Clyman Bay: Evaporation Ponds	West Desert	Box Elder	640.00	6,035.19
	010280001		West Desert	Box Elder	158.49	
	020130022		West Desert	Box Elder	639.80	
	010280047		West Desert	Box Elder	475.90	
	010280010		West Desert	Box Elder	640.00	
	010280012		West Desert	Box Elder	160.00	
	04-010-0063	Dove Creek: Water Resource	Dove Creek: T10N R12W Section 17	Box Elder	157.00	
	04-010-0062		Dove Creek: T10N R12W Section 17	Box Elder	160.00	
	04-010-0062		Dove Creek: T10N R12W Section 17	Box Elder	160.00	
	04-010-0065		Dove Creek: T10N R12W Section 17	Box Elder	160.00	
	04-010-0055		Dove Creek: T10N R12W Section 9	Box Elder	136.00	
	04-010-0054		Dove Creek: T10N R12W Section 9	Box Elder	160.00	
	04-010-0056		Dove Creek: T10N R12W Section 9	Box Elder	148.00	
	04-010-0057		Dove Creek: T10N R12W Section 9	Box Elder	160.00	
	04-010-0045		Dove Creek: T10N R12W Section 3	Box Elder	160.00	
	04-010-0059		Dove Creek: T10N R12W Section 15	Box Elder	160.00	
	04-010-0058		Dove Creek: T10N R12W Section 15	Box Elder	160.00	
	04-010-0060		Dove Creek: T10N R12W Section 15	Box Elder	160.00	
	04-010-0061		Dove Creek: T10N R12W Section 15	Box Elder	160.00	
	04-010-0071		Dove Creek: T10N R12W Section 21	Box Elder	160.00	
	04-010-0070		Dove Creek: T10N R12W Section 21	Box Elder	160.00	
	04-010-0072		Dove Creek: T10N R12W Section 21	Box Elder	160.00	
	04-010-0073		Dove Creek: T10N R12W Section 21	Box Elder	160.00	
	030120021	Idle	West Desert Playa: T9N R13W, Section 21	Box Elder	640.00	
					7,434.16	

Table 3-1: Land Tenure - (Fee-Owned Land)

Leasable areas for mineral extraction on the Great Salt Lake lakebed are identified in the Great Salt Lake Comprehensive Management Plan (the "GSL Plan"), which is managed by the Utah FFSL. The GSL Plan is updated approximately every ten years, or when there are major changes to the Great Salt Lake environment and setting. A party interested in leasing lakebed for mineral extraction may nominate an area within the area designated by the GSL Plan as leasable, at which time, the Utah FFSL will issue public notice of lease nomination, conduct an environmental assessment on the nominated lease area, and ultimately consider approval of the lease nomination. This process was followed historically in the acquisition of existing Lakebed Leases held by the Company for the Ogden facility.

The Lakebed Leases and Upland Pond Leases provide the Company the right to develop mineral extraction and processing facilities on the shore of the Great Salt Lake. The Lakebed Leases and Upland Pond Leases were issued between 1965 and 2012 and cover a total lease area of approximately 163,681 acres among 12 active leases, though not all are currently utilized (Table 3-2).

Each of the Lakebed Leases remains in effect until the termination of the Royalty Agreement. Most of the Lakebed Leases provide the State of Utah with the opportunity to periodically adjust the lease's terms, except for the royalties to be paid. These readjustment opportunities occur at intervals ranging from five to 20 years. In the past, these periodic readjustments have not materially hindered the business**.**

Pursuant to each of the Lakebed Leases (except for Mineral Lease 20000107), the Company is obligated to pay rent at rates ranging from $0.50 to $2.00 per acre per year, and some leases have a minimum rent of $10,000 per year. The rent paid pursuant to each lease is credited against the Company's royalty obligations pursuant to the Royalty Agreement (as described further below). The rent for Mineral Lease 20000107 is $69,024 annually and is not credited against royalties due. The Lakebed Leases do not impose any material conditions on the Company's retention of the property except for the continued production of commercial quantities of minerals and payment of rent and royalties.

The Upland Pond Leases consist of Special Use Lease Agreement ("SULA") 1186, which was acquired in May 1999, and SULA 1267, which was acquired from Solar Resources International in 2013. SULA 1186 and SULA 1267 expire in April 2049 and December 2041, respectively, but the Company has options to extend each agreement for two successive five-year periods. The rent for SULA 1186 is $16,460 per year and rent for SULA 1267 is $207,000 per year. Both Upland Pond Leases allow for the construction and operation of evaporation ponds on the subject properties. The Upland Pond Leases do not impose any material conditions on the Company's retention of the property except for payment of rent.

The Company also holds seven non-solar leases and easements granted by Utah FFSL or Utah SITLA covering approximately 1,258 acres. Two of these are material to the operation of the Ogden facility, Behrens Trench Easement 400-00313 and PS-113 Easement SOV002-0400. The Company paid a one-time fee of $42,514 for Behrens Trench Easement 400-00313, which expires in June 2051. The Company paid a one-time fee of $27,273 for PS-113 Easement SOV002-0400, which does not expire. These leases are described in Table 3-3 (active leases / easements) and Table 3-4 (inactive leases / easements). The Company also has a lease indenture for a brine canal with the Union Pacific Railroad dated April 13, 1967 on Promontory Point (Figure 13-2). The indenture automatically renews with payment, which is $595.72 annually.

able 3-2: Land Tenure - (Lakebed and Upland Pond Leases)

Regulatory Office	Lease ID	Location	County	Area (acres)
FFSL	ML 19024-SV	East Ponds	Box Elder	20,826.56
FFSL	ML 19059-SV	East Ponds	Box Elder	2,563.79
FFSL	ML 21708-SV	East Ponds	Box Elder	20,860.29
FFSL	ML 22782-SV	East Ponds	Box Elder	7,580.00
FFSL	ML 23023-SV	Promontory (PS 1)	Box Elder	14,380.56
FFSL	ML 24631-SV	East Ponds	Box Elder	1,911.00
FFSL	ML 25859-SV	East Ponds	Box Elder	10,583.50
FFSL	ML 43388-SV	Promontory (PS 1)	Box Elder	708.00
FFSL	ML 44607-SV	West Ponds	Box Elder	37,829.82
FFSL	20000107	West Ponds (Dolphin Island)	Box Elder	23,088.00
SITLA	SULA 1186	West of Pond 114	Box Elder	1,595.90
SITLA	SULA 1267	Clyman Bay	Box Elder	21,753.85
Total Acreage:				163,680.34

Source: Compass Minerals

In addition to the key lakebed leases and water rights (described in Section 3.4), which provide Compass Minerals the right to develop its extraction/processing facilities and extract brine from the GSL, respectively, Compass Minerals also holds a range of other leases / easements that have allowed development of specific aspects of key infrastructure for the Operation.

Table 3-3: Non-Solar Leases/Easements

Regulatory Office	Lease ID	Location	County	Area
FFSL	ESMT 95	Behrens Trench	Box Elder	1,099
FFSL	SOV-0002-400	Pump Station 113 Inlet Canal	Box Elder	41.19
SITLA	ML 50730 MP	Strong’s Knob	Box Elder	57.00
SITLA	ESMT 96	Strong’s .Knob Access Road	Box Elder	28.00
SITLA	ESMT 143	Pump Station 112 Flush Line	Box Elder	21.68

Source: Compass Minerals

Table 3-4: Inactive Leases/Easements

Regulatory Office	Lease ID	Location	County	Area
FFSL	ESMT 97	Willard Canal	Weber	11.00

Source: Compass Minerals

The Mineral Extraction Permit (GSL Mine M/057/0002) was granted by the Utah DOGM. The Mineral Extraction Permit enables extraction of brine from the Great Salt Lake and ultimate mineral extraction from the brine. The Mineral Extraction Permit also enables all lake extraction, pond operations, and plant and processing operations conducted by the Company at the Ogden facility. The Mineral Extraction Permit is supported by a reclamation plan that documents all aspects of current operations and

mandates certain closure and reclamation requirements in accordance with Utah Rule R647-4-104. Financial assurance for the ultimate reclamation of facilities is documented in the reclamation plan, and security for costs that will be incurred to execute site closure is provided by a third-party insurer to the State of Utah in the form of a surety bond. The total future reclamation obligation is estimated to be $4.36 million. The Company expects that its lithium extraction plans are allowed under the terms of the Mineral Extraction Permit. Any greenfield expansion of ponds or appurtenances beyond the existing facility footprint would require a modification to the Mineral Extraction Permit regardless of the mineral(s) developed.

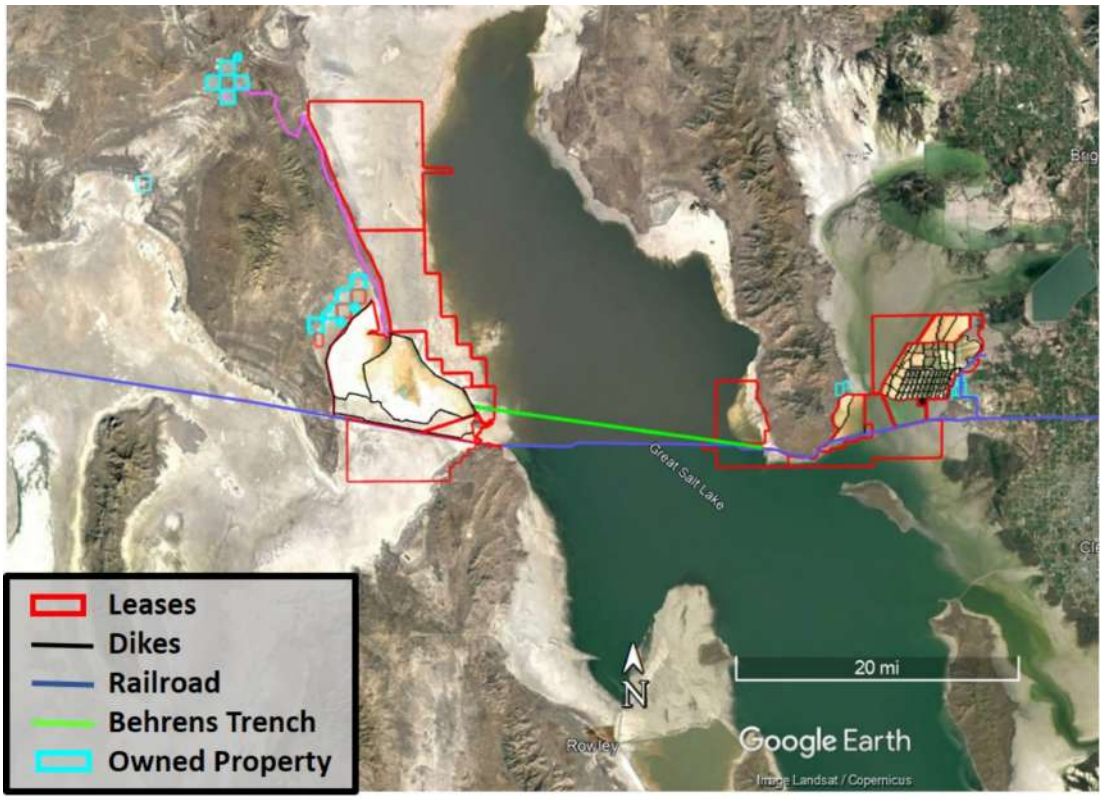


Figure 3-2: Compass Minerals' GSL Facility Detail

Source: Compass Minerals

3.3 Mineral Titles

3.3.1 History of Titles

Royalty Agreement between IMC Kalium Ogden Corp. and the State Land Board dated September 1, 1962. Ml-19024

Lease dated September 1, 1965 by and between State Land Board, as Lessor and Lithium Corporation of America, Inc. and Chemsalt Corporation as Lessee, recorded June 19, 1990 in Book 489, Page 183 in Box Elder County, as assigned from Chemsalt Corporation and from Lithium Corporation of America, Inc. to Great Salt Lake Minerals & Chemicals Corporation on October 26, 1990 and recorded October 30, 1990 in Book 493, Page 725 in Box Elder County and recorded October 30, 1990 in Book 1589, Page 137 in Weber County and further assigned from Lithium Corporation of America Inc., to Great Salt Lake Minerals & Chemicals Corporation on June 14, 1967 and recorded October 30, 1990 in Book 493, Page 730 in Box Elder County and recorded October 30, 1990 in Book 1589, Page 150 in Weber County. ML-23023

Lease dated August 24, 1966 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded June 19, 1990 in Book 489, Page 234 in Box Elder County and recorded June 19, 1990 in Book 1582, Page 822 in Weber County. ML-19059

Lease dated August 24, 1966 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded October 30, 1990 in Book 493, Page 708 in Box Elder County and recorded October 30, 1990 in Book 1589, Page 110 in Weber County. ML-22782

Lease dated August 24th, 1966 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded October 30, 1990 in Book 493, Page 751 in Box Elder County. ML-19024

Lease dated October 1, 1966 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded June 19, 1990 in Book 489, Page 244 in Box Elder County and recorded June 19, 1990 in Book 1582, Page 811 in Weber County. ML-21078

Lease dated October 2, 1967 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded June 19, 1990 in Book 489, Page 213 in Box Elder County and recorded June 19, 1990 in Book 1582, Page 846 in Weber County. ML-24631

Lease dated November 20th, 1968 by and between State Land Board, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded June 19, 1990 in Book 489, Page 220 in Box Elder County and recorded June 19, 1990 in Book 1582, Page 839 in Weber County. ML-25859

Lease dated April 27th, 1987 by and between Board of State Lands and Forestry, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded June 19, 1990 in Book 489, Page 205 in Box Elder County. ML-43388

Lease dated September 23, 1991 and recorded September 27, 1991 in book 1608 at page 2284 of the official records of Weber County.

Lease dated January 1, 1991 by and between Utah Division of State Lands and Forestry, as Lessor and Great Salt Lake Minerals & Chemicals Corporation, as Lessee, recorded November 26, 1991 in Book 510, Page 79 in Box Elder County. ML-44607.

SPECIAL USE LEASE AGREEMENT NO. 1186 dated May 1, 1999, executed by and between the School and Institutional Trust Lands Administration as Lessor and IMC Kalium Ogden Corp., a Delaware corporation.

MINERAL LEASE AGREEMENT NO. 200 00107 dated May 9, 2008, executed by and between the State of Utah, acting by and through the Division of Forestry, Fire and State Lands, Department of Natural Resources as Lessor and Great Salt Lake Minerals Corporation.

SPECIAL USE LEASE AGREEMENT NO. 1267 dated October 25, 1999, executed by and between the State of Utah, acting by and through the School and Institutional Trust Lands Administration as Lessor and William J. Coleman as lessee's predecessor-in-interest as Lessee as disclosed in ASSIGNMENT dated November 29, 2012, executed by Solar Resources, Inc., a Utah corporation as Assignor and as Assignee, recorded November 30, 2012 as Entry No. 319775 in Book 1194 at Page 436, Official Records of Box Elder County.

SECOND AMENDED AND RESTATED SPECIAL USE LEASE AGREEMENT NO. 1267 dated November 29, 2012, executed by and between State of Utah, acting by and through the School and Institutional Trust Lands Administration and Great Salt Lake Minerals Corporation, a Delaware corporation.

3.4 Mineral Rights

The Great Salt Lake and minerals associated with the lake are owned by the State of Utah. Compass Minerals maintains the ability to extract and produce Salts from the lake by right of a combination of lakebed lease agreements, water rights for consumption of brines and freshwater, a royalty agreement, and a mineral extraction permit. Compass Minerals pays a royalty to the State of Utah based on gross revenues of Salts produced. The royalty agreement and lakebed leases are evergreen (i.e., do not expire), so long as paying quantities of minerals are produced from the leases.

Pursuant to the Royalty Agreement, the Company has rights to all salts from the Great Salt Lake, and in exchange, the Company pays a royalty to the State of Utah based on net revenues per pound of salts produced. The Royalty Agreement contains a most favored nations clause that effectively provides that the Company always pays the lowest royalty rate for any particular salts as any other person pays to the State of Utah for extraction of such salts. The current royalty rate for SOP under the Royalty Agreement is 4.8%. Royalties for co-products magnesium chloride and sodium chloride are as follows:

- The royalty rate for magnesium chloride is 5% of gross revenues. Compass is allowed to deduct bagging costs from revenue generated from flaked forms of Magnesium Chloride, and revenues from liquid products (other than High Purity) are calculated at the average sales price for Compass Minerals magnesium chloride product, DustGard through the year.
- The royalty rate for sodium chloride was established in 1996, and initially set at $0.10 per ton, and increased by $0.10 per ton each year until it reached $0.50 per ton. Effective January 1, 2001, the royalty rate for sodium chloride is adjusted annually by reference to the Producer Price Index for Industrial Commodities using the following formula: $0.50 times the Producer Price Index for Industrial Commodities for the current year divided by the Producer Price Index for Industrial Commodities for 1997.

To extract lithium and LCE products (as described in further detail below), the Royalty Agreement must be modified. The Royalty Agreement does not expire so long as paying quantities of minerals are produced and the Company pays a minimum royalty of not less than $10,000 per year.

The actual extraction of minerals from the GSL is controlled by water rights that dictate the amount of brine that can be pumped from the lake on an annual basis. Compass Minerals' water rights are listed in Table 3-5. Compass Minerals has 156,000 acre-ft extraction rights from the north arm of the lake that it relies upon for its current production. Compass Minerals holds additional 205,000 acre-ft water extraction rights from the south arm that are not being utilized. As a limit on the volume of brine that can be pumped in a year, these water rights also cap the mass production of Salt that is possible in any year.

Source	**Points of Diversion**	**Priority**	**County**	**WR/CH/EX#[1]**	**Volume[2]**
Great Salt Lake	PS 1	1/8/62	Box Elder	13-246	134 cfs or 27,000 AF
Great Salt Lake	PS 1, PS 23 (segregated from 13-246)	1/8/62	Box Elder	13-3091	46 cfs or 67,000 AF
Great Salt Lake	PS 1, PS 23 (segregated from 13-3091)	1/8/62	Box Elder	13-3569	50 cfs or 62,000 AF
Great Salt Lake	PS 1 and PS 112 (changed from 13-246 and 13-3091)	5/7/91	Box Elder	13-246	180 cfs or 94,000 AF
Great Salt Lake	Clyman Bay	6/13/20	Box Elder	13-3457	180,992 AF
Bangerter Pump Station Sump	Bangerter Pump Station Canal, ear Hogup Bridge Lucin Cutoff	11/9/95	Box Elder	13-3742	25,000 AF
Bear River	PS 2, PS 8, Northern Lease Border	6/11/65	Box Elder	13-1109	17,792 AF
Bear River	PS 2, PS 3, 1B Cut	2/20/81	Box Elder	13-3345	49,208 AF
Bear River/Great Salt Lake	Pond water impoundment North of PS 2 (non-consumptive)	12/14/81	Box Elder	13-3404	8,000 cfs
Underground Water Well	PS 112 Well (Lakeside)	8/20/92	Box Elder	13-3592	0.17 cfs or 100 AF
Underground Water Well	PS 114 Well	2/19/03	Box Elder	13-3800	0.22 cfs
Underground Water Well	PS 112 Well (New)	2/6/08	Box Elder	13-3871	66 AF
Underground Water Wells	PS 113, 114, 7000 ac, Lakeside, 115	12/16/08	Box Elder	13-3885	1.84 cfs or 784 AF

Underground Water Wells	PS 113 Well (New)	12/16/08	Box Elder	13-3887	66 AF
Underground Water Well	Pond Control Well	7/27/65	Weber	35-2343	0.15 cfs
Underground Water Wells (5)	Near Ponds 26/91/88, Pond Control	7/27/65	Weber	35-5373	24.85 cfs
Underground Water Wells (10)	East of Pond 26 (same as 13-5325)	6/17/66	Weber	35-4012	1.5 cfs
Underground Water Wells (10)	East of Pond 26 (same as 13-4012)	6/17/66	Weber	35-5325	6.5 cfs
Underground Water Well	Southeast of Mg Plant	8/19/60	Weber	35-1201	0.00054 cfs
Underground Water Wells (7)	East of Little Mountain	7/19/40	Weber	35-162	0.583 cfs
Underground Water Well	Southeast of Mg Plant	3/23/36	Weber	35-2730	0.089 cfs

Source: Compass Minerals
[1]WH=, CH=, EX=
[2]AF=acre-feet, cfs=cubic feet per second

Table 3-5: GSL Water Rights

3.5 Encumbrances

Mineral extraction activities at the GSL Facility are regulated by the Utah DNR and DOGM under permit # M/057/002. The site is to be reclaimed in accordance with the approved reclamation plan.

The reclamation plan for the solar evaporation and harvest ponds that was developed as part of the mining portion of the permit will be deconstructed in two separate phases. Phase I involves the final return of all accumulated salts within the evaporation and harvest beds. The salts will be dissolved using fresh water obtained via the GSL Facility's freshwater rights. Similar to Compass Minerals' yearly return flow operations, the dissolved rinseate will be returned to the Great Salt Lake at the current point of discharge for prior salt return activities at the southern end of Bear River Bay. The Phase I portion of the plan will be conducted during the late fall for about three to four months in duration. If necessary, these salt return activities may be conducted over multiple years to substantially dissolve accumulated salts and return those salts to the Great Salt Lake. The salt removal process may require some mechanical removal, if necessary, to return the evaporation ponds and harvest ponds to a natural lake bed surface to the satisfaction of the oversight state regulatory agency.

Upon completion of the Phase I salt removal activities, the Phase II rip-rap management plan will commence. This Phase II will involve the collection of rip-rap from the lake side of the GSL Facility's dikes and cluster the rip-rap them in piles separated by about 1 mile. The rip-rap clusters will be formed on the pond side of historic dikes. The rip-rap clusters will be designed to enhance the natural migratory bird habitat. Additionally, the rip-rap clusters will be fortified with some fine-grained materials to partially fill some interstitial voids to enhance bird nesting habitat.

In conjunction with Phase II, the exterior and interior dikes will be breached every mile to allow wave action from the Great Salt Lake to erode the remaining dike structures. All other structures and equipment will be removed from State lands. The process plant is a part of an industrial park and will remain after cessation of operations. At the request of the State Division of Wildlife Resources, Compass Minerals may negotiate the possibility of leaving some ponds in place to create bird refuges.

Borrow pits high walls will be recontoured to a 45° angle or less and the pit floors completed so that the pits will not impound water. Revegetation will take place where sufficient soils exist. No plans for soil importation to revegetate the borrow pits are being considered.

All equipment and structures located on lands owned by the State of Utah will be removed. The Ogden Plant site will be left intact for use in the existing industrial park. Allowing the plant to remain as a part of this park was approved by the Weber County Commission of March 29, 1986.

The commitment to perform required reclamation activities is secured by a surety bond. The current total reclamation obligation is US$4.36 million dollars.

3.6 Other Significant Factor and Risks

There are no other significant factors or risks that may affect access, title, or the right or ability to perform work on the GSL Facility.

3.7 Royalties Held

Not Applicable.

4 Accessibility, Climate, Local Resources, Infrastructure, & Physiography

4.1 Topography, Elevation and Vegetation

The GSL Facility is located along the middle to northern extent of the Great Salt Lake at an elevation ranging between 4,208 ft and 4,225 ft. The topography of the facility area is generally flat, as it is situated along the marginal lake sediments of the Great Salt Lake. The elevation of the north arm of the GSL has ranged between 4,191 feet amsl and 4,213 feet amsl.

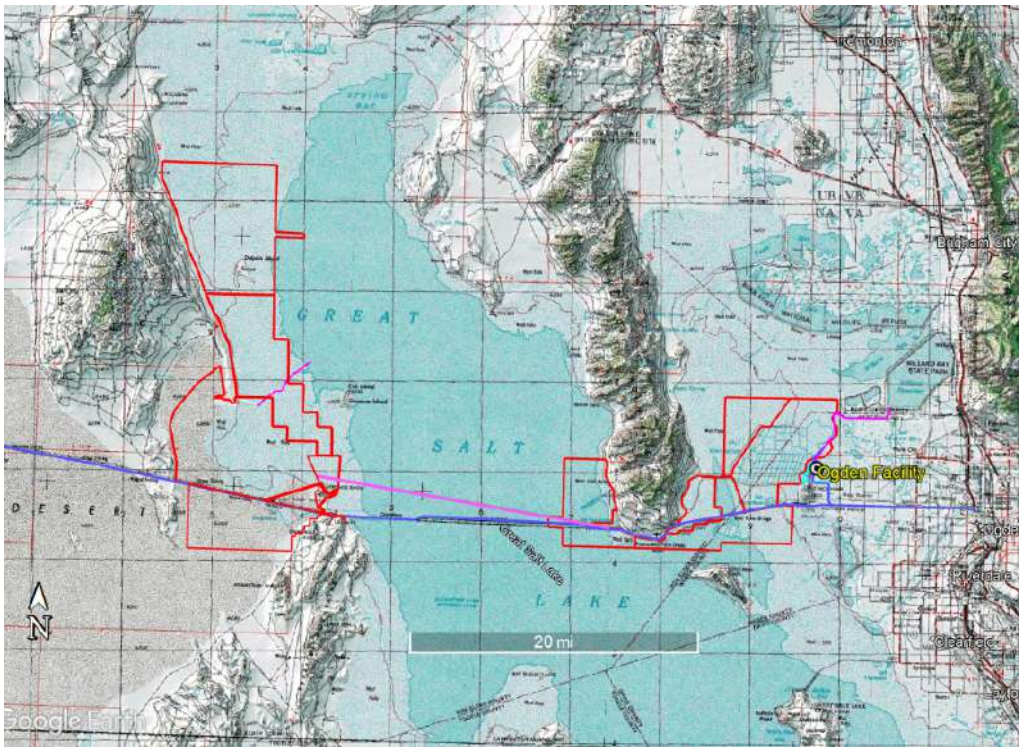


Figure 4-1: USGS 7.5 minute Topographic Quadrangle Map: Great Salt Lake

Source: Compass Minerals

4.1.1 Vegetation

Local vegetation is dominated by shrubs and grasses associated with a desert ecosystem and a relatively low precipitation environment.

The wetlands surrounding GSL are of international importance, and they are acknowledged for supporting large populations of migratory birds. As a zone of transition between uplands and the open water of GSL, they also provide other functions. These include flood control, water quality improvement, and biogeochemical processing. There are approximately 360,000 acres of wetlands below the GSL meander line, in addition to 546,697 acres of open water and 3,540 acres of upland (Figure 4-2). Wetlands represent 26% of the 1.37 million acres below the meander line.

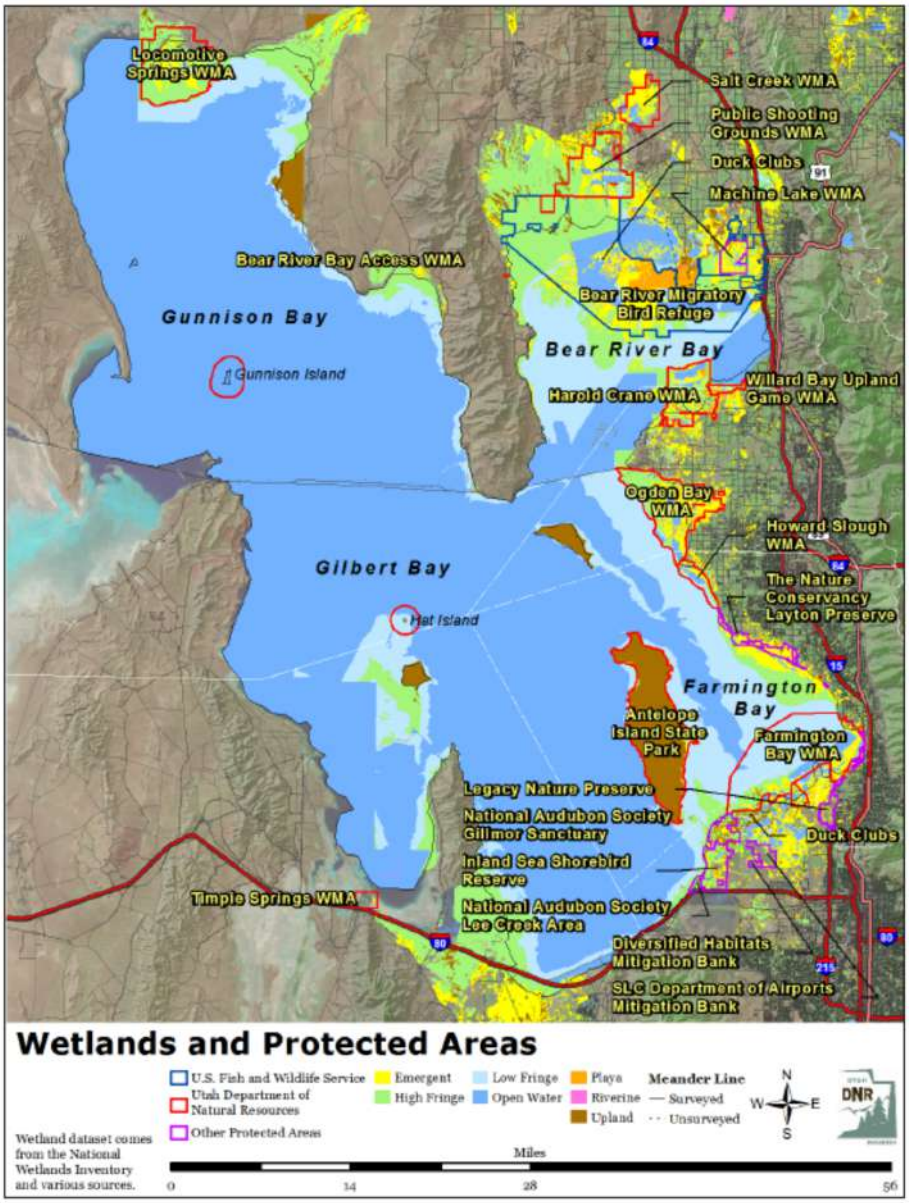


Figure 4-2: Wetlands and Protected Areas

Source: Utah DNR, Comprehensive Management Plant (2011)

4.2 Means of Access

Access to the GSL Facility is considered excellent. The City of Ogden, Utah has established infrastructure for both mining and exporting salt. Access to the Operation is via Ogden and vicinity on paved two-lane

roads. From Salt Lake City, located 40 miles to the south, Ogden is accessible is via Interstate Highway 15.
Commercial air travel is accessible from Salt Lake City, and rail access is provided by an existing siding at the Ogden Plant.

4.3 Climate and Operating Season

The GSL Facility is located in the Great Basin cold-desert ecosystem, which occurs from lake level to approximately 4,500 feet in elevation in surrounding wetlands and uplands. GSL receives an average of 15 inches of precipitation near the Wasatch Front, less than 10 inches of precipitation on the west side of the lake, and has annual average maximum temperatures of 65.5 degrees Fahrenheit (°F) and annual average minimum temperatures of 38.1°F. The summer period from May to September sees the highest evaporation rates and imparts a cyclic nature to the Operation with evaporative concentration in the summer months, and salt harvesting from late fall to early spring.

4.4 Infrastructure Availability and Resources

The GSL Facility is connected to the local municipal water distribution system, Weber Basin Water Conservation District.

The GSL Facility is connected to the local electrical and natural gas distribution systems via Rocky Mountain Power and Dominion Energy, respectively. The GSL facility houses an existing substation as well that services the east-pond complex and Promontory Point.

The population of Ogden, Utah is approximately 88,000, which is included in the greater Ogden-Clearfield metropolitan area population of approximately 600,000. The area population provides a more than adequate base for staffing the GSL Facility, with a pool of talent for both trades and technical management.

The cities of Ogden and Salt Lake City, Utah provide all necessary resources for the GSL Facility and is a major urban center in the western United States. In addition to a central transportation hub for airline, rail, and over-the-highway cargo, the region is a major support hub for the mining industry in the western United States.

5 History

Operations have been ongoing at the Ogden Plant site since the late 1960s, with commercial production starting in 1970. The Ogden Plant site has been operated under various owners and has historically produced halite, potash, and as of 1998, magnesium chloride.

During the early 1960s, chemical companies, including Dow Chemical Company, Monsanto Chemical Company, Stauffer Chemical Company, Lithium Corporation of America ("Lithcoa"), and Salzdetfurth A.G., reserved acreage for lakeside developments on Great Salt Lake (Kerr, 1965). Of these, Lithcoa and Salzdetfurth A.G. were the first to develop commercial brine/salt operations.

The potash facility operated by Compass Minerals Ogden Inc. (which was initially formed in 1967 and was formerly known as Great Salt Lake Minerals Corporation, IMC Kalium Ogden Corp. and Great Salt Lake Minerals & Chemicals Corp.) was constructed after an exploration project and feasibility study was carried out by Lithcoa. Laboratory studies were conducted in 1963 and 1964, followed by three years of pilot plant testing and construction of pilot evaporation ponds (Industrial Minerals, 1984). During 1964, Lithcoa representatives appeared before the Utah State Land Board (the State agency that regulated lake development, now the FFSL) in order to acquire permission to extract minerals from the Great Salt Lake (Lewis, 1965; Woody, 1982). Within the next year or so, permission was granted.

In 1965, studies continued on methods for extracting minerals from Great Salt Lake. During that same year, Lithcoa entered into a partnership with Salzdetfurth, A.G., of Hanover, West Germany, an important producer of potash and salt (Lithcoa 51% and Salzdetfurth A.G. 49% ownership) to develop the land and mineral rights on the lake held by Salzdetfurth A.G. (Lewis, 1966: Engineering and Mining Journal, 1970).

In 1967, Lithcoa and Chemsalt, Inc., a wholly owned subsidiary of Salzdetfurth, A.G., proceeded with plans to build facilities on the north arm of the Great Salt Lake to produce potash, sodium sulfate, magnesium chloride, and salt from the lake brine (Lewis, 1968). Lithcoa was acquired that same year by Gulf Resources and Minerals Co. (Houston, Texas) and at that point Gulf Resources and A.G. Salzdetfurth began developing a US$38 million solar evaporation and processing plant west of Ogden, Utah (Knudsen, 1980). The new facility began operating in October 1970. The plant was designed to produce 240,000 short tons (218,000 metric tons (mt)) of potassium sulfate, 150,000 short tons (136,000 mt) of sodium sulfate, and up to 500,000 short tons (454,000 mt) of magnesium chloride annually (Gulf Resources & Chemical Corporation, 1970; Eilertsen, 1971).

In May 1973, Gulf Resources bought its German partner's share of the Great Salt Lake project. At that time, the German partner had also undergone some changes and was known as Kaliund Salz A.G. (Gulf Resources & Chemical Corporation, 1973; Behrens, 1980; Industrial Minerals, 1984).

The initial mining sequence consisted of pumping brine directly from the north arm of the Great Salt Lake. The brine was pumped from Pump Station 1 on the southwest shore of Promontory Point to an overland canal that flowed the brine by gravity to the east side of Promontory mountains and was distributed through a series of solar ponds.

As Great Salt Lake rose to its historic high in the 1980s, the company spent US$8.1 million in 1983, US$8.1 million in early 1984, US$3.0 million in 1985, and US$4.8 million in 1986 to protect its evaporation pond system at the Ogden Plant site against the rising lake level. On May 5, 1984, a northern dike of the system breached, resulting in severe flooding and damage to about 85% of the pond complex. The breach resulted in physical damage to dikes, pond floors, bridges, pump stations, and other structures. In addition, brine inventories were diluted, making them unusable for producing SOP (Gulf Resources & Chemical Corporation, 1986). During the next five years, the company pumped the water from its solar ponds, reconstructed peripheral and interior dikes and roads, replaced pump stations, and laid down new salt floors in order to restart its operation at the Ogden Plant site.

A 25,000-acre evaporation pond complex was constructed at the Ogden Plant site on the west side of the lake in 1994. The new western ponds were connected to the east-pond complex by a 21-mile, open, underwater canal called the Behrens Trench which was dredged in the lakebed, from the western pond's outlet near Strong's Knob to a pump station located just west of the southern tip of Promontory Point. The concentrated brine from the west pond, which is more dense than the lake brine due to its mineral concentration, is fed into the low-gradient canal, where it flows slowly by gravity eastward, beneath the less-dense Great Salt Lake brine, to the primary pump station. From there, the dense brine travels around the south end of Promontory Point, then northward, where it enters the east pond complex.

In 1993, D.G. Harris & Associates acquired the Ogden Plant site operations. Ownership of the Ogden Plant was transferred in 1997 to IMC Global ("IMC"), following its acquisition of Harris Chemical Group (part of D.G. Harris & Associates). IMC sold a majority of its salt operations, including the Ogden Plant, to Apollo Management V, L.P. through an entity called Compass Minerals Group in 2001. Following a leveraged recapitalization, the company now known as Compass Minerals International, Inc. completed an initial public offering in 2003.

On September 16, 2004, the Ogden Plant applied to DOGM to add solar Pond 1B to its permitted operations area. On October 8, 2004, DOGM gave formal approval of this permit revision, and Pond 1B construction was completed in 2006. This pond is located on the east side of Promontory Point and due east of Pond 1A and of the Bear River Channel.

On November 11, 2011, the Ogden Plant submitted a Notice of Intent ("NOI") to amend mining operations to integrate pond technology enhancements ("PTE") in existing perimeter dikes located in Bear River Bay. PTE is designed to improve the functionality of existing dikes and is fully encapsulated within the dikes. PTE is implemented by excavating a 24-inch trench within the existing perimeter dikes and backfilling the excavation with inert cement bentonite grout. The PTE then acts to reduce leakage of refined brines back into the Great Salt Lake. Due to the low compressive strength of the vertical cement bentonite seam (which is similar to the strength of the surrounding dike materials), the existing reclamation plan which provides for wave action to ultimately remove dikes will also be effective in reclaiming PTE-integrated dikes. PTE construction was completed in 2014.

6 Geological Setting, Mineralization, and Deposit

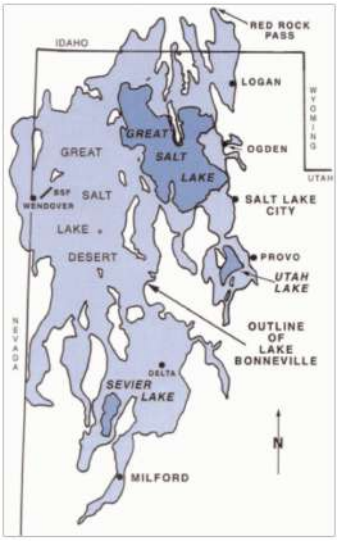
6.1 Geologic Description

The GSL Facility produces saleable minerals from brines sourced from the Great Salt Lake. These brines are upgraded through solar evaporation within large constructed ponds. The following describes the geologic relevance of the Great Salt Lake and lays out the man-made aquifers within the evaporation ponds which host brines with high lithium concentrations.

The GSL Facility is located on the shore of the Great Salt Lake in northern Utah. This location is within the geographic transition from the Rocky Mountains, to the Basin and Range Province to the west.

The Great Salt Lake is a remnant of Lake Bonneville, a large Late-Pleistocene pluvial lake that once covered much of western Utah. At its maximum extent, Lake Bonneville covered an area of approximately 20,000 square miles. Lake Bonneville has been in a state of contraction for the past 15,000 years and has resulted in the formation of remnant lakes that include the Great Salt Lake, Sevier Lake, and Utah Lake (Figure 6-1). Evaporation rates higher than input from precipitation and runoff have driven the lake contraction and has served to concentrate dissolved minerals in the lake water. The GSL is one of the most saline lakes in the world.

The Great Salt Lake is currently the largest saltwater lake in the western hemisphere, covering approximately 1,700 square miles. But due to fluctuation in evaporation rates and precipitation, that size has ranged from 950 square miles to 3,300 square miles over the past 60 years. On a geologic timeframe, the Great Salt Lake water level has varied by many hundreds of feet over the past 10,000 years (UGS, 1980).



Source: UGS 1980

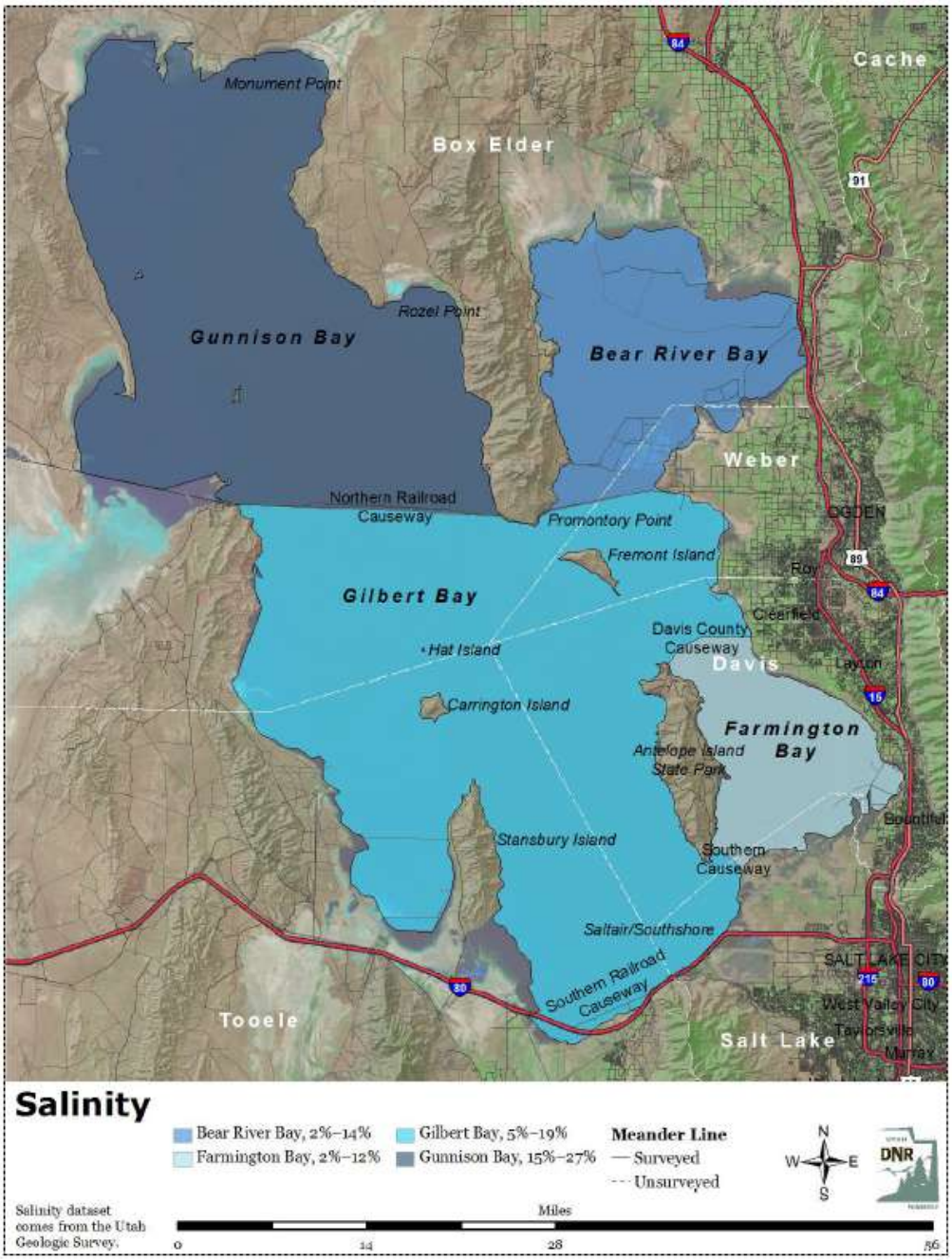
Figure 6-1: Former Extent of Lake Bonneville, Relative to Current Remnant Lakes and Cities

Over the course of modern record keeping, the water level of the Great Salt Lake has not varied by more than 20 ft. This is controlled through the balance of recharge and discharge from the lake. Lake level data indicated that historical lows were seen in the 1960s, while historical highs were seen in the mid-1980s, which required discharge of the Great Salt Lake brine into the west desert by the Utah Division of Water Resources and Utah Department of Natural Resources in an effort to control the lake level.

Inflow contributions to the Great Salt Lake are from surface water (66%), rainwater (31%), and groundwater (3%), with seasonal variation impacting the annual contribution (UGS, 1980). Discharge from the Great Salt Lake is primarily through evaporation.

Salinity throughout GSL is governed by lake level, freshwater inflows, precipitation and re-solution of salt, mineral extraction, and circulation and constriction between bays of the lake. Distinct salinity conditions have developed in the four main areas of the lake as a result of 1) fragmentation of the lake resulting from causeways and dikes and 2) the fact that 95% of the freshwater inflow to the lake occurs on the eastern shore south of the causeway (Loving et al. 2000). From freshest to most saline, the largest bays in GSL today are Bear River Bay, Farmington Bay, Gilbert Bay (the main body of the lake also referred to as the south arm) and Gunnison Bay (i.e., the North Arm). Since 1982, the salinity in Bear River Bay and Farmington Bay ranges from 2% to 9% (Map 2.5), though it typically stays between 3% and 6%). Figure 6-2 illustrates the range of salinities within the four bays of the GSL.

In 1960, a railroad causeway was constructed in replacement of a 12-mile-long wooden trestle. The causeway is a permeable rockfill barrier with box concrete box culverts that permit limited brine transfer, but prevent full mixing of brine on either side of the causeway. The causeway has therefore effectively divided the Great Salt Lake into two bodies of water (the north arm and the south arm), which have each developed distinct physical and chemical attributes most readily identified through a noticeable color difference in the waters (Figure 6-3).



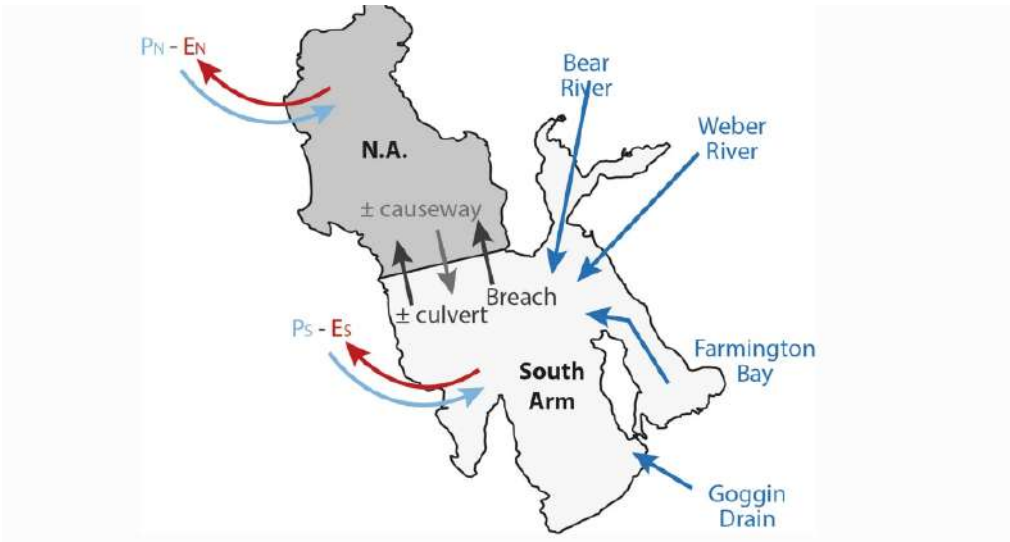
From GSL Comprehensive Management Plan, 2011

Figure 6-2: Salinity in Bays of the GSL

Source: Compass Minerals

Figure 6-3: Railroad Causeway Segregating the North and South Arms of the GSL

Due to the location of the causeway, all surface freshwater flow enters into the south arm of the lake as river inflow from the Jordan, Weber, and Bear Rivers. Conversely, the north arm of the lake receives only mixed brine via limited recharge through the causeway and minor contributions from precipitation and groundwater. Furthermore, due to topography and microclimate conditions, the south arm receives greater precipitation, while the north arm has more favorable evaporative conditions (UGS, 1980). Considering there are no freshwater inflows to the north arm and the intensity of evaporation in the summer months, the north arm acts as a hydrologic sink in the GSL terminal lake system, receiving all of the inflows from the south arm. These conditions have resulted in the preferential concentration of minerals within the north arm brine relative to the south arm brine. Figure 6-4 provides an illustration of the inflows to the GSL, including direct precipitation (Ps) and Evaporation (Es) and the four primary river basins (note Goggin Drain is the inflow from the Jordan and Provo Rivers (Jewell, 2021).



Source: Historic low stand of Great Salt Lake, Utah (Jewell, 2021).

Figure 6-4: Inflows and Evaporative Outflows

Recent sampling for the Utah Geological Survey (UGS, 2021) data shows that overall potassium, magnesium, and sodium concentrations in the north arm are typically more than double those found in the south arm. These data reflect the impact of the causeway and environmental factors and allow for a review of potential resources to consider the north arm and south arm of the Great Salt Lake independently.

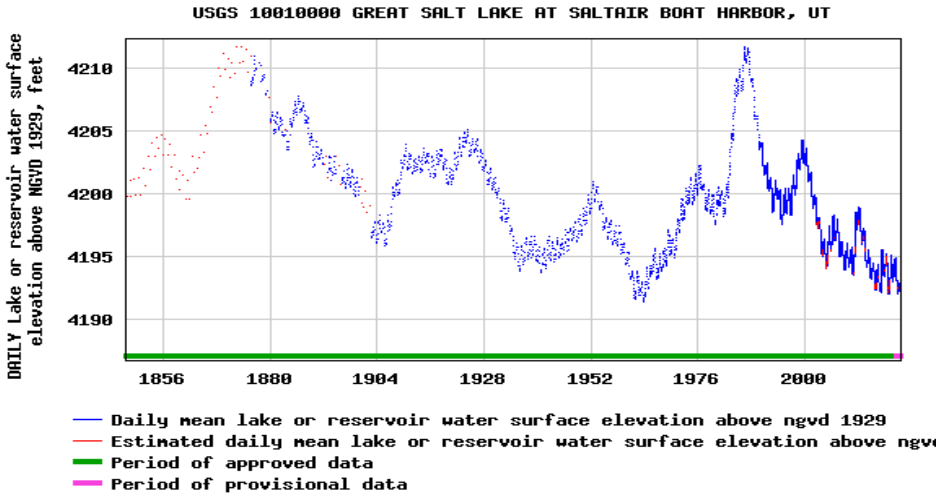
Compass Minerals' GSL Facility extracts brine from the north arm of the Great Salt Lake into a series of evaporation ponds. The brine is concentrated in these ponds, moving from pond to pond as the dissolved mineral content in the brine increases.

6.1.1 Lake Level Fluctuations

Long-term consideration of lake levels at the Great Salt Lake is required given the potential 140-year life of the Ogden Plant, based on the resource base and production rate of the operation (see Section 13). Inflow to the lake is variable on an annual basis and is dependent upon levels of rain flow, runoff from snowmelt (and hence prior to the year's snowpack) and upstream consumption of water (agricultural, industrial, residential, etc.). Evaporation from the lake, which is the primary means of water loss from the system, is also variable and dependent upon a number of factors such as current areal extent of the lake, salinity, cloud cover, daily temperatures and daily wind levels. On a year-to-year basis, all of these factors vary significantly and therefore lake levels are volatile.

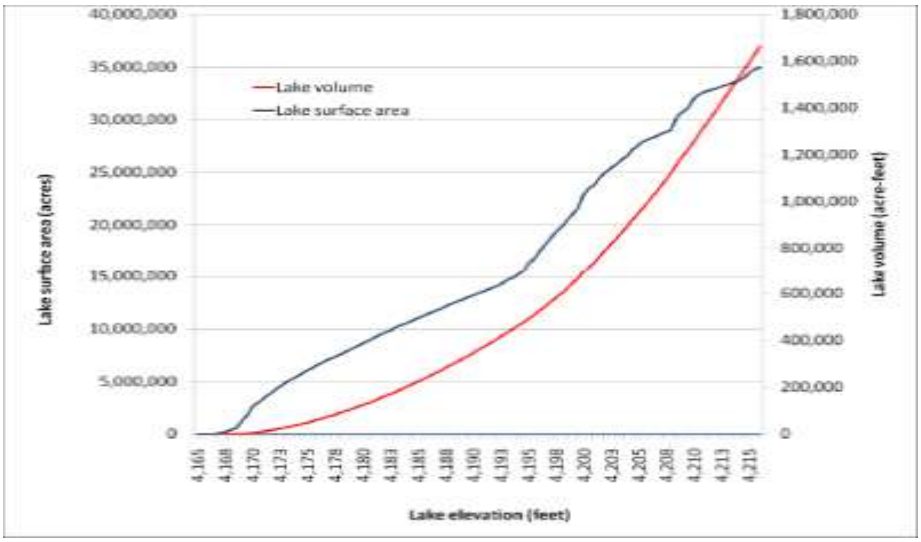
As can be seen in Figure 6-4, even on a relatively short approximate 170-year timeframe between 1847 and 2021, water levels have varied by more than 20 feet. The most recent lake level data shown in the

figure illustrates that the lake has gone from a historical high level in the mid-1980s to a level approaching the historical low reached in the 1960s. The concern in the 1960s was reportedly that the lake would dry up when the lake was at its lowest level, while in the 1980s, there was significant surface infrastructure ruined by flooding when the lake was at its highest level. In fact, levels were so high that water was pumped to the West Desert to attempt to control lake levels. On a geologic timeframe of thousands of years, especially the Pleistocene glacial period, lake levels have varied even more, by hundreds of feet.



Source: USGS, 2021 (accessed January 2021 at http://ut.water.usgs.gov/greatsaltlake/elevations/)

Figure 6-5: Historic Lake Levels for the Great Salt Lake



Source: Baskin, 2011

Figure 6-6: Great Salt Lake Volume / Area Relationship

From a resource basis standpoint, there are two material impacts due to changes in lake levels:

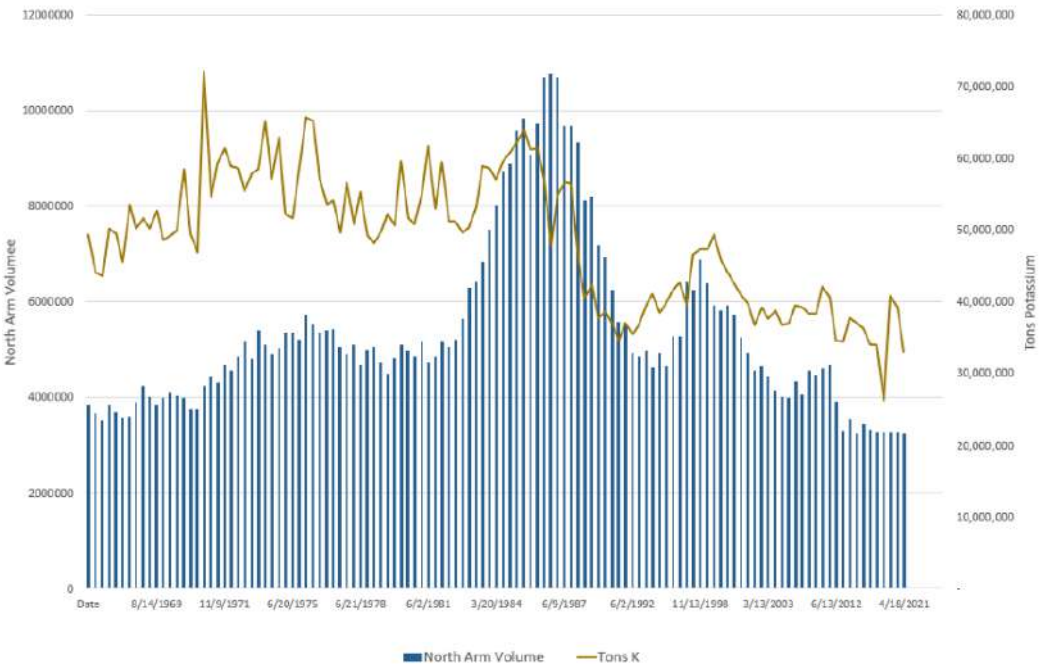
- Rising and falling lake levels drive significant changes in water volume. As seen in Figure 6-6, the volume change between the recent historical low lake elevation (4,191 feet in 1963) and the recent historical high elevation (4,212 feet in 1986 and 1987) is approximately 250%. With a largely fixed dissolved mineral content in any year, an increase in water volume decreases the concentration (grade) of minerals suspended in solution and conversely, a decrease in water volume increases the concentration (grade) of the contained minerals. This relationship is illustrated in Figure 6-7 which shows lake level relative to potassium concentration in north arm pool based on data collected from UGS north arm sample location LVG4 (described in Section 7). Given the exponential increase or decrease in volume related to elevation shown in this figure, the impact to concentration can more than double (or cut in half) concentration levels of potassium ion suspended in the brine.

Compass Minerals

Figure 6-7: Relationship between North Arm GSL Level and Potassium Concentration

- Changes in the concentration of dissolved minerals can cause ions to reach saturation and begin precipitating from solution (i.e., depositing on the bed of the lake). While especially relevant to sodium ions, this is relevant to potassium ion as well. Research conducted by Goodwin in 1973 estimated the volume of precipitated salts on the north arm lakebed in the form of a crust at approximately 1.1 billion tons (Goodwin, 1973). Goodwin further evaluated the mineralogy of the crust and determined that sylvite (potassium chloride) had deposited in lakebed crust samples collected in 1970, while not present in cores collected in 1972. Goodwin postulated that the sylvite could have dissolved between 1970 and 1972 from fresh water flows over the exposed salts and flowed back into the north arm pool, as GSL elevation continued to increase. GSL elevations were at an all-time low in 1962, and gradually increased through the early 1970s. As shown in Figure 6-3, GSL elevations in the 2010s were generally below 4,295' as they were during the period leading up to Goodwin's salt-crust testing in 1970. Considering the documented presence of sylvite in north arm crust samples collected in 1970 following a low-lake stage regime, it is likely that deposition of sylvite is presently occurring again and present in precipitated salts that have deposited in the 2010s. While concentrations of dissolved salt are increasing in the north arm of the GSL during periods of recession, the volume of brine also

decreases, creating a reduction in dissolved potassium load in the north arm of the GSL, and an increased volume of precipitated salts on the bed of the north arm. This relationship is illustrated in Figure 6-8 that shows north arm volume of brine and tons of potassium in suspended in brine within the north arm pool based on data collected from UGS north arm sample location LVG4 (described in Section 7).



Compass Minerals

Figure 6-8: Relationship between North Arm Volume and Potassium Load

With 1.2 billion tons of salt deposited as salt crust on the north arm of GSL lakebed in 1970, the volume of potassium would have been 3,360,000 tons of potassium, or approximately 5% of the current measured potassium in the GSL, considering potassium was found in salt crust samples at 0.28 weight percent with an error factor of +/-0.16. Notwithstanding, the deposited salt is not depleted from the GSL system, as it resides on the legal lakebed of the GSL defined as the Meander Line below the Ordinary High Water Mark of GSL, and is readily re-dissolved as lake levels increase and or direct precipitation dissolves the deposited salt and returns the salt to solution flows back to the GSL (Goodwin, 1973 and UGS, 2016). This complex dynamic, therefore, creates challenges and uncertainty in calculating the volume of potassium in the GSL since potassium precipitates out of solution when the lake is at low elevations because of the presence of precipitated potassium in the salt crust within the boundary of the lakebed that will eventually wash back in to solution during the annual and seasonal ebb and flow of lake elevation.

6.1.2 System Recharge

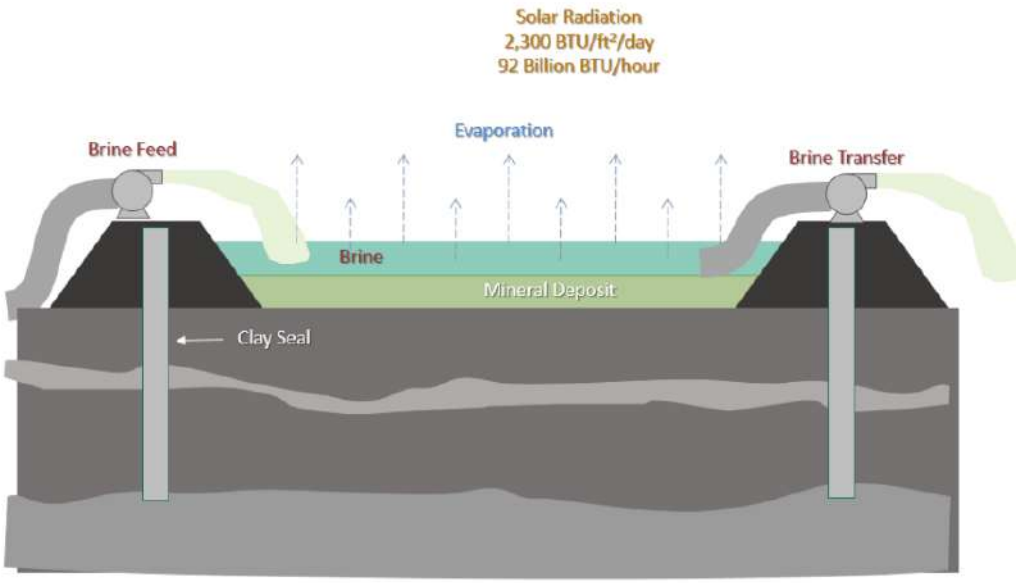
As previously mentioned, there is ongoing recharge of the ions present in the Great Salt Lake brine from the surface and groundwater inflows to the lake. From the QP's literature review, studies that have evaluated system recharge have focused primarily on river and spring inflows. From a volume basis, these surface water inflows have averaged approximately 66% of total inflow to the lake with rainwater accounting for approximately 31% and groundwater 3% (UGS, 1980). Given rainwater is assumed to be relatively pure and therefore adds limited loading to the lake and the small volume of groundwater entering the lake, the QP believes it is reasonable to assume that most ionic recharge to the lake is from surface water. The surface water recharge to the lake has been estimated to add approximately 0.1% annually to the total ionic load in the lake (UGS, 1968). This value can be material over the long-term period evaluated for the reserve estimate and is considered for the reserve model (see Section 12.2). However, for the resource estimate, a static model is utilized for the effective date so recharge was not included in the resource basis.

6.2 Mineral Deposit Type

The Great Salt Lake is a terminal lake that hosts enriched brine containing dissolved minerals at concentrations sufficient for economic recovery of certain resources. The mineral resource of the Great Salt Lake currently supports economic recovery of sodium (as NaCl), potassium (as SOP), and magnesium (as $MgCl_2$).

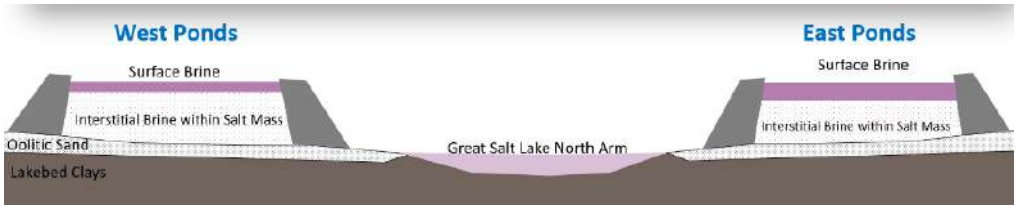
6.3 Stratigraphic Section

A not to scale cross section of a typical evaporation pond is provided as Figure 6-9, and a relational cross section of evaporation ponds the GSL is provided in Figure 6-10.



Compass Minerals

Figure 6-9: Typical evaporation pond cross section



Compass Minerals

Figure 6-10: Relationship between GSL and Evaporation Ponds

7 Exploration

Exploration activities related to the potassium and SOP mineral resources and reserves at Compass Minerals' GSL Facility include sampling and surveys of the GSL. The following describes the exploration activities undertaken to develop the data utilized within the mineral resource and reserve estimate.

7.1 Procedures - Exploration Other than Drilling

For the GSL, non-drilling exploration is the primary source of information supporting the resource estimate.

7.1.1 Great Salt Lake

Data to support the potassium and SOP resource and reserve estimates for the Great Salt Lake were sourced from historical literature and data produced by the UGS or USGS related to the Great Salt Lake, supplemented by recent sampling data performed by Compass Minerals. Compass Minerals did not conduct an independent audit of historic exploration methods or sampling and analytical analysis. However, given that almost all data is sourced from the USGS and UGS, in the QP's opinion, it is reasonable and appropriate to rely upon this data, especially given the wide range of data over many years that reflects consistency from data set to data set, including recent sample data collected by Compass Minerals.

The data available for the Great Salt Lake include the following:

- Lake level elevation data and trends to estimate total brine volume, measured by the USGS
- Historical potassium concentrations within the Great Salt Lake, measured by the UGS
- Recent potassium concentrations within the Great Salt Lake, measured by Compass Minerals
- Recent potassium concentrations at the intake for brine into Compass Minerals' evaporation ponds, measured by Compass Minerals
- Bathymetry data for the lake bottom, measured by the USGS

Lake Level Elevation and Brine Volume

The water level within the Great Salt Lake is monitored at several points within the north and south arms of the lake. Sample data is collected by the USGS and the locations utilized for this resource estimate include USGS 10010100 Saline (north arm) and USGS 10010000 Saltair Boat Harbor (south arm).

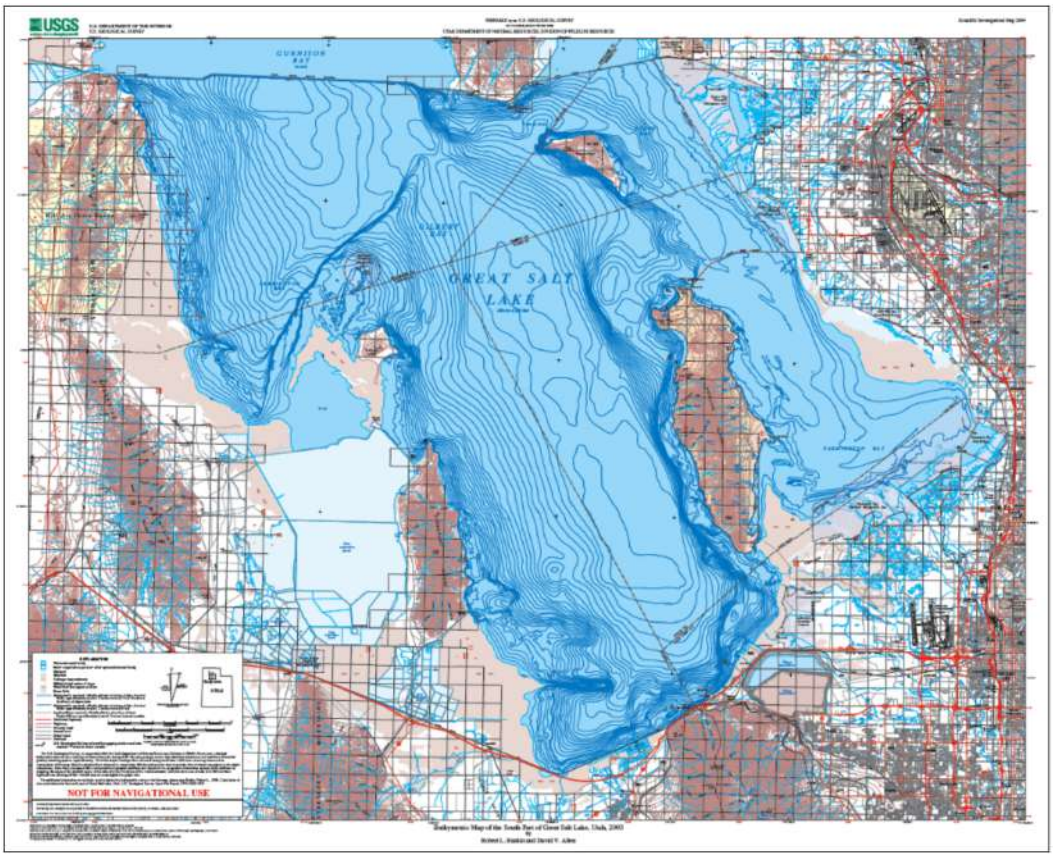
As noted in Section 4.2, the water elevation in the lake has varied significantly over time. Over the past 50 years, the lake elevation has ranged from a low of approximately 4,189 ft amsl to a high of approximately 4,211 ft amsl in the north arm of the lake, equating to a variation of more than 20 ft in

elevation (Figure 7-1). As seen in this figure, the water elevation in the south arm is close to that in the north arm although almost always higher, with the average differential typically around 1 ft.

Source: Modified from USGS 2021

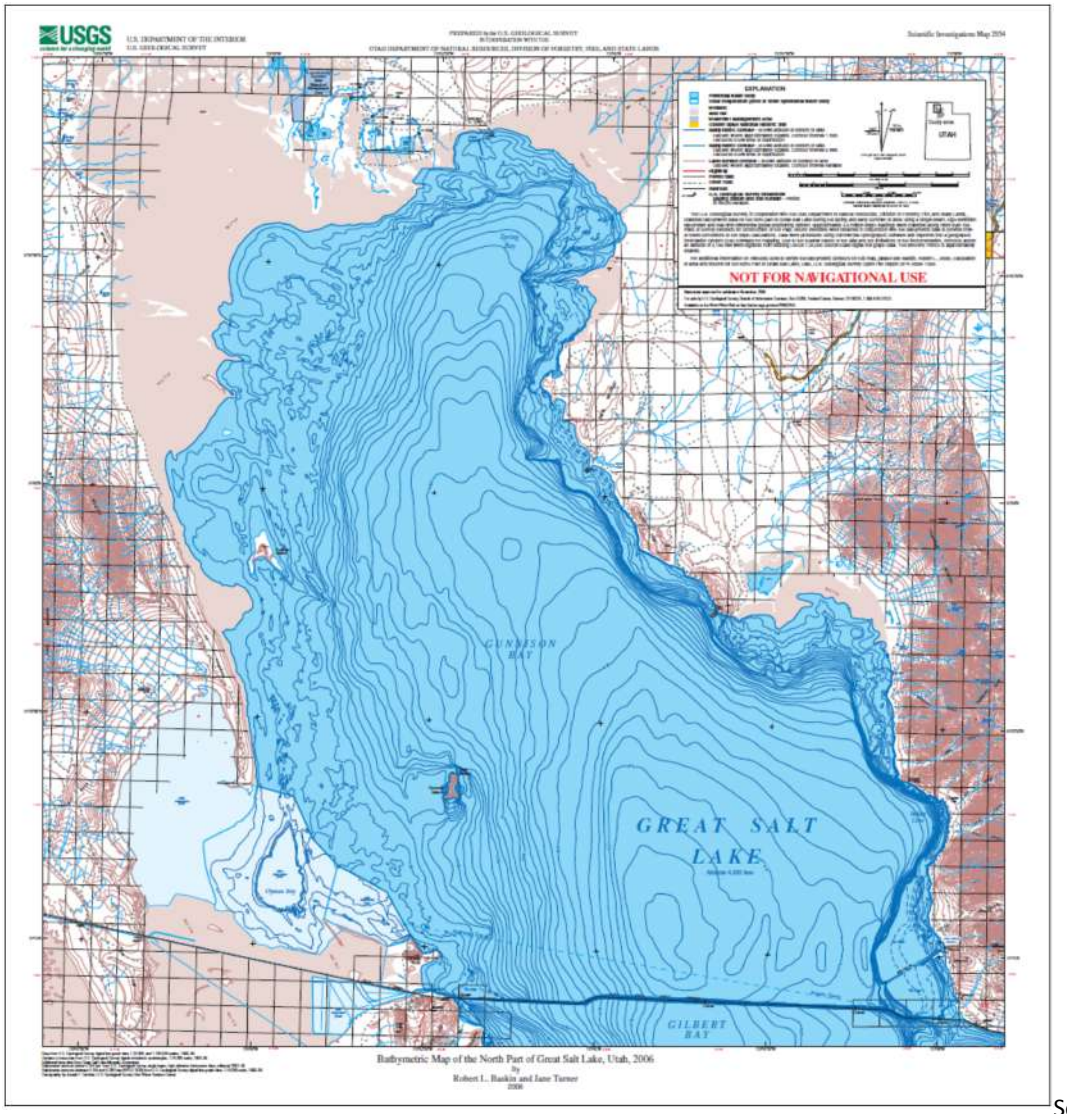
Figure 7-1: Lake Elevation Data for the Great Salt Lake

The depth profile, or bathymetry, of the Great Salt Lake has also been studied in detail, with bathymetric studies completed in 2000, 2005 and 2006 (USGS 2000, 2005, 2006). Figure 7-2 shows the 2005 bathymetric data for the south arm of the lake and Figure 7-3 shows the 2006 bathymetric data for the north arm. Notably, the more recent 2005/2006 data only surveyed the lake to an elevation of 4,200 feet. While there are periods where the lake is above this level, the 2000 lake survey includes survey data to 4,216 feet that can be utilized for these higher lake levels. Given the use of both data sets in the analysis, Compass Minerals took the average of the older 2000 data and the more recent 2005/2006 data for elevations where both data points were available. For levels above 4,200 feet, Compass Minerals solely relied upon the 2000 data. Notably, within the range of lake levels evaluated, the average of the data set was within 1-2% of the 2005 / 2006 data with a maximum of 5% differential. Therefore, in the QP's opinion, the use of the average is a reasonable approach.



Source: USGS, 2005

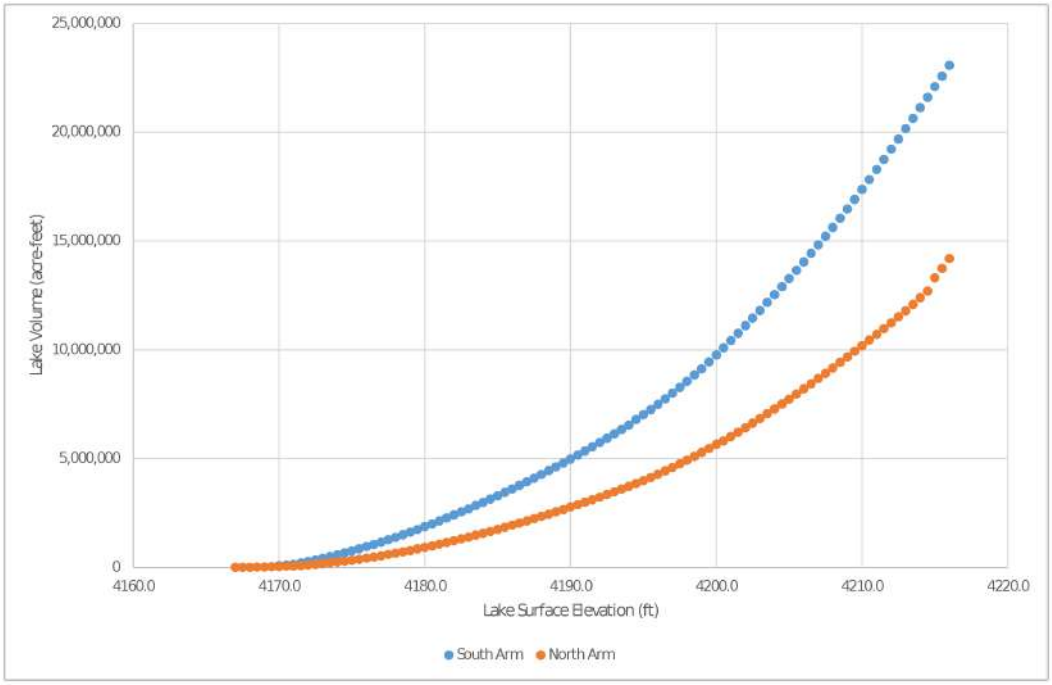
Figure 7-2: Bathymetric Map of the South Arm of the Great Salt Lake



Source: USGS, 2006

Figure 7-3: Bathymetric Map of the North Arm of the Great Salt Lake

Based on the water elevation of the lake, the overall volume of each arm of the lake can be calculated with analysis of the bathymetry data. The USGS analyses present this data on 0.5 ft increments (Figure 7-4). Daily lake elevation data is generally collected in 0.1 foot increments and therefore, for volume calculations, lake volume data between the 0.5 foot elevation data increments is interpolated linearly.



Source: Modified from USGS, 2000, 2005, 2006

Figure 7-4: Relationship between Lake Water Elevation and Total Volume of the Lake

Brine sample locations are summarized in UTM format using a NAD83 grid in Table 7-1 and illustrated in Figure 7-5. Sampling is completed using the following procedures:

- Travel by boat to the defined coordinates using the boats navigational systems
- Sampling is completed by using a graduated hose with a weighted metal screen
- Sample intervals of 5 ft across the full depth profile of the lake. This is important given that ion concentration over the water column can vary significantly (generally increasing at depth, especially in the south arm)
- Prior to each sample being taken the hose is flushed with water from the desired depth to clear brine from the previous sample and reduce potential contamination
- Samples are collected in pre-labelled 250 mL bottles, and dispatched to the laboratory.

Sample Location ID	Lake Arm	Longitude	Latitude	UTM Easting	UTM Northing
LVG-4	North	112.7616	41.3240	352571	4576225
RD-2	North	112.7483	41.4415	353947	4589248
AS-2	South	112.3249	40.8165	388265	4519236
AC-3	South	-112.4466	40.9999	378337	4539758
FB-2	South	112.4608	41.1349	377394	4554765

Source: UGS, 2012

Table 7-1: UGS Sampling locations

Data to support the resource estimate was sourced from historical literature and data related to the Great Salt Lake. The QP did not conduct an independent review of exploration methods or sampling and analytical analysis. However, given that almost all data is sourced from the USGS and UGS, the QP is comfortable that sampling and analysis is reliable and appropriate, especially given the wide range of data over many years that reflects consistency from data set to data set.

In general, data relied upon includes the following:

- Brine samples collected from a number of sampling points throughout the north and south arms of the lake;
- Notably brine samples have largely been collected at a regular interval (i.e. five feet) across the entire depth profile of the lake. This allows for a reasonable estimate of the concentration of the full depth of lake water versus single point samples. This is critical given that ion concentration over the water column can vary significantly (generally increasing at depth, especially in the south arm).
- Lake elevation measurements collected at two primary locations (Saline - north arm and Saltair - south arm),
- Bathymetry collected by sonar survey,
- Flow rates (pumping and inflow to the Operation's evaporation ponds), and
- Evaporation rates developed over the timeline of the data available.

Recent Potassium and other Ion Concentration Data in Great Salt Lake Brine

During 2020 and the first half of 2021, Compass Minerals has conducted independent sampling within the GSL from the three of the five sampling locations used by the UGS. Sampling has been completed from LGV-4 and RD-2 in the north arm, and from FB-2 in the south arm (Figure 7-5). The AS-2 location has not been sampled as it lies further south within the lake.

Sampling procedures have been designed where possible to mimic the methodology used by UGS in the historical database.

Sampling is completed using the following procedures

- Travel by boat to the defined coordinates using the boats navigational systems
- Sampling is completed by using a graduated high density polyethylene (HDPE) hose with a weighted metal screen
- Sample intervals of 5 ft have been used
- Prior to each sample being taken the hose is flushed with water from the desired depth to clear brine from the previous sample and reduce potential contamination
- Samples are collected in pre-labelled 250 mL bottles, and dispatched to the laboratory.

Compass Minerals has taken a total of 70 samples during this period plus additional sampling for quality control including field duplicates and field blanks, from the three locations. Compass Minerals has split each of the sampling locations into four portions which are defined as the deep, intermediate, shallow and surface samples. A summary of the results over the time period is presented in Table 7-2.

Row Labels	Count	Average of Boron (mg/L)	Average of Calcium (mg/L)	Average of Potassium (mg/L)	Average of Lithium (mg/L)	Average of Sodium (mg/L)	Average of Magnesium (mg/L)
FB-2 Deep	6	34.9	314	4,642	37.8	61,614	7,293
FB-2 Deep Intermediate	6	28.0	306	3,908	30.7	51,217	6,102
FB-2 Deep Shallow	6	24.5	282	3,162	25.9	41,233	5,002
FB-2 Shallow	5	23.8	280	3,380	27.2	47,480	5,274
FB-2 Shallow Intermediate	6	25.0	275	3,442	27.6	44,640	5,347
LVG-4 Deep	6	45.9	398	7,870	58.6	97,586	11,877
LVG-4 Intermediate	6	46.2	355	7,475	56.8	99,400	11,448
LVG-4 Shallow	6	45.8	348	7,545	57.0	96,867	11,550
LVG-4 Surface	4	42.8	342	7,058	52.6	87,975	10,595
RD-2 Deep	6	47.7	349	7,305	55.2	92,400	11,073
RD-2 Intermediate	6	46.6	371	7,463	56.8	96,586	11,332
RD-2 Shallow	6	48.5	401	7,665	57.4	97,283	11,545
RD-2 Surface	1	48.4	266	7,380	51.6	79,000	9,920
Sub Total	70	38.5	335	5,934	45.4	76,407	9,058

Source: Compass Minerals, 2021

Table 7-2: Summary of Compass Minerals Sampling Split by Location and Depth Classification

It is the QP's opinion the sampling methods involved are appropriate and representative of the GSL and by using a similar process to the UGS allows for the databases to be combined within the current estimates. The QP believes that the samples labelled as shallow, intermediate and deep in the north arm of the GSL are the most indicative of lake concentration since surface samples are susceptible to recent precipitation events and the stratification of fresher water.

7.2 Exploration Drilling

Salt accumulates in certain ponds in the Company's evaporation ponds that are not mechanically harvested or managed through mineral return activities. The accumulated salt contains interstitial brine which contains lithium, potassium and magnesium mass load. The lithium content was estimated by the QP in July 2021 and described in a Technical Report Summary released by the Company on July 13, 2021. The Company has not endeavored to estimate other resources, including potassium, in the interstitial brine until it completes engineering relative to the possible extraction of lithium from the interstitial brine resource.

7.3 Procedures – Drilling Exploration

No drilling was conducted.

7.4 Characterization of Hydrology

The Utah Department of Natural Resource's Great Salt Lake Comprehensive Management Plan was finalized in 2011, and presented a through summary of the hydrology of the Great Salt Lake. Much of the following narrative was derived from this source.

GSL is a remnant of Pleistocene Lake Bonneville and occupies the lowest point in a 34,000-square mile drainage basin. Climate, basin configuration, and the result of erosion and deposition determine lake depth, size, and salinity. At the water elevation of 4,200 feet above sea level, GSL has a surface area of 1,608 square miles, making it the fourth largest terminal lake in the world. The average depth of the lake is approximately 14 feet when it is at an elevation of 4,200 feet. Because of the broad, shallow nature of GSL, a small change in lake level results in a large change in lake area. Bear River Bay is the freshest part of the lake due to inflow from the Bear River and the relatively small outlet to the main body of the lake. Bear River Bay is bounded by the Promontory Mountains to the west and the Northern Railroad Causeway to the south. The north arm of GSL, also known as Gunnison Bay, is naturally more saline than the rest of the lake because it receives the least amount of freshwater inflow. Since the 1960s, Gunnison Bay has become hypersaline due to restricted flow between the north and south arms due to the Northern Railroad Causeway. The south arm of GSL, including Gilbert Bay and Ogden Bay, is the largest area of the lake and receives inflow from the Weber River. Farmington Bay, in the southeast of GSL, receives inflow from the Jordan River and is also fresher than the south arm. Although salinity gradients exist naturally in GSL, they have been accentuated by the fragmentation of the lake through causeway and diking.

The GSL Basin is one of many closed basins in the Great Basin and encompasses most of northern Utah, parts of southern Idaho, western Wyoming, and eastern Nevada. GSL receives approximately 3.5 million acre-feet of fresh water each year, primarily from the Bear River, direct precipitation, the Weber River, and the Jordan River (Table 2.3). Groundwater flows are a minor hydrologic contributor to the lake and occur in the form of subsurface flow. These freshwater additions are incorporated into the tributary values in Table 7-3 and account for only 3.6% of total inflow (DWRe 2001). The western portion of the basin includes the West Desert, which does not produce any notable surface-water flows but does contribute a small amount of groundwater to GSL. The three major rivers to GSL carry water and constituents from complex watersheds that include diverse land cover types, geomorphic structures, and land uses as well as a wide range in elevation, slope, and physical and ecological characteristics (GSL Comprehensive Management Plan, 2011).

Tributary	Drainage Area (square miles)	Average Annual Precipitation (inches per year)	Average Annual Flow to GSL (acre-feet per year)	Total (%)	Discharge Location in GSL
Bear River	7,118	21	1,450,000	40.5%	7% to Bear River Migratory Bird Refuge 93% to Bear River Bay
Weber River	2,476	26	640,300	18%	Ogden Bay Waterfowl Management Area (WMA), other waterfowl management areas, and Willard Bay
Jordan River	805*	23	438,000	12%	Farmington Bay, Gilbert Bay, various duck clubs, and the Inland Sea Shorebird Reserve
West Desert Basin	18,281	10	54,000	2%	Gilbert Bay and Gunnison Bay
Direct precipitation	1,500	12.5	1,000,000	28%	Entire lake
Total	**30,180†**	–	**3,582,300**	**100%**	–

Source: DWRe (2001).
* 4,651 square miles if including Utah Lake Basin.
† 34,026 including the Utah Lake Basin.

Table 7-3: Inflows to the GSL

7.4.1 Natural Fluctuations of Lake Level

Lake fluctuations are natural, expected, and an integral component to the GSL system. The watershed of GSL responds to climatic variability, including precipitation, streamflow, temperature, and other hydrologic processes. Lake hydrology, watershed processes, and regional and global climatic processes affect lake level. As the lake level goes down, the volume of the lake also goes down and salinity increases.

The physical configuration of the lake and its high salinity create a buffering effect on the rate of evaporation of the lake. In general terms, as the lake rises, it increases significantly in surface area and declines in salinity. These factors contribute to an increase in annual lake water evaporation and tend to slow the rise of lake level. Conversely, when the lake level drops, the surface area diminishes and the salinity increases, reducing the total annual evaporation. The lake, therefore, has a natural mechanism to inhibit drying up and has a tendency to slow its own rate of rise.

GSL has historically (defined as the period from 1847 to the present) experienced wide cyclic fluctuations of its surface elevation (Figure 2.4). Since 1851, the total annual inflow (surface, groundwater, and precipitation directly on the lake surface) to the lake has ranged from approximately 1.1 to 9.0 million acre-feet. This wide range of inflow and changes in evaporation have caused the surface elevation to fluctuate within a 20-foot range. Historically, the surface elevation of the lake reached a high of 4,212 feet in the early 1870s and a low of 4,191 feet in 1963 (Figure 2.4). The lake reached 4,212 feet again in 1986 and 1987.

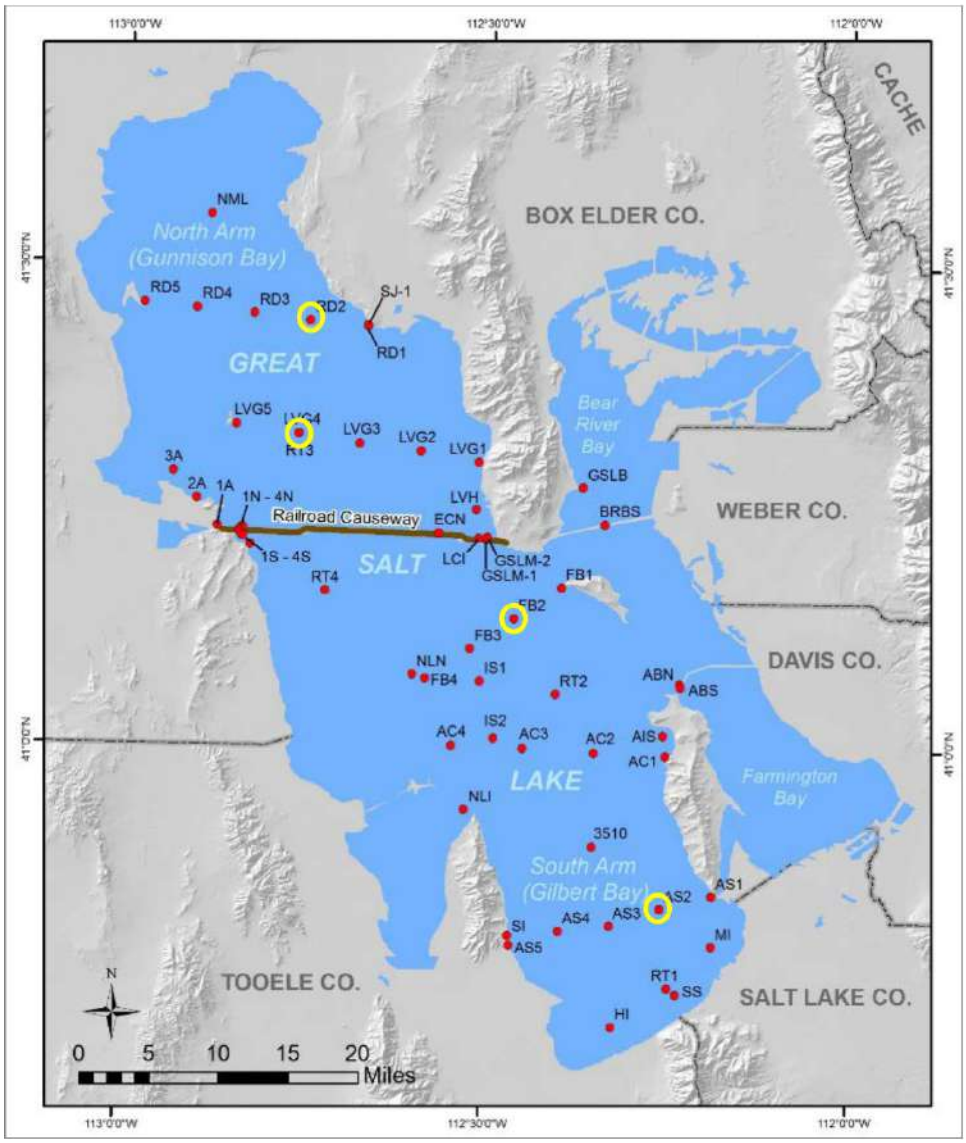
Because GSL is a terminal lake, the surface level of the lake changes continuously. Short-term changes occur in an annual cycle of dry, hot summers and wet, cool winters. The annual high lake level, which normally occurs between May and July, is caused by spring and summer runoff. The annual low lake level occurs in October or November at the end of the hot summer evaporation season.

The average, annual (pre-1983) fluctuation of the south arm, between high and low, was approximately 1.48 feet; the north arm fluctuation averaged 0.99 feet. The difference between the magnitude of the south and north arm fluctuations is due mainly to the flow-restrictive influence of the Union Pacific Railroad Causeway and the lack of tributary inflow to the north arm. (GSL Comprehensive Management Plan, 2011).

7.5 Exploration - Geotechnical Data

Geotechnical data is not applicable to a brine resource.

7.6 Exploration Plan Map



Source: UGS, 2016, modified to show Compass Minerals Sampling Locations

Figure 7-5: UGS Brine Sample Locations in the Great Salt Lake

7.7 Description of Relevant Exploration Data

Data collected to characterize the potassium mass load in GSL brine has been summarized and described in Section 7 of this document.

8 Sample Preparation, Analysis, and Security

In the QP's opinion, the sample preparation, sample security, and analytical procedures utilized by Compass Minerals all follow industry standards with no noted issues that would suggest inadequacy in any areas. Because review of sampling conducted by the UGS yielded generally consistent results and was supported by the more recent Compass Minerals sampling programs, it is the QP's opinion, this data also is reliable and reasonable to utilize for the purpose of a mineral resource estimate.

8.1 Sample Preparation and Quality Control

Samples were collected in laboratory supplied, hermetically sealed sample containers. Field personnel donned nitrile gloves during collection and handling of samples. Sample containers were labelled with location, date, time, requested analysis, and sample collector.

Once collected, samples were placed in a cooler with ice to maintain temperature at 4-degrees Celsius. Samples were also wrapped in bubble wrap to protect samples during overnight shipment to the laboratory. Samples were logged on laboratory supplied chain of custody, signed by the sample collector.

8.2 Sample Analyses

Several laboratories have been used over the time period to conduct the water sampling analysis for the GSL. All sampling has been conducted at commercial laboratories which are independent of Compass Minerals. Sampling has been completed over time for the following major ions:

- Sodium – NA^{+} (g/L)
- Magnesium – Mg^{+} (g/L)
- Potassium – K^{+} (g/L)
- Calcium – Ca^{+2} (g/L)
- Chloride – Cl^{-} (g/L)
- Sulfate – $SO4^{-2}$ (g/L)

With occasional sampling at various periods for Lithium (ppm) and Boron (ppm).

A list of the historical laboratories and procedures used is shown in taken from (Strum 1986) is shown Table 8-1. The QP notes from review of the historical reports that it was concluded that the UGMS information was of a lower quality. The QP has not used this information during the current estimate and therefore it not considered material.

Lab	UGMS Laboratory	Chemical & Mineralogical Services	American Chemical & Research	Chemical & Mineralogical Services
Years	1966-1974	1975-1978	1979-1981	1981- Present
Ions				
K	Atomic Absorption	Flame Emission	Atomic Absorption	Flame Emission
Na	Atomic Absorption	Flame Emission	Atomic Absorption	Flame Emission
Mg	Atomic Absorption	Titrametric (EDTA)	Titrametric (EDTA)	Titrametric (EDTA)
Ca	Atomic Absorption	Atomic Absorption	Atomic Absorption	Inductively Coupled Plasma
Cl	Titrametric ($AgNO_3$)	Titrametric ($AgNO_3$)	Titrametric ($AgNO_3$)	Titrametric ($AgNO_3$)
SO_4	Gravimetric ($BaCl_2$)	Gravimetric ($BaCl_2$)	Gravimetric ($BaCl_2$)	Gravimetric ($BaCl_2$)
Li	Atomic Absorption	Atomic Absorption	Atomic Absorption	Atomic Absorption
Br	Titrametric ($Na_2S_2O_3.5H_2O$)	Titrametric ($Na_2S_2O_3.5H_2O$)	X-Ray Fluorescence	Titrametric ($Na_2S_2O_3.5H_2O$)
B	Colorimetric (Quinalizarin)	Colorimetric (Quinalizarin)	Colorimetric (Quinalizarin)	Inductively Coupled Plasma

Table 8-1: Summary of laboratories used by UGS during historical sampling programs

The Compass Minerals sampling analysis has been completed using an independent commercial laboratory: Brooks Applied Laboratory of Bothell, Washington for Boron, Calcium, Potassium, Lithium, Magnesium and Sodium.

8.2.1 Sample Quality Control and Assurance

Laboratory quality control at Brooks Applied Labs followed industry standard practices. No issues were noted in the review of laboratory analysis results, or Quality Assurance/Quality Control ("QA/QC") data in support of the completed analyses at either laboratory.

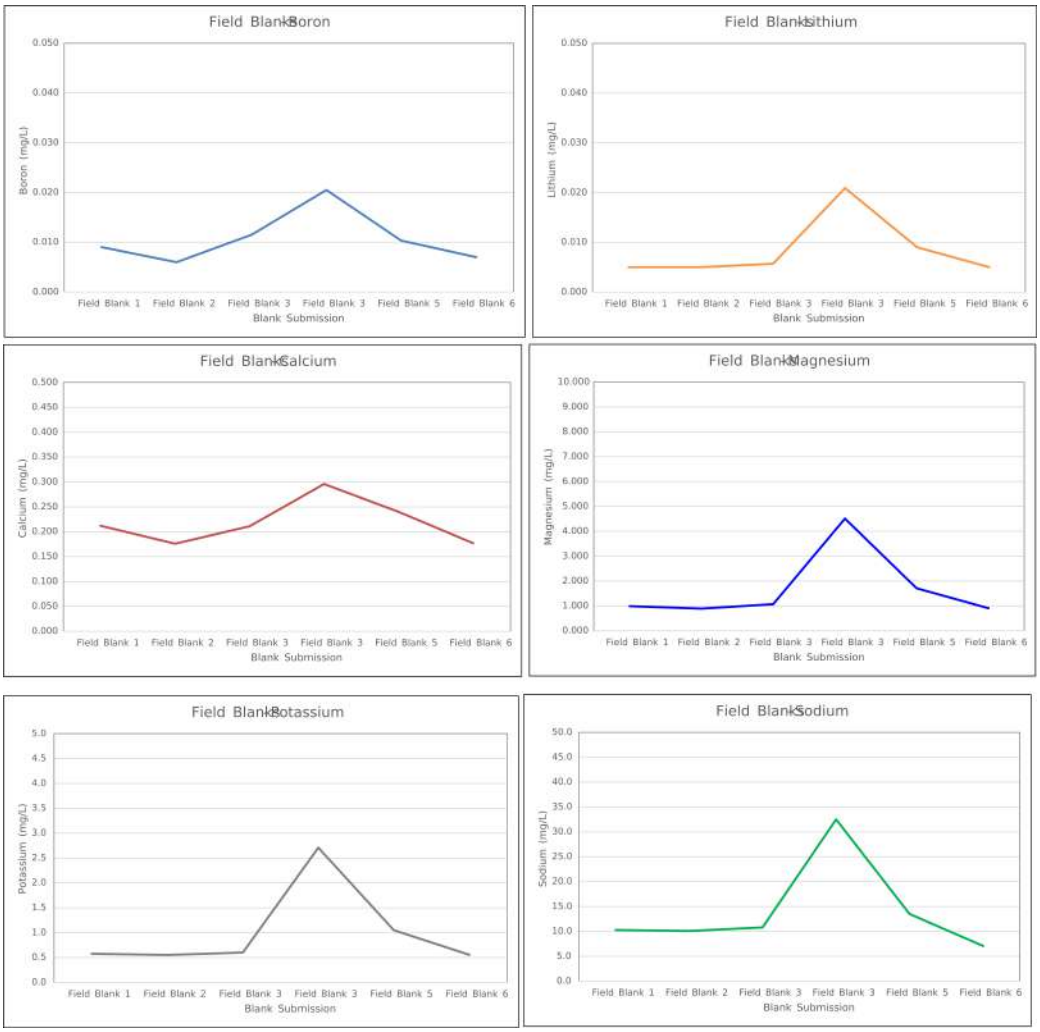
During the 2020 and 2021 GSL Sampling programs, Compass Minerals has included independent QA/QC samples for analysis which were in the form of field duplicates and blanks, and submitted as part of the routine sample stream. A total of 6 blanks and 12 duplicates have been submitted during this period with results of the submission discussed below.

8.2.2 Blanks

A total of 6 samples, which represents 6.8% of the submissions, has been included in the result for the Brooks Applied laboratory analysis are shown in Table 8-2. The results show one of the 6 samples has reported elevated results but in the opinion of the QP these values are within acceptable limits and do not suggest any contamination issues at the laboratory.

Table 8-2: Blank submissions to Brooks Applied Labs for Compass Minerals GSL submissions

			Brooks Applied Labs (mg/L)					
	Date	**Sample / Depth**	**Boron**	**Calcium**	**Potassium**	**Lithium**	**Magnesium**	**Sodium**
Field Blanks	4/2/2021	FieldBlank1	0.009	0.212	0.576	0.005	0.990	10.3
	4/2/2021	FieldBlank2	0.006	0.176	0.551	0.005	0.893	10.1
	4/2/2021	FieldBlank3	0.012	0.211	0.600	0.006	1.070	10.8
	4/18/2021	FieldBlank3	0.021	0.296	2.710	0.021	4.510	32.5
	5/9/2021	FieldBlank5	0.010	0.240	1.050	0.009	1.710	13.5
	5/9/2021	FieldBlank6	0.007	0.177	0.553	0.005	0.908	7.1



Source: Compass Minerals Sampling Data

Figure 8-1: Blank submissions to Brooks Applied Labs for Compass Minerals GSL submissions

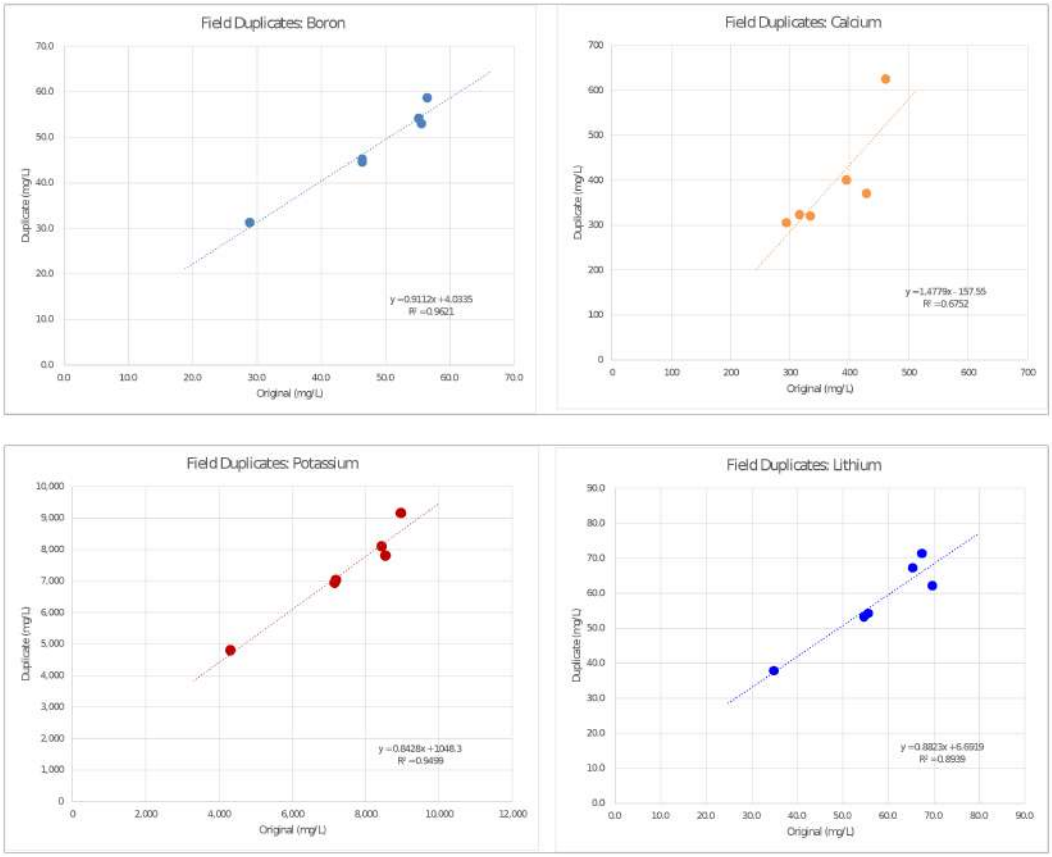
8.2.3 Field Duplicates

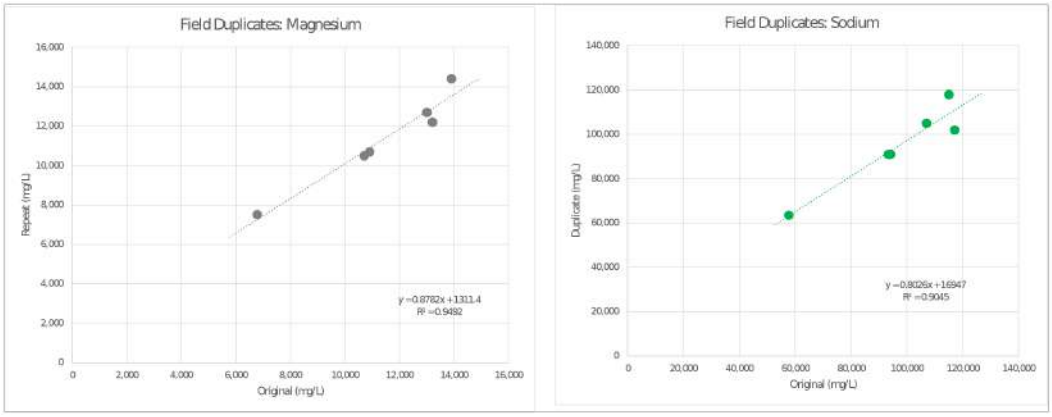
A total of 12 field duplicates have been taken during the period which accounts for 13.6% of the total submissions. The results indicate a strong correlation between the original and field duplicates with the R^2 values typically greater than 0.9, which is deemed acceptable. The Calcium results display the poorest correlation (R^2=0.67) which is impacted by one high grade outlier. A comparison of the mean grades for the original and duplicates show the means are within ± 2% with the exception of the Calcium which reported a difference of 5.4% (duplicate higher). Overall, it is the QP's opinion that the duplicate results indicate an acceptable level of precision at the laboratory.

				Original						Duplicate					
	Date	Sample / Depth	GSL Elevation	Boron	Calcium	Potassium	Lithium	Magnesium	Sodium	Boron	Calcium	Potassium	Lithium	Magnesium	Sodium
RD-2 Deep	5/9/2021	RD-2 14'	4,192.1	46.3	316	7,150	54.6	10,700	94,100	44.6	324	6,950	53.3	10,500	91,000
RD-2 Intermediate	4/18/2021	RD-2 9'	4,192.2	55.1	395	8,540	65.3	13,200	117,000	54.2	401	7,810	67.3	12,200	102,000
LVG-4 Deep	5/9/2021	LVG-4 15'	4,192.1	46.3	334	7,190	55.5	10,900	93,300	45.2	321	7,040	54.3	10,700	91,000
LVG-4 Intermediate	4/2/2021	LVG-4 10'	4,192.2	56.4	461	8,960	67.3	13,900	115,000	58.7	626	9,160	71.4	14,400	118,000
LVG-4 Intermediate	4/18/2021	LVG-4 10'	4,192.2	55.5	429	8,430	69.6	13,000	107,000	53.0	371	8,100	62.2	12,700	105,000
FB-2 Deep	5/9/2021	FB-2 22'	4,192.6	28.8	294	4,310	34.8	6,780	57,700	31.3	306	4,800	37.9	7,510	63,500
				48.1	371.5	7,430.0	57.9	11,413.3	97,350.0	47.8	391.5	7,310.0	57.7	11,335.0	95,083.3
										-0.5%	5.4%	-1.6%	-0.2%	-0.7%	-2.3%

Source: Compass Minerals Sampling Data

Table 8-3: Duplicate submissions to Brooks Applied Labs for Compass Minerals GSL submissions


Field Duplicates: Boron
Duplicate (mg/L)
Original (mg/L)
y = 0.9112x + 4.0335
R² = 0.9621
Field Duplicates: Calcium
Duplicate (mg/L)
Original (mg/L)
y = 1.4779x - 157.55
R² = 0.6752
Field Duplicates: Potassium
Duplicate (mg/L)
Original (mg/L)
y = 0.8428x + 1048.3
R² = 0.9499
Field Duplicates: Lithium
Duplicate (mg/L)
Original (mg/L)
y = 0.8823x + 6.6919
R² = 0.8939



Source: Compass Minerals Sampling Data

Figure 8-2: Duplicate Submissions to Brooks Applied Labs for Compass Minerals GSL Submissions

8.3 Adequacy of Sample Preparation

Samples were submitted to Brooks Applied Labs (BAL) in Bothell, Washington. BAL is accredited by the National Environmental Laboratory Accreditation Program (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. In the opinion of the QP, BAL is an accredited lab and analyzed samples in accordance with EPA methods of inorganic metals. After review of QA / QC protocol and all analytical data reports, the QP believes sample preparation and analysis were adequate for the design of sampling executed.

Samples were collected by the QP in laboratory supplied containers, and samples were in the custody of the QP at all times, placed in a cooler and sent to BAL under chain of custody. The QP reviewed analytical results including complete chain of custody forms signed by BAL and believes the integrity and security of samples was maintained from collection through analysis.

8.5 Analytical Procedures

Samples were logged-in for the analyses of total recoverable boron (B), calcium (Ca), potassium (K), lithium (Li), magnesium (Mg), sodium (Na), and density according to the chain-of-custody form. Samples were also logged in for anions (sulfate and chloride), and alkalinity.

All samples were received and stored according to BAL SOPs and EPA methodology.

Total Metals Quantitation by ICP-QQQ-MS

The samples were preserved with 1% nitric acid (HNO3) and 1% hydrochloric acid (HCl). All samples were digested in their original containers and placed in an oven and heated overnight. Trace metals were analyzed using inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS uses advanced interference removal techniques to ensure accuracy of the sample results.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (N/C).

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample, the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision. When the spiking levels were ≤ 25% of the native sample concentrations, the recoveries were not reported (NR). No sample results were qualified on the basis of the MS or MSD recoveries.

The results were not method blank corrected as described in the calculations section of the relevant BAL SOP(s) and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the Sample Results page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification, aside from concentration qualifiers, and all associated quality control sample results met the acceptance criteria.

9 Data Verification

9.1 Data Verification Procedures

There are no limitations on the review, analysis, and verification of the data supporting mineral resource and reserve estimates within this TRS.

9.2 Data Verification Procedures GSL

The qualified person has reviewed historical databases and documentation produced by the UGS on the sampling process and procedures within the GSL. Validation steps for the GSL database included comparison of sample pairs between sampling points on the same date (discussed in Section 7), to ensure major fluctuations were not noted within the UGS database, which reported strong correlations between all paired data.

Validation of the resource estimate begins with the long history of sample data (approximately 50 years) and the consistency of data over that period. There is some volatility in the data, especially in the early years, but peak volatility is still typically in the +/-10% range at any point in time.

Further, when comparing results and trends from individual sample sites in both the north and south arms, both the results and trends are very consistent between the sites at any point in time. To quantify the differential between the sites, trend lines can be viewed which, as previously discussed, are generally very similar when comparing like date ranges. Another test on the consistency of data between sample stations is to evaluate the samples on dates that stations were sampled on the same date and results can be directly compared.

There are 55 dates over the entire period of sampling where the three south arm stations were sampled on the same date. When comparing this data, on average, results from AS2 and AC3 varied by 2.4% for potassium (2.3% for sodium and 1.3% for magnesium). The differential between the two sample stations was greater in the early data and the more recent data (post-1973) shows peak difference between the two of around 15% for any of the constituents with most data points showing less than 5% differential.

AS2 versus FB2 showed similar results to AC3 / AS2. The average differential between these two sites is 2.5%, 3.6% and 4.4% for potassium, magnesium and sodium, respectively. Note that given the similarities already established between AS2/AC3, FB2 was not evaluated against AC3 as it is expected to would show similar results.

North arm sampling results show even better consistency. There are 77 sample dates on which both LVG4 and RD2 were sampled at the same time. Over this time period, the average differential between these two sample stations was 1.4% for potassium and 1.3% and 1.6% for magnesium and sodium, respectively. Sample dates between 1986 and 1989 (flood years) had poor consistency with double digit differential in these two sites, however, post-1989, the average differential between the two sites is 0% for all three ions and only a small number exceed even 3% differential on any single date during this time period.

Based on these comparisons, the QP believes that the data consistency and comparability between sample stations is reliable.

The QP also checked the resource model against mass flow data from the Ogden Plant. Summary data for the volume and potassium, magnesium and sodium concentrations of water pumped from the lake into the West Ponds was provided to the QP. This data provides an excellent representation of the average potassium, magnesium and sodium concentrations of the lake at the point of inflow to the West Ponds from the north arm of the lake. From conversations with site personnel, the QP understands that the pumping of lake brine into the West Ponds occurs between March and October of every year.

To check the resource model (for the north arm) against the most recent five years of pumping data, the QP took the average of the daily water levels in the north arm between March and October for every year. It then referenced the appropriate volume based on the USGS bathymetry data to get the average volume of brine in the north arm of the lake for each of the annual March to October periods. Then, utilizing the trend line for the LVG4 north arm sampling station (for potassium, magnesium, and sodium), the QP estimated the total potassium, magnesium, and sodium mass loads contained in the north arm of the lake at October 31 for each of the past five years. The QP then calculated an effective potassium, magnesium, and sodium concentrations for the north arm of the lake for each year's pumping period based on the total mass load of potassium, magnesium and sodium and the estimated brine volume based on water level data. The QP compared the modeled north arm concentration against the West Pond concentration data from the Operation.

The result of this check is that the resource model under-predicted the brine concentration by an average of 5%. The variance in the data is low with the estimates ranging from +4% to -13%, relative to actual concentrations recorded in the pumping data. Although there is a small variance in the resource model relative to the Operation's pumping data, the QP believes that it is within the margin of error and that the resource model is robust, based on this comparison. This is due to the uncertainty around the source of the bias (e.g. is the resource estimate off or is the pond feed water slightly higher concentration than the north arm in general or other factors discussed above). Notably the variance from the estimated concentration does not show any trend in the bias which suggests the trend line for the data has a reasonable slope.

Compass Minerals conducted an independent sampling program from using four of the same sampling locations. The Compass Minerals sampling procedures follow a similar process to the UGS and are considered comparable. One limitation on providing a direct comparison of results is due to a time component related to fluctuations in the water levels, the average values of the sampling are consistent with the results reported from the UGS. The latest Compass Minerals sampling has been supported by a QA/QC program which reported satisfactory results for both the field duplicates and field blanks.

It is the QP's opinion that the results from the UGS and Compass Minerals database are valid to be used within the current mineral resource estimate for the GSL.

9.3 Conducting Verifications

Verification of resource and reserve information has been limited in the past to third-party consulting and internal review by Compass Minerals corporate engineering. This is consistent with past industry practice.

9.4 Opinion of Adequacy

For the purposes of this technical report summary, the current set of analytical procedures in place for production of resource and reserve estimations is considered reasonable for the geologic, mineralogic and environmental setting in which GSL brine resource exists and are in alignment with conventional industry practice for the extraction of minerals from brines on this production level.

It is the opinion of the QP that the geologic, chemical, and hydrogeologic data presented in this TRS are of appropriate quality and meet industry standards for data adequacy for mineral resource estimation.

10 Mineral Processing and Metallurgical Testing

10.1 Nature and Extent

Ogden's central laboratory is staffed and equipped with the key instruments needed to provide analytical support to the four operational groups. Samples delivered to the Lab are either liquid (brine), or solids (with moisture content varying from 0% (products samples) to about 50% (in-process plant samples)). Solid samples are further dissolved and resulting solution is filtered prior to analyzing the elements of interest (Potassium (K), Sodium (Na), Magnesium (Mg), Chloride (Cl), and Sulfate (SO_4). Product samples are tested for purity and PSD (particle size distribution).

10.2 Degree of Representation

Product shipping samples are collected and delivered to the lab daily. Sampling frequencies for plant control samples can range from hourly to four-hourly. All samples are collected manually. Best sampling practices have been established for each work area to ensure representative samples are collected and analyzed for effective decision making.

10.3 Analytical and Testing Laboratories

Most of the site's analytical needs are met by the central lab. Special samples are occasionally sent out to external labs for heavy metal analysis and XRD (x-ray diffraction) analysis (to determine mineral phases). The site has plans of acquiring an XRD analyzer in the next 1 to 2 years. In the absence of direct mineral identification, mineral phases are calculated using the results of the 5 ion elemental analysis.

Instrument	Analysis
ICP(Inductively Coupled Plasma)	K, Na, Cl, SO4, Mg
Flame Photometer	K, Na, Li, Ca
Camsizer	PSD
XRF((X-ray fluorescence)	K, Na, Cl, SO4, Mg

Table 10-1: Summary of Analytical Instruments Utilized

The following external laboratories are set up us partners for special analysis as needed: Analytical Laboratories Inc., FL Smidth, USU (Utah State University), Huffman Hazen Laboratories, and Midwest Laboratories. Analytical Laboratories and Midwest Laboratories are ISO 17025-certified third-party labs. Huffman Hazen Laboratories is certified by the USGS for the analysis of low levels of metals in surface and ground water, and is listed among laboratories providing sample certification data on Certificates of Analyses for Standard Reference Materials for NIST and other SRM providers.

10.4 Recovery Assumptions

Recovery factors applied to production are based upon experiential and historical calibrations of results. For example, some mined product is lost to market through the production of fines during the mining process.

The key elements of interest are K, Na, Mg, SO4, Cl. Na and Mg are major contaminants for the SOP process. Higher Na and Mg levels affects SOP plant recovery and product quality. SOP plant recovery calculation is based on the ratio of potassium content in the plant feed to the potassium content in the finished product. Water insoluble content in the harvested salts and products are monitored closely to ensure the highest product purity.

Product quality continues to be an integral part of Ogden SOP operations. Critical controls established for each unit operation, from the solar evaporation ponds through the processing plant to the Loadout facility, ensure the highest quality products are delivered to Compass Minerals' customers. Overall SOP quality complaints were down by 54% for the period spanning January 1, 2021 through August 31, 2021 compared to the similar period in the prior year. Dust specific complaints however, were down by 45% compared to the same period in the prior year. The reduction in dust complaints was partly due to improved product abrasion resistance and reduced throughput through the compaction plant. A summary of 2021 SOP quality statistics for Standard and Compacted products is provided in Tables 10-2 and 10-3.

Standard Products		
Parameter	**2021 Average**	**Specification**
Potassium Oxide(K_2O)	51.90%	≥50%
Chloride(Cl)	0.20%	≤0.8%
Sulphur(S)	17.4%	≥17%
Magnesium	33.0%	≥30%
Sodium	99%	≥95%
Water Insolubles	1.50 %	<4%

Table 10-2: Quality Performance: Standard SOP Products

Compacted Products		
Parameter	**2021 Average**	**Specification**
Potassium Oxide(K_2O)	50.90%	≥50%
Chloride(Cl)	0.30%	≤0.8%
Sulphur(S)	17.1%	≥17%
Abrasion Resistance(Ag Granular)	3.5%	≤6%
Abrasion Resistance(Mid Granular)	3.6%	≤6%

Table 10-3: Quality Performance: Compacted SOP Products

10.5 Adequacy of Data

Laboratory data collected at the GSL facility is adequate for the continued production of salt and in alignment with typical conventional industry practice for the industry. The fines are considered waste and represent approximately 9.8% of the mined volume with respect to potassium, and 10% for magnesium and sodium, but are returned back to the process via plant end liquor that flows back to the ponds for recirculation back into pond-process flows. This is based upon empirical experience.

11 Mineral Resource Estimates

11.1 Introduction

The mineral resource estimation process was a collaborative effort between the QP and Compass Minerals staff. The QP sourced a suite of historical documents from public record, including brine chemistry and lake hydrological reports from the 1960s through current. In addition, Compass Minerals provided the QP with recent mineral reserve reports (2003, 2007, 2011 and 2016). Compass Minerals also provided historical pumping and chemistry data for the East and West Ponds. The effective date of the Mineral Resource Statement is September 30, 2021.

This section describes the resource estimation methodology and summarizes the key assumptions considered by the QP. In the opinion of the QP, the resource evaluation reported herein is a reasonable representation of potassium, and sodium and magnesium co-products, mass load in the brine in the north and south arm of the GSL. Once the mass load is estimated, the result is used to determine the mass of SOP.

The QP has considered economic factors likely to influence the prospect of economic extraction, including site assets and infrastructure including solar evaporation ponds, water (brine) rights, processing facilities, permitting and entitlements, and the natural, dynamic characteristics of the GSL system in terms of lake elevation and its effects on suspended mass load in its brine.

The potassium and SOP, as well as magnesium chloride and sodium chloride ('related co-products'), resources in the GSL are unique compared to other solid ore bodies in that the potassium, and related co-products, mass load is suspended in solution in an open-water body. The combination of Compass Minerals' water rights, lakebed leases, and permitting and entitlements on the GSL give it access to the ambient brine of the GSL, and therefore the potassium, and related co-products, mass therein. Compass Minerals' position on the north arm of the GSL places its pumping facilities at the lowest hydraulic point in the GSL as freshwater flows into the GSL from the south arm from the uplands, and brine naturally flows to the north arm, where there is no natural outlet, except for seasonal evaporation. Thus, all the brine in the GSL eventually flows to the north arm, unimpeded, where the potassium and other ions are held suspended in solution. While the scale of the evaporation ponds and pumping capacity, the pond concentration process, limits the volume of brine that can be pumped annually as dictated by water rights and throughput of the plant places limits on annual evaporation and production capacity, there is no limitation or bounds placed on Compass Minerals' right to the potassium and related co-product mineral resources in the GSL when the QP considers the mineral resource from a life of mine standpoint, and the fact that Compass Minerals is the only extractor selectively extracting potassium from the GSL. Unlike other solid resources, there are no physical boundaries or impediments to the entire potassium mass load of the GSL, only limitations on annual throughput governed by scope of annual consumption of brine, and pond and plant throughput capacities.

Considering that Compass Minerals has been extracting brine from the GSL for over 50 years and has experience interrogating the resource, the QP estimates the entire potassium and other co-product ion mass load of the GSL as a mineral resource, from which the volume of SOP can then be estimated. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.

11.1.1 Database

Brine chemistry data for the resource estimate was sourced from the Utah Geological Survey. It was downloaded from the website http://geology.utah.gov/resources/data-databases/#tab-id-3. The

database was updated most recently in September 2020. The database contains sample data from 59 locations. Of these 59 sample locations, there are five with recent sample data that include chemical analysis for sodium, magnesium and potassium, the critical ions of interest. These five locations are AS2, AC3 and FB2 in the south arm of the lake and LVG4 and FD2 in the north arm (Figure 7-5).

Brine chemistry data includes water elevation readings for the date of sampling. The QP cross-checked these numbers against USGS published water elevations on the same dates and found they were the same. It therefore used the water elevations included with the brine chemistry data base as daily water elevations are not available for the full range of dates from the USGS. The brine chemistry and water level data from the UGS was combined with bathymetry data generated by the USGS in 2000 (Loving, 2000). This data is provided by USGS in 0.5-foot increments in table format (combined arms displayed in Figure 7-4). A tabular version of the data for the individual arms was utilized for lake volume estimates at each sample date. Note that updated bathymetric data is available (USGS 2005 and USGS 2006). The 2005 representation for south arm is shown on Figure 7-2 and 2006 representation for the north arm is shown on Figure 7-3. However, this updated data is not available for lake elevations above 4,200 feet (the lake level was below this elevation at the time of the updated surveys). Given the importance of having a full data set, the QP utilized the older 2000 data. The QP compared the 2000 and 2005/2006 data and believes that the difference is not material enough to consider the 2000 data unreliable.

11.1.2 Key Assumptions and Parameters

11.1.3 Methodology

From review of literature related to the Great Salt Lake, most references to the salt (and ionic load in the Great Salt Lake) are based on data collected for the 1976 water year. This was due to lake levels reaching a high enough point in 1976 that precipitated halite was assumed to have been fully redissolved at this time. The excerpt below provides an example of the UGS' evaluation of the lake mineral content (UGS, 1980):

"Prior to the completion of the SPRR causeway, in 1959, the lake reached saturation with respect to sodium chloride when its elevation fell to, or below, 4196 feet (Whelan. 1973). Near this elevation, the weight percent dissolved solids in the lake remained fairly constant. Near 28%. Data from 1966 to 1970 show a decrease in the dissolved solids load present in the Great Salt Lake as a result of the precipitation of halite. Even though the annual high lake levels were above 4196 feet for several of these years, the rate of dissolution of the halite was not sufficient to redissolve the halite precipitated during those annual low lake levels. Lake volume is directly related to lake elevation and is the single greatest influence on the brine concentrations of the lake. Brine concentrations can be directly related to volume changes until that point where the brine becomes saturated with sodium chloride. Beyond that point, concentration is not always directly related to volume changes, because of the physical limitations of halite dissolution rates as compared to halite precipitation rates from the brine.

Table 7. Total dissolved solids tabulation[1] 1966-1979 near the end of the Water Years.

Water Year	SOUTH ARM BRINE Shallow (<23') g/l[2]	Shallow Tons[3]	Deep (>23')[4] g/l	Deep Tons	NORTH ARM BRINE g/l	NORTH ARM BRINE Tons	Total Tons Dissolved	Percent Distribution North	Percent Distribution South
1966	277.95	2,528.7	340.4	75.9	333.01	1,648.2	4,252.8	38.8	61.2
1967	255.80	2,350.9	323.79	130.8	339.18	1,724.8	4,206.5	41.0	59.0
1968	232.52	2,159.7	270.74	155.0	334.47	1,746.8	4,061.5	43.0	57.0
1969	212.25	2,034.0	272.20	228.4	334.47	1,794.6	4,057.0	44.2	55.8
1970	199.14	1,907.0	288.64	233.5	336.28	1,780.0	3,920.0	45.4	54.6
1971	164.63	1,664.3	258.95	360.9	315.68	1,910.1	3,935.2	48.5	51.5
1972	148.60	1,573.2	260.95	458.1	334.47	2,121.5	4,152.8	51.1	48.9
1973	138.35	1,498.1	259.77	537.2	339.62	2,274.7	4,310.0	52.8	47.2
1974	127.99	1,381.1	254.35	519.1	326.77	2,233.5	4,133.7	54.0	46.0
1975	125.51	1,386.2	261.08	582.5	338.80	2,445.2	4,413.9	55.4	44.6
1976	120.38	1,361.2	272.67	651.0	343.44	1,584.7	4,596.9	56.2	43.8
1977	141.11	1,496.6	269.03	517.2	343.08	2,377.2	4,391.0	54.1	45.9
1978	143.08	1,507.7	255.29	474.1	334.72	2,211.4	4,193.2	52.7	47.3
1979	160.12	1,651.1	258.82	393.4	341.44	2,150.9	4,195.4	51.3	48.7

[1] Sampling dates and volume data are from Table 6.
[2] Averaged values for all samples. (g/l = grams per liter)
[3] Tonnages: a) Actual tons are $x10^6$
b) Due to unknown volume of precipitated halite south arm shallow tonnages may be slightly high.
c) Due to unknown volume of precipitated halite south arm deep and north arm tonnages may be high.
d) Tons = χ g/l x volume (A.F.) x 1.3597 tons/A.F.
[4] South arm deep g/l values may be unduely high because of sampling technique and relative depth of lake at sampling locations.

Table 8. Dissolved ion tonnages in the Great Salt Lake high lake level – June 1976.

ION	SOUTH ARM BRINE Shallow (<23') g/l	Shallow Tons	Deep (>23') g/l	Deep Tons	NORTH ARM BRINE g/l	NORTH ARM BRINE Tons	Percent Distribution S.A.S.	Percent Distribution S.A.D.	Percent Distribution N.A.	Total Tons Dissolved
K	2.92	35.1	6.29	18.4	8.48	68.4	28.8	15.1	56.1	121.9
Na	34.33	412.5	75.03	219.1	105.12	847.9	27.9	14.8	57.3	1,479.5
Mg	3.81	45.8	7.78	22.7	10.40	83.9	30.0	14.9	55.1	152.4
Ca	0.185	2.2	0.381	1.1	0.421	3.4	32.8	16.4	50.8	6.7
Cl	60.46	726.5	131.78	384.9	181.73	1,465.8	28.2	14.9	56.9	2,577.2
SO_4	7.92	95.2	17.30	50.5	21.73	175.3	29.7	15.7	54.6	321.0
Li	.0181	.217	.0387	.113	.0520	.419	29.0	15.1	55.9	.749
Br	.0409	.491	.0912	.266	.1150	.928	29.1	15.8	55.1	1.685
B	.0139	.167	.0296	.086	.0400	.323	29.0	14.9	56.1	.576
Total	109.70	1,318.18	238.72	697.16	328.09	2,646.37	29.4	15.3	55.3	4,661.71
							Average % Distribution			

Lake Volumes: South Arm Shallow (S.A.S.) 8,837,000 A.F.
South Arm Deep (S.A.D.) 2,148,000 A.F.
North Arm (N.A.) 5,932,000 A.F.

From 1971 to 1976 the total tons of dissolved solids increased. Salt that had been precipitated on the lake bottom in prior years slowly redissolved as the lake level rose above 4196 feet. The rate of rise in lake elevation and the degree of mixing determined the short term or yearly concentrations of the lake brines. It is believed that all of the sodium chloride capable of being dissolved from the bottom of the north arm was in solution during June 1976, a recent high lake level. The salt from the bottom of the south arm was dissolved sometime prior to this date because of the lower brine concentration in that arm. Table 8 shows the tons of dissolved ions in the Great Salt Lake and their distribution during June 1976 when the total dissolved load was 4.66 billion tons. From 1977 to 1979 the lake level lowered and the total dissolved load decreased (see table 7), as the result of sodium chloride being precipitated in the north arm of the lake."

There has been significant changes to the lake system, directly impacting mass load of dissolved ions, since 1976 and the reliability of an estimate based on data from a single point in time is questionable. There has also been an uncertain amount of recharge due to lake inflows. Finally, a significant amount of brine was pumped from the Great Salt Lake to the West Desert in 1987 to 1989 to attempt to control flooding.

The West Desert pumping project was implemented to slow the rise of lake levels between 1987 and 1989. During this timeframe, reduced evaporation and increased inflow caused the lake to rise to historically high levels and caused significant flood damage to structures and infrastructure, including US Magnesium and the Ogden Plant's evaporation ponds. This pumping project had a material negative

impact on ion content of the Great Salt Lake with most of the salt content of the lake water pumped to the West Desert lost from the system. The USGS completed a study in 1992 evaluating the amount of ion load lost due to the first year of pumping from this project (USGS, 1992). This study estimated that in this first year of pumping, approximately 7.2% of the contained ion load was pumped out of the lake with approximately 10% of that amount eventually making its way back to the lake. However, there is significant uncertainty as to the amount of loss for the remainder of the project and it is not clear how reliable this USGS estimate is.

Therefore, given that there is a long history of water level and brine chemistry data for the Great Salt Lake, the QP elected to utilize this time series of data to estimate the total dissolved ion load (for sodium, magnesium and potassium) in the lake for each point of sampling data. This is possible as there are water level readings associated with every sample collected and there is a water level / lake brine level relationship table that has been published by USGS (see Figure 6-5, this data is available independently for both the north and south arms of the lake which further improves the data resolution). The total dissolved ion load can therefore be estimated by multiplying the average measured concentrations (across the full depth of the lake) by the lake brine volume on that date, based on the recorded water level.

For the five sample locations, based on the data discussed in Section 7.1, the QP estimated the mass load of potassium, magnesium and sodium produced by the Operation for each sample date. The QP then graphed this data for potassium (as the primary product) in a time series to evaluate trends in the data and assess volatility in the data. Examples of the full-time series of data are presented in Figure 11-1 and Figure 11-2 for potassium.

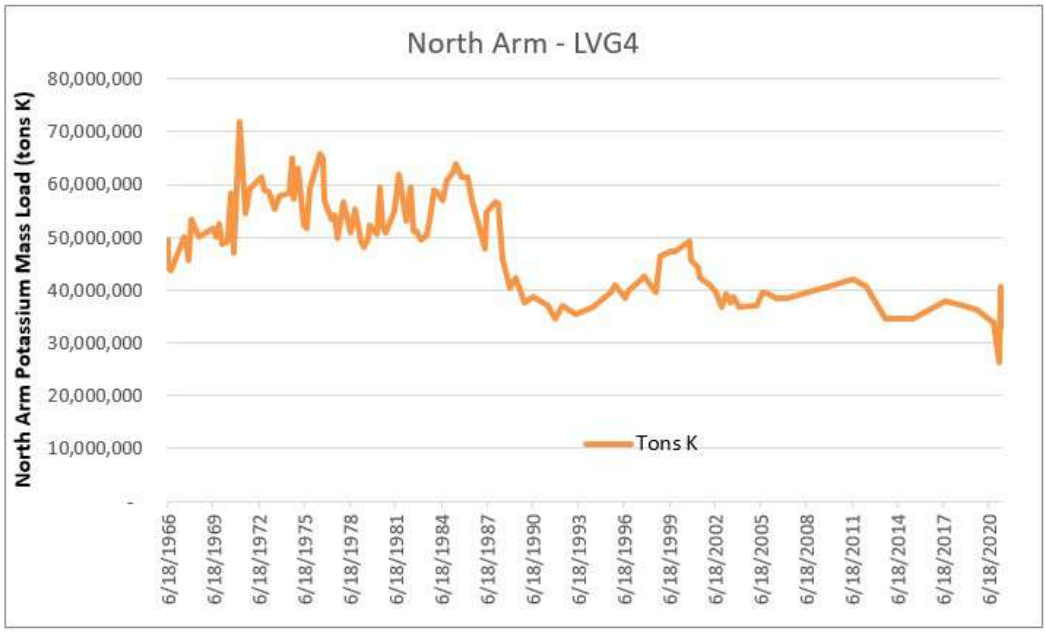


Figure 11-1: North Arm Potassium Ion Lake Mass – LVG4

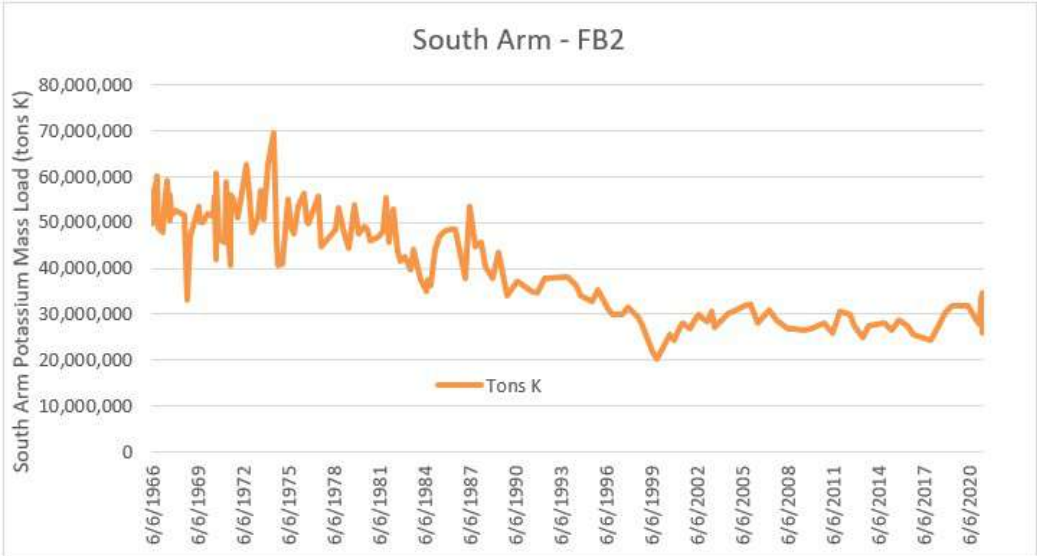


Figure 11-2: South Arm Potassium Ion Lake Mass – FB-2

As can be seen in the figures, over time, the data exhibits different behavior with two distinct populations, effectively representing lake conditions before and after the West Desert pumping project.

1966 to 1987

The 1966 to 1987 data is all recorded prior to the West Desert pumping activities.

First, both the north and south arms of the lake show a trend with significantly higher mass loads versus the more recent data. This reduced mass load in the recent data, relative to the initial period, is reflective of the West Desert pumping project and the brine / mass load that was removed from the lake system during this time frame. From a semi-quantitative review of the chart data, it appears that from a total combined load of around 100 million tons of potassium in the early data, 30 million tons or 30% of the potassium load was lost during the West Desert Pumping project. This is approximately double the load estimated to be lost by the USGS (USGS, 1992).

A second trend that appears likely in this early data is that the south arm mass load is falling and the north arm is rising. This is likely due to the construction of the railroad causeway (1959) and a transfer of ionic load due to the inflow of fresh water only into the south arm (as discussed in more detail in Section 4.2.1).

Finally, there is significantly more volatility in this early data relative to the more recent data. The reason for this volatility is not apparent, but could be a reflection of less precision in early sampling methods for brine chemistry and lake levels.

Although the first population of data is interesting from a trend perspective and for highlighting the impact of the West Desert pumping project, this data is of less use for the current resource estimate and is therefore not used in the estimate due to the drastic change driven by the pumping project rendering this data meaningless for evaluating current trends.

1989 - Current

The second population is post the West Desert pumping project. This data set starts in 1989 with the most recent samples collected in 2021.

This data set shows less volatility than the early data. However, the trend for mass load in both the north and south arms is negative during this period, although the south arm trend is much more pronounced than the north arm. This is at least partially reflective of the production of salts from the Great Salt Lake by the Operation as well as US Magnesium, Cargill and Morton Salt operations.

For the resource estimate, on the effective date, the QP took this post-1989 data and applied a linear trend line to each data set (five sample locations and potassium and magnesium ion concentrations for 5 trend lines). The intent of the trend line is to smooth the volatility (while not as severe as in the early data, it is still present) and allow for a resource estimate on a date where sampling did not occur. Sodium trends closely match both potassium and magnesium. Further, sample dates are generally not consistent between sample sites so a trend line is also required to allow for averaging of sample data between stations. Figures 11-3 and 11-4 display these trend lines. The trend lines between sample stations follow very similar paths in both the north and south arm.

Figure 11-3: North Arm Potassium Mass Load

Figure 11-4: North Arm Magnesium Mass Load

Figure 11-5: South Arm Potassium Mass Load

Figure 11-6: South Arm Magnesium Mass Load

Notably, data availability for AC3 in the south arm and RD2 in the north arm are not available over this full time period. Therefore, the trends for these station points do not follow the trends for the remaining station very closely. However, the AC3 data closely mirrors the AS2/FB2 data and RD2 closely mirrors LVG4. Therefore, instead of skewing the results with a trend over a different time period, the QP did not include the AC3 or RD2 trend lines in its resource model (trend line formulas are not displayed for AC3 or RD2 as they were not utilized).

To achieve the final resource estimate for the south arm, the QP utilized a simple average of the AS2 and FB2 sample stations by applying a December 31, 2016 date to the trend line formula for each of the sample stations. The QP then estimated a north arm resource estimate utilizing the LVG4 trend line formula and a date of December 31, 2021. The QP added the north arm estimate to the south arm estimate to calculate the resource for the total lake system.

11.2 Mineral Resource Statement

The mineral resources may be affected by further sampling work such as water sampling or sonar testing (for bathymetry). This further test data may result in increases or decreases in subsequent mineral resource estimates. The mineral resources may be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. The Mineral Resource Statement for Potassium at the GSL Facility presented in Table 11-1 was prepared by Joseph Havasi. Mineral Resources have been reported in situ and are presented as both inclusive and exclusive of Mineral Reserves.

	As of September 30, 2021				As of December 31, 2021			
Resource Area	**Average Potassium Grade (mg/L)[7]**	**Potassium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Resource (tons)[1][2][3][4][5]**	**Average Potassium Grade (mg/L)[7]**	**Potassium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Resource (tons)[1][2][3][4][5]**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	7,320	14,480,978	4,000	32,231,855	7,320	14,521,604	4,000	32,322,279
Great Salt Lake South Arm	3,060	26,057,971	1,660	58,000,000	3,060	26,057,971	1,660	58,000,000
Total Indicated Resources		40,538,949		90,231,855		40,579,575		90,322,279
Measured + Indicated Resources								
Great Salt Lake North Arm	7,320	14,480,978	4,000	32,231,855	7,320	14,521,604	4,000	32,322,279
Great Salt Lake South Arm	3,060	26,057,971	1,660	58,000,000	3,060	26,057,971	1,660	58,000,000
Total Measured + Indicated Resources		40,538,949		90,231,855		40,579,575		90,322,279
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

Table 11-1: Summary of Potassium and SOP Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of potassium to SOP uses a factor of 2.2258 tons of SOP per ton of potassium.
(4) Included process recovery is approximately 7.8% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for SOP of $573 per ton. Gross sales prices are projected to increase to approximately and $8,529 per ton for SOP through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 4,000 milligrams of potassium per liter of brine extracted from the north arm of the Great Salt Lake, and a cut-off grade of 1,660 milligrams of potassium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of potassium and SOP.
(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Resource Area	**Average Magnesium Grade (mg/L)[7]**	**Magnesium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Resource (tons)[1][2][3][4][5]**	**Average Magnesium Grade (mg/L)[7]**	**Magnesium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Resource (tons)[1][2][3][4][5]**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	11,120	52,000,000	8,638	204,000,000	11,120	52,163,000	8,638	204,640,000
Great Salt Lake South Arm	4,785	40,000,000	3,039	157,000,000	4,785	40,000,000	3,039	157,000,000
Total Indicated Resources		92,000,000		360,000,000		92,163,000		360,640,000
Measured + Indicated Resources								
Great Salt Lake North Arm	11,120	52,000,000	8,638	204,000,000	11,120	52,163,000	8,638	204,640,000
Great Salt Lake South Arm	4,785	40,000,000	3,039	157,000,000	4,785	40,000,000	3,039	157,000,000
Total Measured + Indicated Resources		92,000,000		360,000,000		92,163,000		360,640,000
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

Table 11-2: Summary of Magnesium and MgCl Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of magnesium to MgCl uses a factor of 3.913 tons of MgCl per ton of magnesium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for MgCl of $52.08 per ton. Gross sales prices are projected to increase to approximately and $816.73 per ton for MgCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 8,638 milligrams of magnesium per liter of brine extracted from the north arm of the Great Salt Lake, and a cut-off grade of 3,039 milligrams of magnesium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of magnesium and MgCl.
(7) Reported magnesium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Resource Area	**Average Sodium Grade (mg/L)[7]**	**Sodium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**NaCl Resource (tons)[1][2][3][4][5]**	**Average Sodium Grade (mg/L)[7]**	**Sodium Resource (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**NaCl Resource (tons)[1][2][3][4][5]**
Measured Resources								
Total Measured Resources	—	—	—	—	—	—	—	—
Indicated Resources								
Great Salt Lake North Arm	97,530	437,000,000	75,757	1,111,000,000	97,530	437,420,000	75,757	1,112,067,000
Great Salt Lake South Arm	46,298	406,000,000	40,365	1,032,000,000	46,298	406,000,000	40,365	1,032,000,000
Total Indicated Resources		843,000,000		2,143,000,000		843,420,000		2,144,067,000
Measured + Indicated Resources								
Great Salt Lake North Arm	97,530	437,000,000	75,757	1,111,000,000	97,530	437,420,000	75,757	1,112,067,000
Great Salt Lake South Arm	46,298	406,000,000	40,365	1,032,000,000	46,298	406,000,000	40,365	1,032,000,000
Total Measured + Indicated Resources		843,000,000		2,143,000,000		843,420,000		2,144,067,000
Inferred Resources								
Total Inferred Resources	—	—	—	—	—	—	—	—

Table 11-3: Summary of Sodium and NaCl Mineral Resources at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve upon application of modifying factors.
(2) Mineral resources are reported in situ for the both the north arm and the south arm of the Great Salt Lake.
(3) Conversion of sodium to NaCl uses a factor of 2.542 tons of NaCl per ton of sodium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for NaCl of $62.41 per ton. Gross sales prices are projected to increase to approximately and $215.66 per ton for NaCl through year 2161 (the current expected end of mine life).

(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 75,757 milligrams of sodium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 40,365 milligrams of sodium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of sodium and NaCl.

(7) Reported sodium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

11.3 Estimates of Cut-off Grades

The cut-off grade for the potassium resource in the Great Salt Lake is determined based on the mass load of potassium ion in the Great Salt Lake. Although the mineral resources are presented for north and south arms of the Great Salt Lake, the arms are connected, and Compass Minerals' intake is positioned in the north arm, which is the lowest point and ultimate terminus for brine in the GSL terminal-lake system. As brine flows into the north arm, there is no additional fresh-water dilution that can occur as there are no freshwater drainages into the north arm and the concentration of ions increase with evaporative water loss. As Compass Minerals' evaporation ponds are of fixed area, and pumping capacity is scaled to fill the acreage, and ultimate processing plant capacity is designed to process the precipitated potash from the pond concentration process, there is a nominal mass load of potassium entering the evaporation pond system that is required to maintain an economic level of extraction form the GSL resource. The mass potassium load in solution in the GSL is best measured through ion concentration in the north arm brine pool. As mineral extraction continues through the life of mine, mass load will reduce over time, thereby reducing the concentration of potassium ion in solution. The QP estimates that as mass load depletes and the resulting concentration of potassium in solution is 0.4% in ambient north arm brine or lower, the grade of potassium ion in solution will be insufficient to continue production and the remaining potassium in solution will have no economic value, and the prospect for economic extraction of potassium will cease. The corresponding grade for the south arm, which supplies the north arm with all the brine contained therein is 0.1660%.

The Ogden Site was designed and constructed for the purpose of extracting and producing potash for commercial sale. Over time, markets were identified for the commercial sale of magnesium and sodium-based co-products. The presence of co-product ions in the GSL brine is impacted by the same influences described above for potassium and potash, and the mass load of these ions in the ambient waters of the GSL will reduce over time with continued selective extraction on the GSL. While economic extraction of magnesium and sodium products is possible on the GSL, individually or in tandem, the scale of Compass Minerals' facilities as well as all pond processes are designed for the economic extraction of potassium and potash. To that end, extraction and production of magnesium and sodium products is not economically viable without the concurrent production of potassium and potash at the Company's current facility. The QP modelled the depletion of magnesium and sodium ions in GSL brine concurrent with depletion of potassium ion. At the end of life of mine for potash in 2161, magnesium concentration at Compass Minerals north arm intake is 8,638 mg/L and sodium concentration is 75,757 mg/L, both higher than current south arm concentrations of the respective ions as shown in Tables 11-2 and 11-3. Considering there are active operations on the south arm extracting magnesium at US Magnesium, and sodium chloride at Morton, the QP reasonably assumes that concentrations of magnesium and sodium at the end of the potash operation in 2161 are sufficient to support economic extraction of magnesium chloride and sodium chloride as co-products of SOP. The concentrations of both magnesium and sodium at the end of the life of the potash operation are the cutoff grade for each, as neither would be economically viable autonomously after the potash operation ceases.

Based on the average of general selling price for SOP, the QP selected $573/ton for SOP as the commodity price, with the commodity price for Salt at $62.41/ton and for magnesium chloride at

$52.08/ton. The general selling price below which the SOP operation is unable to fund its fixed costs at current production is $452/ton for SOP, $16.84/ton for salt and $9.53/ton for magnesium chloride.

For conversion of mineral resources to mineral reserves, the QP developed a depletion model for mass load (and resulting north arm brine concentrations) for potassium. This model takes the current resource estimate (effective 09/30/2021) and on an annual basis, removes mass load of potassium to account for annual production from the Operation. While US Magnesium and Morton Salt consume GSL brine, and in doing so extract potassium from the south arm lake brine, potassium salts are not sold at either operation. As US Magnesium concentrates for magnesium chloride brine, potassium salts deposit in the evaporation ponds, and the Morton Salt process deposits the target salt deposit prior to deposition of potassium. In the case of US Magnesium, potassium would eventually return back to the GSL either through pond management method to reclaim free-board airspace in evaporation ponds, or naturally through dissolution of deposited salts via direct precipitation and infiltration back to the GSL either through porous dikes and/or infiltration to groundwater. Thus, in US Magnesium's case, potassium salts remain in in US Magnesium's ponds that are located on the GSL lakebed and are eventually returned to the GSL, and are therefore not accounted as net depletions. While Morton Salt's pond process allows for the return of potassium enriched brine to the GSL before potassium deposits, Morton Salt's ponds are located outside the bed of the GSL and are therefore considered to be a depletion from the GSL potassium (and SOP) resource notwithstanding the fact that potassium bearing brine is likely returned to the lake.

While the model does not include a factor for replenishment of ions through inflow of fresh surface water and groundwater, Wally Gwynn, formerly the Utah State Geologist for UGS, calculated approximately 27,000 tons of potassium inflows the GSL annually (Gwynn Mining vs Inflow of salts to the GSL email, 2005). As shown in the figures in 11-3 and 11-4, there has been a net depletion trend in the measured mass load for the entire lake system for potassium.

To estimate this net depletion, the QP utilized the resource model to estimate the mass load in 2006 and 2015 and then divided the total depletion over that time by 10 (i.e., the number of years) to get an annual depletion estimate. No samples were collected for over two years from 2015 through 2017 because the north arm was inaccessible due to the temporary closure of the Union Pacific Causeway openings.

Since 2017, the elevation of GSL has declined considerably, breaking the record low elevation for the GSL in August 2021. Because of these conditions, the QP believes, based on salt crust sampling campaigns conducted in the late 1960s and 1970 that documented the presence of sylvite (KCl) when the lake was in a similar elevational regime as current, that sylvite precipitation is likely to be occurring in the time since 2017 as well. Potassium falling out of solution and precipitating onto the lake bed as a salt crust would act to reduce the salt load mass in the north arm pool and transitions the salt mass to a solid, temporarily until precipitation washes and dissolves this sylvite back into solution or when the lake level rises. This temporal condition would act to reduce the calculated salt load, although a depletion from the GSL system has not occurred. Applying data collected in 1970 to current conditions, approximately 3 million tons of potassium could precipitate onto the lakebed floor. Thus, the period between 2006 and 2015 provides a better indication of depletion of potassium from the north arm potassium mass load as precipitation of potassium would not have likely been occurring based on GSL elevations. Based on this methodology, the QP estimates of the annual depletion of potassium, excluding what may fall out of solution temporarily during low lake stages, is 200,000 tons of potassium per annum.

Based on the same holistic depletion factors described above for potassium, the QP estimated 239,732 tons of magnesium are depleted per annum for magnesium, and 771,586 tons of sodium are depleted per annum for sodium.

11.4 Resource Classification

Mineral resource classification is typically a subjective concept, and industry best practices suggest that resource classification should consider the confidence in the geological continuity of the modelled mineralization, the quality and quantity of exploration data supporting the estimates, and the geostatistical confidence in the estimates. Appropriate classification criteria should aim at integrating these concepts to delineate regular areas at a similar resource classification.

The QP is satisfied that the hydrological/chemical model for the Great Salt Lake honors the current hydrological and chemical information and knowledge. The mineral resource model is informed from brine sampling data spanning approximately 25 years and recent bathymetry data. Continuity of the resource is not a concern as the lake is a visible, continuous body.

The primary criteria considered for classification consists of confidence in chemical results, accuracy of bathymetric data and representativeness of a small number of spot samples for the entire lake volume. The QP considers that the confidence in continuity and volume of the lake is very good based on the visible nature and relative ease of measuring volumes. However, the QP believes that three sample locations in the south arm and two sample locations in the north arm are a relatively small number of data points, even with largely consistent chemical concentrations in the north and south arm from mixing (UGS 2016). As can be seen in the volatility of the data and the discrepancy between the concentration in FB2 versus AS2 and AC3 in the south arm of the lake, while the results are typically similar at any point in time, it is clear that the lake arms are not completely homogenous. Therefore, the entire resource has been classified as indicated.

11.5 Uncertainty of Estimates

Volumes, grade and tonnages estimated for the Ogden facility were classified in conformity with generally accepted industry practice and experience and in alignment with established guidelines. While mineral resources are not mineral reserves and have not demonstrated economic viability, the estimates made here do represent the mineral potential of the property to the extent of the best available data and knowledge. The longevity, history and established nature of the Great Salt Lake resource and Compass Minerals' experience interrogating the resource under high and low lake elevations and potassium mass loads available in solution at pump intake lends confidence to the estimates presented herein. Notwithstanding, as discussed in Section 11.4, the resource estimate is based on a relatively small number of samples, and the timing of the collection of samples (wet season versus evaporation season) can lend to some uncertainty in the estimate leading the QP to classify the resource as indicated as the conditions characterized by each sampling event is a snapshot of a dynamic system. However, the body of potassium and other ion data spanning decades to the late 1960's locations, in concert with the ability to measure volume of the water body at the time of data collection provides the ability to normalize for seasonal differences in measured mass load over the period and determine with reasonable certainty the potassium mass load in the ambient brine of the GSL.

Extensive use of analytical methods to establish estimates of confidence limits for the resource such as geostatistics or numerical methods are not supported by operational experience, existing variance in the nature of the resource, return on economics nor supported by established industry practice for the recovery of the potassium.

11.6 Multiple Commodity Grade Disclosure

The Ogden facility also produces rock salt, primarily for highway use, salt for commercial and industrial (C&I) use, and magnesium chloride for road management and enhanced deicing markets. These are co-

products, and financial metrics were evaluated in the economic and financial analyses presented in Sections 18 and 19 of this TRS.

11.7 Relevant Technical and Economic Factors

The QP believes that there is a robust and long-term resource base to support the Great Salt Lake operation. There is room for further improvement in the resource model from increasing the areal extent of samples on the Great Salt Lake to further improving the resolution of bathymetric data and accurately measuring the mass of precipitated halite on the lake bed.

While improvement in this data is likely to further refine the estimated resource base for the Ogden Plant, the level of impact to the operation and its strategic planning purposes is limited. Therefore, the QP recommends continuing to update the resource model as new brine concentration and lake level data becomes available, but otherwise, it believes the model is a reliable basis for reserve estimation.

12 Mineral Reserve Estimates

12.1 Introduction

This section describes the reserve estimation methodology and summarizes the key assumptions and controlling parameters utilized by the QP in developing the mineral reserve estimates for potassium and SOP for the Ogden facility.

Resources are converted to reserves based on the following parameters:

- Measured or indicated resource only. Inferred resources are not eligible for conversion to reserves;
- While the all resources estimated in Section 11 were determined to be indicated, the controlling factor is the throughput through Compass Minerals' existing facility. Key aspects controlling throughput include:
- Water right volume
- Potassium concentration in GSL brine
- Current pond acreage
- Processing Plant capacity

The current available throughput potential of the facility's pond evaporation and plant process is 325,000 tons. The current extent of evaporation ponds and plant throughput have achieved production of 325,000 tons of SOP, which relates to a depletion of 148,533 tons of potassium from the GSL resource annually. Increase in production of SOP would require additional evaporation pond footprint. Increases in potassium concentration in GSL brine during low lake level stages have no bearing on ultimate throughput as the pond process design is a limiting factor, and enhanced concentration only accelerates the evaporative process, but does not expand it.

The concentration and potassium load in suspension in the GSL pool increases and decreases with lake level. But the only true depletion from the GSL system occurs through anthropogenic removal of potassium salts, and are limited to Compass Minerals' operations and Morton Salt's operations. The current maximum annual depletion that can occur based on these depletions is 178,048 tons of potassium per annum. While temporal process losses can occur from infiltration of raw brines into underlying salt masses, Compass Minerals has initiated a process to recover brines that have infiltrated into underlying accumulated salt, known as interstitial brine. Approximately 75% of interstitial brine is recoverable. To that end, the QP has calculated a loss factor of 14,582 tons of potassium into its underlying salt mass that is not immediately recoverable. Based on these factors, the QP calculates that 192,630 tons of potassium are depleted from the GSL system annually. Rounding the depletion to 200,000 tons of potassium per annum from the system, the QP estimates that potassium concentration from ambient north arm GSL brine will reach 0.4%, the cutoff grade in 140 years, or 2161. At the end of Compass Minerals Ogden facility's mine life in 2161, 28,200,000 million tons of potassium will have been depleted between Compass Minerals and Morton Salt's operations, and Compass Minerals will have depleted 20,562,500 tons of potassium at the end of Life of Mine. The Mineral Reserve figure for the Ogden facility is therefore 20,562,500 tons of potassium. Resources that meet the above criteria were utilized for estimation of the reserve.

The QP applied the same depletion principles and included 10% process losses for production of magnesium and sodium based products to determine a mineral reserve. At the end of the life of mine for potash operations, which is concurrent with end of life of mine for magnesium chloride and sodium chloride production, 33,562,542 tons of magnesium and 108,022,053 tons of sodium will have been extracted from the GSL, of which 24,373,669 tons of magnesium and 63,305,412 tons of sodium will have been extracted from the GSL by Compass Minerals. The Mineral Reserve figure for the Ogden facility is therefore 24,373,669 tons of magnesium and 63,305,412 tons of sodium.

12.2 Mineral Reserve Statement

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)[7]**	**Potassium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Reserve (tons)[1][2][3][4][5]**	**Average Grade (mg/L)[7]**	**Potassium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**SOP Reserve (tons)[1][2][3][4][5]**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Great Salt Lake South Arm	—	—	—	—	—	—	—	—
Total Probable Reserves	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Total Reserves								
Great Salt Lake North Arm	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592
Great Salt Lake South Arm	—	—	—	—	—	—	—	—
Total Reserves	7,320	20,562,500	4,000	45,768,145	7,320	20,671,875	4,000	46,011,592

Table 12-1: Ogden Facility -- Summary of Potassium and SOP Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for SOP are 325,000 tons per year. This relates to a depletion of 145,833 tons of potassium per year. Based on the QP's reserve model, the life of mine is estimated to be 139 years.
(3) Conversion of potassium to SOP uses a factor of 2.2258 tons of SOP per ton of potassium.
(4) Included process recovery is approximately 7.8% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for SOP of $573 per ton. Gross sales prices are projected to increase to approximately $8,529 per ton for SOP through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 4,000 milligrams of potassium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 1,660 milligrams of potassium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of potassium and SOP.
(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)[7]**	**Magnesium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Reserve (tons)[1][2][3][4][5]**	**Average Grade (mg/L)[7]**	**Magnesium Reserve (tons)[1][2][4][5]**	**Cut-Off Grade (mg/L)[6]**	**MgCl Reserve (tons)[1][2][3][4][5]**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	11,120	24,373,669	8,638	95,480,000	11,120	24,536,500	8,638	96,118,000
Great Salt Lake South Arm	4,785	—	3,039	—	4,785	—	3,039	—
Total Probable Reserves		20,562,500		95,480,000		24,536,500		96,118,000
Total Reserves								
Great Salt Lake North Arm	11,120	24,373,669	8,638	95,480,000	11,120	24,536,500	8,638	96,118,000
Great Salt Lake South Arm	4,785	—	3,039	—	4,785	—	3,039	—
Total Reserves		20,562,500		95,480,000		24,536,500		96,118,000

Table 12-2: Ogden Facility -- Summary of Magnesium and MgCl Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for MgCl are 620,000 tons per year. This relates to a depletion of 158,271 tons of magnesium per year. Based on the QP's reserve model, the life of mine is estimated to be 139 years, based on potash operational longevity.
(3) Conversion of potassium to SOP uses a factor of 3.91 tons of MgCl per ton of magnesium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for MgCl of $52.08 per ton. Gross sales prices are projected to increase to approximately $816.73 per ton for MgCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 8,638 milligrams of magnesium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 3,039 milligrams of magnesium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of magnesium and MgCl.
(7) Reported potassium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

	As of September 30, 2021				As of December 31, 2020			
Reserve Area	**Average Grade (mg/L)(7)**	**Sodium Reserve (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Reserve (tons)(1)(2)(3)(4)(5)**	**Average Grade (mg/L)(7)**	**Sodium Reserve (tons)(1)(2)(4)(5)**	**Cut-Off Grade (mg/L)(6)**	**NaCl Reserve (tons)(1)(2)(3)(4)(5)**
Proven Reserves								
Total Proven Resources	—	—	—	—	—	—	—	—
Probable Reserves								
Great Salt Lake North Arm	97,530	63,305,000	75,757	160,930,000	97,530	63,716,000	75,757	161,975,000
Great Salt Lake South Arm	46,298	—	40,365	—	46,298	—	40,365	—
Total Probable Reserves		63,305,000		160,930,000		63,716,000		161,975,000
Total Reserves								
Great Salt Lake North Arm	97,530	63,305,000	75,757	160,930,000	97,530	63,716,000	75,757	161,975,000
Great Salt Lake South Arm	46,298	—	40,365	—	46,298	—	40,365	—
Total Reserves		63,305,000		160,930,000		63,716,000		161,975,000

Table 12-3: Ogden Facility -- Summary of Sodium and NaCl Mineral Reserves at the End of the Fiscal Years Ended September 30, 2021 and December 30, 2020.

(1) Mineral reserves are as recovered, saleable product.
(2) Production rates for NaCl are 1,045,000 tons per year. This relates to a depletion of 411,074 tons of sodium per year. Based on the QP's reserve model, the life of mine is estimated to be 139 years, based on potash operational longevity.
(3) Conversion of potassium to SOP uses a factor of 2.542 tons of NaCl per ton of sodium.
(4) Included process recovery is approximately 10.0% based on historical production results. Mining or metallurgical recovery is not applicable for this operation.
(5) Based on pricing data described in Section 18.1 of this TRS. The pricing data is based on a five-year average of historical gross sales data for NaCl of $62.41 per ton. Gross sales prices are projected to increase to approximately $215.66 per ton for NaCl through year 2161 (the current expected end of mine life).
(6) Based on the economic analysis described in Section 19 of this TRS, the QP estimated a cut-off grade of approximately 75,757 milligrams of sodium per liter of brine extracted from the north arm of Great Salt Lake, and a cut-off grade of 40,365 milligrams of sodium per liter of brine in the south arm of the Great Salt Lake which ultimately flows into the north arm of the Great Salt Lake. The QP assumes that when the north arm of the Great Salt Lake (where the Ogden facility sources its brine) reaches this concentration level, the Ogden facility will halt production of sodium and NaCl.
(7) Reported sodiium concentration for the Great Salt Lake assumes an indicative lake level of 4,194.4 feet in the south arm and 4,193.5 feet in the north arm.

12.3 Estimates of Cutoff Grades

Please see the discussion in Section 11.3 of this TRS.

12.4 Reserve Classification

Reserve classification was made based upon the assumptions outlined in the introduction. The following definitions were considered and informed -

Probable Mineral Reserve - The economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

Proven Mineral Reserve - The economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

Estimation of mineral reserves is highly sensitive to assumptions around the net depletion rate for potassium from the Great Salt Lake system. However, the QP is comfortable that the reserve estimate is reflective of the actual trends that have been demonstrated over the history of the Operation and that the reserve estimate is reliable, based on current lake levels and brine usage.

Nonetheless, there is still uncertainty around factors that the Ogden Plant cannot reasonably control the usage of brine from the Great Salt Lake. Fluctuation in lake level (either increasing or decreasing) can have a materially negative impact on the Operation. Lake levels are driven by climatic factors as well as alternative usage of fresh water flows that currently drain into the lake. Although Compass Minerals cannot operationally control lake levels, it can prepare the Operation for either higher or lower lake levels which it has executed over its 50 year life and should do so into the future based on the long reserve life of the operation. The QP is satisfied that the hydrological/chemical model for the Great Salt Lake reflects the current hydrological and chemical information and knowledge. The mineral resource model is informed by brine sampling data spanning approximately 55 years and recent bathymetry data. Continuity of the resource is not a concern, as the lake is a visible, continuous body. The Company's experience in extracting potassium and other salts from the Great Salt Lake for over 50 years under dynamic conditions, such as changing lake elevations and ion concentrations, lends confidence regarding the ability to operate under varying conditions, utilizing ion concentrations as a tool to monitor reserve estimates and make operational decisions.

Management is aware of risks associated with potential gaps in assessing the completeness of mineral extraction licenses, entitlements or rights, or changes in laws or regulations that could directly impact the ability to assess mineral resources and reserves or impact production levels. Because of the nature of this dynamic resource described above and herein, remaining reserves have been attributed to the probable classification. This is heavily based upon the use of historical mining experience, and ongoing mass load measurements.

12.5 Risk Factors

The mineral reserve estimate could be affected by a number of factors that are both in control of Compass Minerals and some outside of Compass Minerals' control. Throughput of brine and its ultimate conversion to saleable SOP could be degraded over time if investment in maintenance of key processing plant facilities or evaporation ponds is not made. External factors such as flooding and the possibility of the State of Utah implementing flood control by pumping flooding brine to the Bonneville desert as it did in the 1980s could have a material effect on the mineral reserve estimate as well if lake levels were to rise above those experienced in the 1980s.

13 Mining Methods

The Ogden Site has been operating for over 50 years in a similar context as it is today. When the Ogden Site was commissioned, the high concentration of potassium and other minerals relative to the potential to extract potassium and other minerals using solar evaporation made possible by the site's location in a high desert with high summer season evaporation made the prospect of solar evaporation to concentrate brines attractive and appropriate. Further, the shallow bathymetry around the perimeter of the GSL renders the construction and operation of solar evaporation ponds feasible.

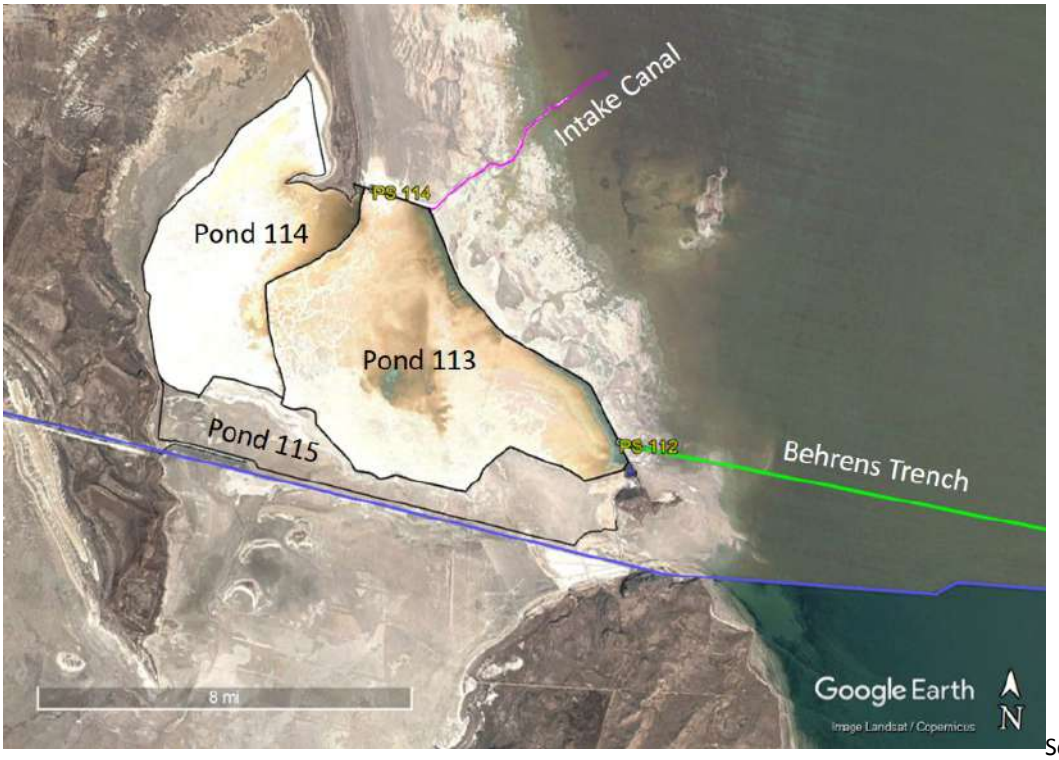
13.1 Current Pond Processes

Mining operations at the Ogden facility are not typical when compared to a normal mine in that there is no actual open pit or underground extraction. The mining of the potassium and other salt effectively involves pumping of brine from the Great Salt Lake into evaporation ponds. From that point, the extraction of the salt from the brine is more of a mineral processing exercise, which is discussed in detail in Section 14.

Compass Minerals has approximately 361,000 acre-ft of brine rights that it can extract from the north arm of the Great Salt Lake on an annual basis. Based on recent operational data, the Operation has typically extracted, on average, around 125,000 acre-ft of brine per year. Most of this brine is pumped into the West Ponds with the remainder going into the East Ponds. The process utilizes the concentrated brine pumped from the north arm of the Great Salt Lake, concentrates the compounds through a series of solar evaporation ponds over a three-year timespan. The evaporation season is roughly May to September when the sunlight is more intense and day light hours are longer.

13.1.1 West Ponds

The process starts in the west ponds where brine is pumped from the north arm of the GSL through an intake canal that extends approximately six miles in to the lake. The intake canal is approximately 30 feet wide, and 10 feet deep, incised into the GSL lakebed. Pump station 114 contains 11 Caterpillar 3360 vertical pumps rated at 300 horsepower that can pump at 20,000 gallon per minute from March through September annually. Brine is pumped into three evaporation ponds (Ponds 113, 114, and 115) spanning 30,000 acres where solar evaporation initially occurs over a one year residence to concentrate the brine (Figure 13-1). Concentrated brine can either be pumped via three 20,000 gpm pumps at PS-112 into Behrens Trench, or via gravity flow over a weir from Pond 115 to Behrens Trench. Brine transfer to Behrens Trench occurs from mid-June through September annually. The Behrens Trench is a 21 mile underwater canal located on the bed of the north arm of the Great Salt Lake. The concentrated brine pumped from the west ponds has a significantly higher density and due to natural physical properties will flow below the much lower density of the north arm lake brine. The transfer of brine into the Behrens trench begins as soon as the brine saturation in the west ponds reaches the desired level. The duration of flow is approximately seven days for brine to flow from west to east in the Behrens trench. Due to the higher density of the concentrated West Pond outflow, this dense brine stays at the bottom of the trench and limits the mixing with the lake brine (Compass Minerals reports approximately 30% dilution).



Source: Compass Minerals

Figure 13-1: West Ponds

East Ponds

East Pond feed brine is predominantly from the Behrens Trench, which is partially diluted west pond concentrated brine (Figure 13-2). Pump Station 1 is positioned at the east end of Behrens Trench on Promontory Point. Pump Station 1 consists of three, 20,000 gpm pumps that pump concentrated brine out of the trench, and into piping that connects into an overland canal that wraps around Promontory Point. Brine is pumped into the canal where it flows into the east pond complex (Figure 13-2). Pump Station 1 operates from March through September. PS-1 will draw ambient north arm brine from March through June, and then pump concentrated brine from June through October from the west ponds.

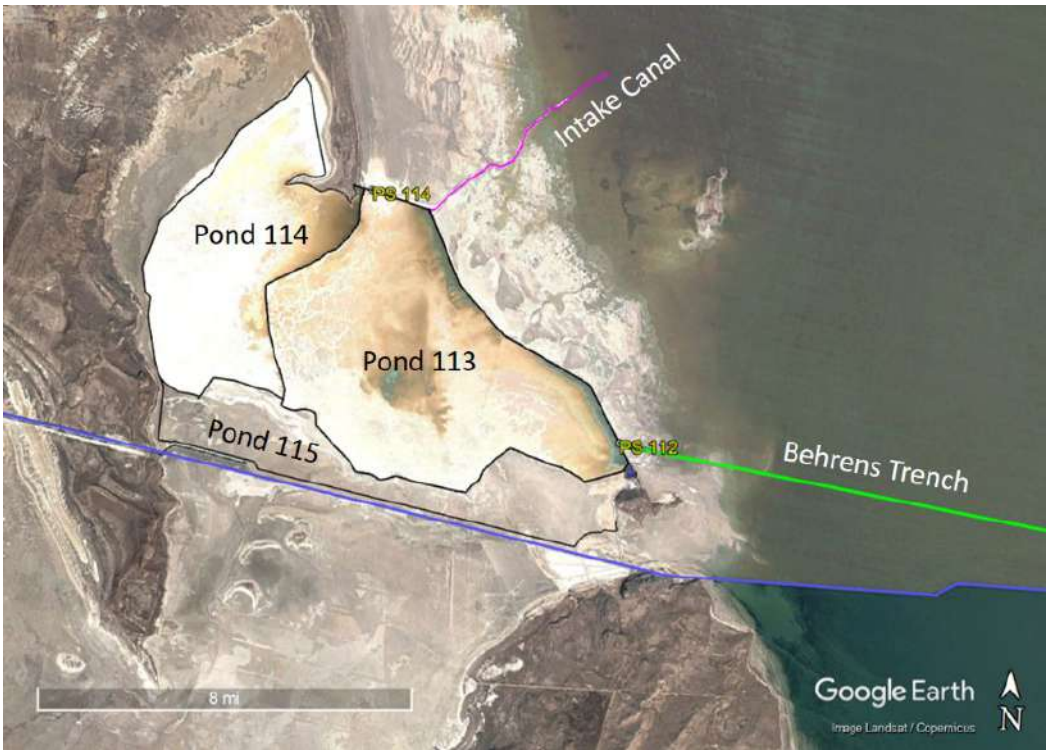
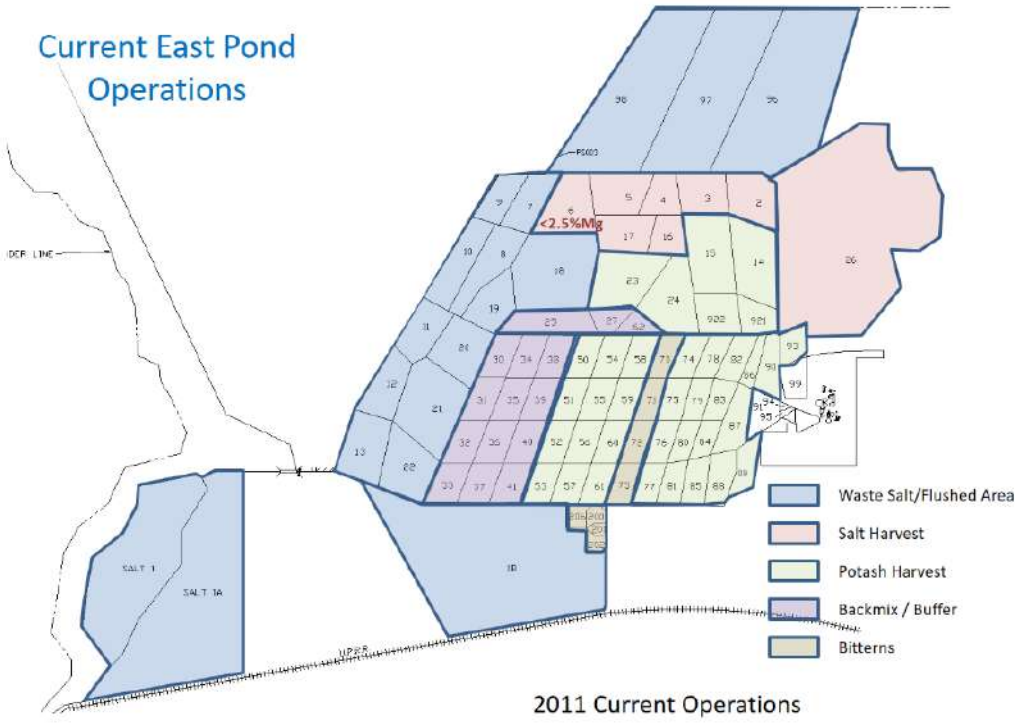


Figure 13-2: PS-1/ Promontory Point / East Ponds

The residence time of brine entering the nearly 25,000 acre east-pond system is approximately two years. The chemistry of the brine transferred sequentially into each pond is continuously monitored and brine solutions are moved through the ponds accordingly. Salt and the complex potassium minerals naturally crystallize on pond floors leaving a final brine high in magnesium chloride. Figure 13-3 presents an illustration of east pond utilization.

In the east pond complex, sodium chloride salt crystallizes in the pre-concentration sequence, and harvested. The brine is then moved to the next series of ponds to collect potassium based complex minerals. The residual bittern brine, primarily magnesium chloride is transferred to the deep storage ponds. Brine is transferred between ponds via portable electric pumps and gravity flow. Residual concentrated brines are stored in deep ponds after the harvest in order to retain the level of concentration and reduce dilution from the winter rain and snow.



Source: Compass Minerals

Figure 13-3: East Ponds

13.1.2 SOP, Salt and MgCl Harvest

The complex potassium minerals are harvested from the ponds at the end of the evaporation season and stockpiled to be processed over the next twelve months before the next harvest.

Potassium sulfate does not precipitate from the waters of the Great Salt Lake by simple solar evaporation. As the lake water is evaporated, first common salt, NaCl, is precipitated/crystallized in a pure form. By the time evaporative concentration has proceeded to the point that saturation in another salt is encountered, most of the NaCl has precipitated. It does, however, continue to precipitate and becomes the major contaminant to the potassium-bearing minerals as they are precipitated/crystallized. The primary minerals precipitated that contain atoms of both potassium and magnesium in the same molecule are kainite, a double salt of sulfate and chloride (KCl*MgSO4*3H2O); schoenite, a double salt of sulfate (K2SO4 *MgSO4*6H2O); and carnallite, a double salt of chloride (KCl*MgCl2*6H2O). Purification also involves removal of the considerable quantities of sodium chloride that are precipitated simultaneously after which the salts must be converted via phase chemistry and temperature into potassium sulfate. A harvest yield of 3.5 million tons of potassium-bearing salts will yield approximately 325,000 tons of SOP production a year.

The target potassium-bearing harvest composition is provided below:

- Potassium – 9.51%
- Sodium – 6.16%

- Magnesium – 7.69%
- Chloride – 22.1%
- SO_4 – 25.03%
- H_2O – 29.51%

SOP harvest is conducted from September through March annually. Harvest is conducted using mining equipment summarized in Table 13-1. Compass Minerals owns eight, 37 cubic yard pan scrapers that scrape and stockpile target potash harvest. The stockpiled materials on the pond floor are then excavated and loaded onto a fleet of 11 Caterpillar 745 haul trucks by a fleet of six Caterpillar 980 front-end loaders. Materials are then hauled to a surge pile adjacent to the SOP plant facility where they are subjected to plant processing described in Section 14.

Salt harvest is conducted in two seasons: September through November, and March through May. Harvest is conducted by windrowing salt using two CAT 16M graders followed by loading the windrowed salt into a fleet of 5 CAT 745 haul trucks using a CAT 980 loader. The salt is hauled and dumped into a tipple where it is then either processed in a wash unit or treated and sent to a stockpile.

Bitterns brine is pumped from the ponds through pump station #13. This station consists of five pumps, each with a capacity of 350 gal/min. There are two runs of 8” HDPE piping that take brine from pump station #13 to the Mag Plant reservoir #205. This reservoir has a capacity of 2,000 tons of brine.

13.2 Geotechnical and Hydrological Models

In 2017, the Great Salt Lake Advisory Council (GSLAC) commissioned the creation and construction of the Great Salt Lake Integrated Model (GSLIM), to integrate the hydrologic models developed and modified since the 1960s for the Great Salt Lake with hydrologic models associated with the upland water sheds that drain into the GSL. The GSLIM was also updated to include new growth and climate projections and improve the model’s capability to forecast future changes in GSL’s watershed. This model incorporated a range of plausible future conditions for GSL’s watershed, integrated these scenarios into the GSLIM, and developed relative comparisons of how future growth, climate, and water management alternatives might affect GSL.

The GSLIM was completed in August 2017 and in version 1.13. GSLIM integrated several upgrades including improving the model’s capability to simulate climate variability, water conservation in the Municipal and Industrial (M&I) and Agriculture sectors as well as cloud seeding programs.

GSLIM was developed as a series of integrated modules including the Bear, Weber, and Jordan River basins. The Lake module represents the lake itself and characterizes each of the four main bays: Gilbert (south arm), Farmington, Bear River, and Gunnison (north arm) bays. Dividing the model into these modules facilitated integrating existing data and models, as well as completing future updates and use by stakeholders within each river basin.

The GSLIM model is available to the general public upon coordination with the Utah DNR Department of Water Resources for use. Compass Minerals has access to the model as needed.

Compass Minerals ‘in-house’ deterministic model is specific to the GSL, and does not integrate inflows the GSL. Notwithstanding, the excel-based model is sufficient to support operational and strategic planning. The model is based on historic and actively updated ion sampling data collected by the UGS on a semi-annual basis, lake elevations, bathymetry and mass loads so as to provide a predictive estimate of mass load in the raw-feed brine extracted from the north arm annually.

13.3 Production Details

For potassium, the QP's production schedule for the operation is controlled by pumping rates and lake brine concentrations. The QP's reserve model is calibrated to average pumping rates over the past five years, combined with average lake levels over the 10-year period between 2006 and 2015. Near-term production levels for potassium modeled by the QP are in line with forecast production levels from the operation. Long-term concentration of potassium in north arm pool will decline with anthropogenic depletion of potassium by Compass Minerals and Morton Salt. The operation will deplete 145,833 tons of potassium per annum from the GSL to support the production of 325,000 tons of SOP per annum. Therefore, salt load will decrease over time as potassium ion is selectively extracted. The rate of decline of the salt load was applied to north arm concentration as well over time. When the concentration of potassium declines to 0.4% in 140 years, the grade is believed to be insufficient for economic extraction. The remaining potassium load in the GSL at the time potassium concentration in the north arm of the GSL reaches 0.4% is 33,800,000 tons. The corresponding grade for the south arm, which supplies the north arm with all the brine contained therein, is 0.1660%. Thus, potassium will not completely extracted from the system. A production profile for potassium is presented in Figure 13-4. The QP estimates the life of the Ogden Plant to be 140 years based on the reserve model. Magnesium chloride and salt are co-products that will continue to be produced, so long as potash is economically viable.

Figure 13-4: Production Schedule

13.4 Requirements for Stripping, Underground Development and Backfilling

The Ogden facility is a solar evaporation complex with solar evaporation ponds and a manufacturing plant. There are no requirements for stripping underground development or backfilling.

13.4.1 Backfilling

Waste salt that is produced during the mining process and resulting from the controlled precipitation of excess sodium chloride is either purposely seasonally removed by a process called 'mineral return' where Compass Minerals pumps seasonal flows of fresh water from the Bear River by water right over unharvested ponds containing deposited sodium chloride, and dissolves the salt and pumps that eluate back into the GSL under permit with Utah DEQ.

13.5 Mining Equipment, Fleet and Personnel

Currently, Ogden SOP facility operates with an approximate staffing target of 374 individuals; 118 salaried staff and 191 and hourly employees assigned in crews to the various unit operations and scheduled shifts. That number is expected to remain relatively constant.

An additional 55 employees work in Salt operations, and 10 employees in magnesium chloride operations.

Table 13-1 provides a general overview of the equipment fleet and machinery utilized in the unit operations of the mining process. The asset list at Ogden comprises over 200 lines of specific items include administrative items, land and building assets as well as parts inventories, etc. that are not part of the mining process and are not considered.

DESCRIPTION	Number	DESCRIPTON	Number
Large Trucks		CAT 745 HARVEST HAUL TRUCK	11
2020 AUTOCAR ACTT42 YARD SPOTTER	1	**Ardco**	
FREIGHTLINER 2013 WATER TRUCK	1	ROLLIGON	1
MOBILE FUEL SERVICE TRUCK 1995	1	**Harvester**	
2005 FORD F 750 SERVICE TRUCK	1	WAGNER SL8	1
2005 MOBILE SERVICE TRUCK W / CRANE	1	POTASH HARVESTER	1
1995 MACK TRUCK TRANSPORT	1	37 CYD K-TEC SCRAPER HARVEST	8
2005 FREIGHTLINER HC 80 SWEEPE	1	**Backhoe**	
4000 GALLON WATER TRUCK	1	CAT 430-F BACK HOE	2
4000 GAL WATER TRK W CANNON	1	CAT 336 EXCAVATOR	4
INTERNATION BUCKET TRUCK 2004	1	**Portable Pumps**	
Loaders		JOHN DEERE DIESEL POWER UNIT	9
226B CAT SKID STEER LOADER	1	JOHNSON PORTABLE PUMP	2
BOBCAT T190 TRACK DRIVE SKID STEER	1	JOHN DEERE DIESEL POWER UNIT	5
249 D CAT COMPACT TRACK LOADER	1	JOHNSON PORTABLE PUMP	2
SNOW TRACTOR KOBOTA	1	**WEST DESERT EQUIPMENT**	
CAT 980K FRONT END LOADER	3	**VERTICLE PUMP ENGINES**	
KOMATSU WA-500-8 FRONT END LOADER	4	CAT 3306 ENGINE 300HP	10
CAT 980 FRONT END LOADER	6	CAT C-9 ENGINE 300HP	1
CAT 972 FRONT LOADER LSJ02852	1	**GENERATORS**	
Bulldozers		CAT 3412 NAT GAS ENGINE 600HP	2
CAT D6T DOZER USED 4K HR	1	CAT 3306 NAT GAS 300 HP	2
CAT D6 XE	5	GENERAC SG-025	1
CAT D7 DOZER	1	WISPER WATT ISUZU 25KW PORTABLE	1
CAT D9T DOZER	5	MQ ISUZU 4B61 70KW DCA-70SSIU4F	2
Patrols		CAT GENERATOR 600HP	3
CAT 16M PATROL	4	125KW PORTABLE GENERATOR DOVE	1

Table 13-1: Table of Equipment Utilized in the Mining Method

13.6 Final Mine

A final mine map is provided as Figure 13-5. Compass Minerals will breach dikes as part of final reclamation requirements, and salt contained within the ponds will be allowed to dissolve from direct precipitation and pumping of fresh water into the ponds from Bear River. The Company will also create islands on the outside of existing dikes by clustering rip-rap currently armoring the dikes (Figure 13-6).

Figure 13-5: Final Mine Map

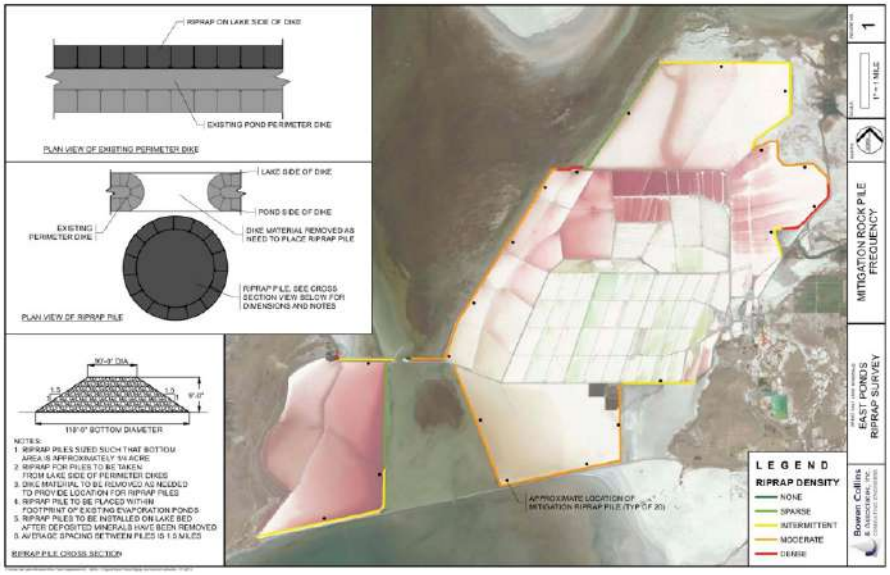


Figure 13-6: Rip-Rap Cluster Islands at Mine Closure

14 Processing and Recovery Methods

14.1 Process Description

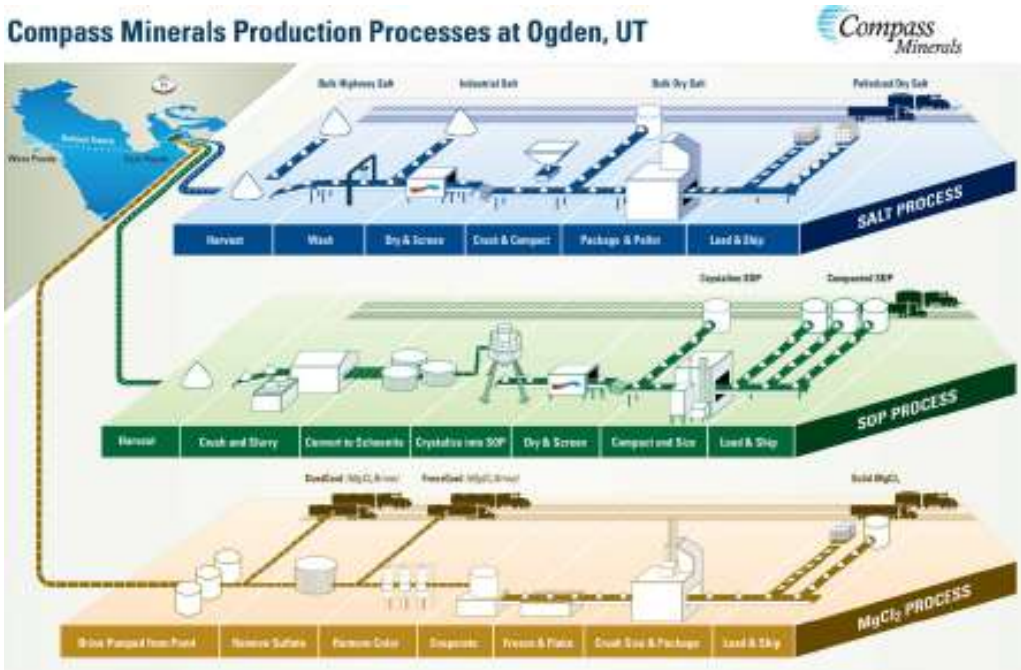
The deposited minerals in the evaporation ponds include a wide variety of compounds that contain potassium (K), magnesium (Mg), sodium (Na), chloride (Cl), sulfate (SO_4), and water (H_2O). These elements are found in the solids in various combinations*:*

- *Arcanite – K2 SO4, also known as our product SOP.*
- *Schoenite – K2 SO·MgSO4·6H2O*
- *Kainite – KCl·MgSO4·4H2O*
- *Carnallite – KCl·MgCl·6H2O*
- *Epsomite – MgSO·7H2O*
- *Halite – NaCl*

The residual brine discharging from the potassium sequence (pond bitterns) is a highly concentrated magnesium chloride brine with residuals of all of the mineral ions included in the original source of the north arm of the lake. The various minerals produced in the pond sequence require additional refinement before they become saleable products; they must be harvested, stockpiled, and subjected to in-plant processing to remove contaminants and finally achieve the production of salt, high purity SOP, and magnesium products. These products are then distributed to market. The products currently produced at the Operation include:

- Common salt (sodium chloride, NaCl) is used as an industrial chemical, for highway de-icing, for water softening, as an animal food supplement, and in the processing of foods.
- SOP, which is used as a specialty fertilizer source of potassium.
- Magnesium chloride brine, a highly concentrated solution of magnesium chloride ($MgCl_2$), is now primarily being used for highway deicing and for road dust control.
- Magnesium chloride flake, a crystallized form of $MgCl_2$ is packaged and used primarily for consumer deicing.

Figure 14-1 provides an overview of the production process flows for salt, SOP and magnesium chloride.



Source: Compass Minerals
Figure 14-1: Mineral Production Processes at the Ogden Plant

14.2 SOP Plant Process Flow

The following sections provide a detailed summary of the SOP plant production process to sequence from raw feed to desired customer specifications by six main processing units, including feed crushing, wet process, crystallization, flotation, compaction and loadout. An overview of the SOP plant production process flow is provided in Figure 14-2.

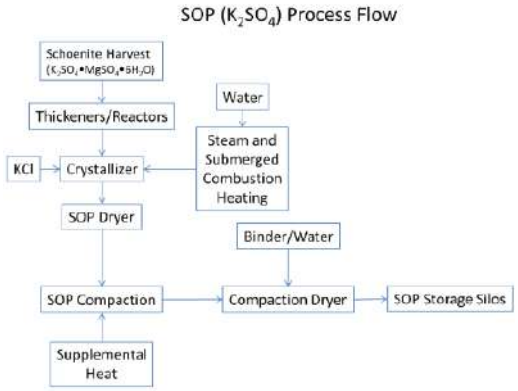


Figure 14-2: SOP Production Flow Chart - Overview

Source: Compass Minerals

14.2.1 Feed Crushing

After three years of evaporation, precipitated salts are harvested by a front end loader and loaded onto truck. Harvest is then deposited onto stock piles and fed into the Harvest pit hoppers. There are two feed trains, Train #1 and Train #2. In the Harvest pit, Hoppers are fed from loaders or trucks, feed Apron feeders. The Apron feeders discharge to primary crushers which crush the larger lumps. The Crushers then discharge to cross-over drag conveyors which then discharge to belt conveyors and then dump into slurry boxes. These tanks are then pumped to the Cooling Reactor which is the start of the Wet Process Area. The larger product the does not pass through the DSM screens drops down into the screw distributer and is sent to either to Ball Mill Sump or back through the Hammer Mill Crushers.

14.2.2 Wet Process

Wet Process involves the removal of sodium chlorides, and other unwanted salts through a series of cold and hot washes. Hydrocyclones and thickeners are used in this process to ultimately generate a slurry becomes the Schoenite stream which is moved forward for further processing (crystallization and drying) into SOP.

14.2.3 Crystallizer Circuit I

Feed from the wet process then enters into two crystallizer circuits where schoenite is pumped and magnesium is separated. SOP crystallizes in this step ad slurry is re-circulated back in to the thickener process. Crystallized SOP is then sent into dryers.

14.2.4 Flotation

When there is an excess amount of sodium in the potash/brine solution, further wet processing is required. This is accomplished in the Flotation area. Flotation separates minerals from the slurry in tanks (called “Cells”), where potassium particles rise to the surface and are skimmed off while the sodium particles flow through the cells and discharge out as Final Tails. The solution is treated with a reagent in the conditioners to assist in separation of Schoenite from the undesirable materials. The recovered schoenite is returned to the Wet Processing Area via the Final Con Sump.

14.2.5 Crystallizer I

Dryer area is where the magnesium is further reduced and fine-tuned and the final product is dried before going into the silos for storage or feed for the Compaction Plant. This tertiary crystallization circuit is illustrated on Figure 14-8.

14.2.6 Crystallizer II

Dryer area is where the magnesium is further reduced and fine-tuned and the final product is dried before going into the silos for storage or feed for the Compaction Plant.

14.2.7 Compaction Plant

The compaction plant process involves compacting, drying, crushing, and screening. The plant has two identical lines that have the same equipment to allow for maintenance of one line while the other line is

running. Both new lines each have a Pug Mill, Compactor, Curing, Crushing, and Screening equipment. Both new Lines use the same Fresh Feed and Recycle/Fines Bins and the same Binder dryer.

14.2.8 Loadout Area

The SOP Loadout is where final product ships. When full, the silos provide storage for over 50,000 tons of potash product.

14.3 Salt Process

As the waters of the Great Salt Lake evaporate, they soon become saturated with salt, and pure salt begins to precipitate. Further evaporation continues to produce pure salt until the concentrated brine becomes saturated with more complex chemical salts. Under normal summer conditions, nearly 90% of the contained salt can be precipitated from the lake water before contaminating materials begin to precipitate. However, the pure solid sodium chloride, which now forms the floor of the solar evaporating ponds, contains contaminants such as entrained brine. This brine is partly removed by draining away from salt windrows which are set up as a step on the harvest operation, by draining away from the stockpile; and more is removed by stockpile weathering. Approximately 40% of salt harvested is crushed screened and loaded out via truck and rail for highway deicing markets. The balance of the salt is dried for further in-plant treatment is required to remove the vestiges of contaminants by washing the product. Processed salt is sold into water treatment, consumer deicing, and agricultural (salt blocks for livestock) markets. Processed salt is moved to a distribution facility, from which it leaves the plant site in bags or in bulk, by truck or train. Figure 14-3 shows a schematic of the salt production process.

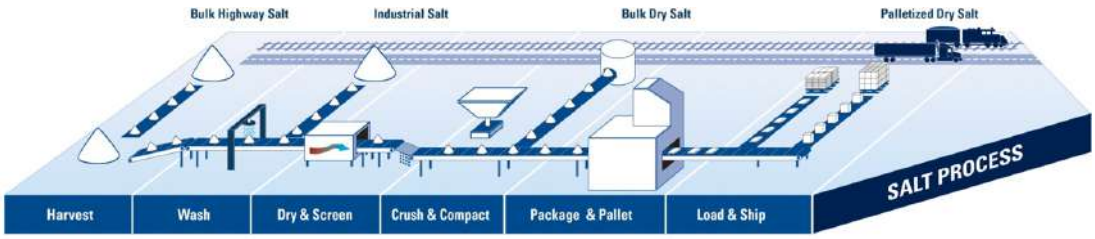


Figure 14-3: Salt Production Flow Chart - Overview
Source: Compass Minerals

14.4 Magnesium Chloride Processing

Magnesium chloride is the residual aqueous bittern left after potassium precipitates in the pond process. As described in Section 13, the magnesium chloride solution is pumped from bitterns ponds into storage ponds adjacent to the magnesium chloride production facility. Greater than 60% of the aqueous solution is shipped to market without further processing for use in dust control markets. Approximately 30% of the solution is desulfated for use in advanced deicing market applications, and less than 10% of the solution is fed to the magnesium flake plant to produce a solid magnesium chloride product used in deicing at cold temperatures. This in-plant process is simply one of controlled vacuum evaporation to crystallize first magnesium sulfate, which is rejected, then pure $MgCl_2*6H_2O$, which is

centrifuged, dried and marketed. Figure 14-4 illustrates shows a schematic of the magnesium chloride process.

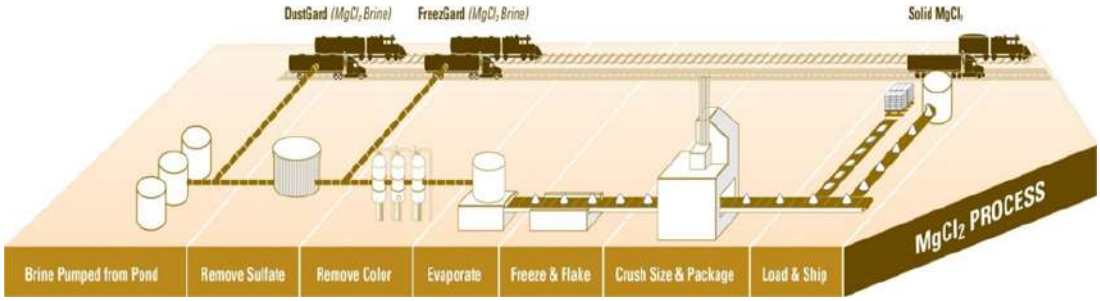


Figure 14-4: Salt Production Flow Chart - Overview
Source: Compass Minerals

14.5 Waste Handling

The Ogden Plant generates very limited waste (e.g. no waste rock or tailings). Most of the waste is precipitated halite that cannot be sold due to market demand. This excess halite is flushed out of the East Ponds with Bear River water, which effectively is returning salt to the Great Salt Lake. Precipitated halite is a more significant problem in the West Ponds as currently, there is not the same type of access to fresh water in the West Ponds that can dissolve and flush away this halite. The Operation is currently evaluating alternatives for removing this halite as it reduces storage capacity in the West Ponds. Although the method of removal has not yet been finalized, the intent is to return the halite to the lake system, similar to current practice in the East Ponds.

No other material waste streams are generated by the Operation.

14.6 Current Requirements for Energy, Water, Materials and People

14.6.1 Energy Requirements

The Ogden Site acquires its electricity from Rocky Mountain Power. Table 14-1 provides a summary of electrical usage and distribution at the Ogden SOP operation over the past five years.

(in '000s) **Area**	**2017**	**2018**	**2019**	**2020**	**2021 FY**
Potash Plant	38.00	40.00	40.44	42.49	45.32
Mineral Return	2.00	3.28	3.17	1.59	4.71
East Ponds	7.00	8.32	7.31	10.68	11.25
Flotation	11.00	11.22	12.78	14.04	15.00
SOP Compaction	6.00	5.93	7.01	8.98	8.33
Salt Plant	9	9	9	9	9
All other	14	15	12	12	10
Total MWH	**87**	**93**	**91**	**99**	**103**
Cost/MWH	$58.33	$56.55	$57.10	$56.47	$58.24
Total Power cost	**$5,075**	**$5,243**	**$5,209**	**$5,577**	**$5,997**
SOP MWH/ton	$0.14	$0.11	$0.13	$0.14	$0.16
Salt MWH/ton	$0.013	$0.014	$0.013	$0.013	$0.013

Table 14-1: Summary of Electrical Usage: Ogden Site SOP Operations

The Ogden Site obtains natural gas service from Dominion Natural Gas Company. Table 14-2 provides a summary of natural gas consumption over the past five years.

(in '000s)	**2017**	**2018**	**2019**	**2020 FY**	**2021 FY**
SOP (Includes steam production)	1,494	1,511	1,562	1,504	1,658
Magnesium Plant	1	1.0	1.2	1.5	1.6
Salt Plant	190	196	209	199	215
Natural Gas $/Dth	$ 3.397	$ 3.452	$ 2.696	$ 2.797	$ 3.041
Natural Gas Cost	$5,722	$5,906	$5,959	$4,766	$5,099

Table 14-2: Summary of Natural Gas Usage: Ogden Site Operations

14.6.2 Water Requirements

A summary of water consumption for the year 2020 is provided as Table 14-3.

Use Profile	Location	Volume (AFY)
Non-Consumptive Water for Pump Flushing	Finger Point Well	31.3
	Well at PS-112	0.7
	Well at PS-113	21.2
	Well at PS-26	35.1
	Pond Control Well	59.0
	Lakeside Well	0.5
Non-Consumptive Water for Pond Flushing	Pump Station 23	20,550
	PS-2 / PS-22	26,454
Rawfeed Brine	Pump Station 1	35,031
	Pump Station 113 /114	69,834
Plant Potable Water	Weber Basin - Potable	848
Plant Process Water	Weber Basin - Untreated Process Water	7,100

AFY = acre feet / year (one acre foot is 325,851 gallons)

Table 14-3: Summary of Water Usage: 2020

14.6.3 Personnel

The Ogden Site employed 374 full time salaried and hourly employees with 50 seasonal temporary workers in 2021. A summary of headcount is provided below from 2016 through 2021.

	2017	2018	2019	2020	2021 FY
Salaried	87	84	99	119	118
Operations					
Ponds/Harvest	48	49	47	48	48
Haul	-	-	-	8	8
Potash	37	33	32	28	28
Logistics	23	22	24	25	24
Boiler\Lab\Eng	13	11	13	10	9
Total SOP Operations	121	115	117	119	117
Salt Operations	48	49	54	57	55
Magnesium Plant Operations	7	8	8	10	10
Maintenance	77	74	73	77	74
Total Salaried & Hourly	340	330	351	382	374
Temps/ Seasonal (FTE)	28	41	29	38	50

Table 14-4: Summary of Personnel Employed

15 Infrastructure

Critical infrastructure at Ogden facility includes electric service, natural gas service, rail, road and water. Figure 15-1 provides a facility-scale illustration of key infrastructure, while Figure 15-2 and 15-3 provide illustrations of key infrastructure in the eastern sector of the facility and the west sector, respectively.

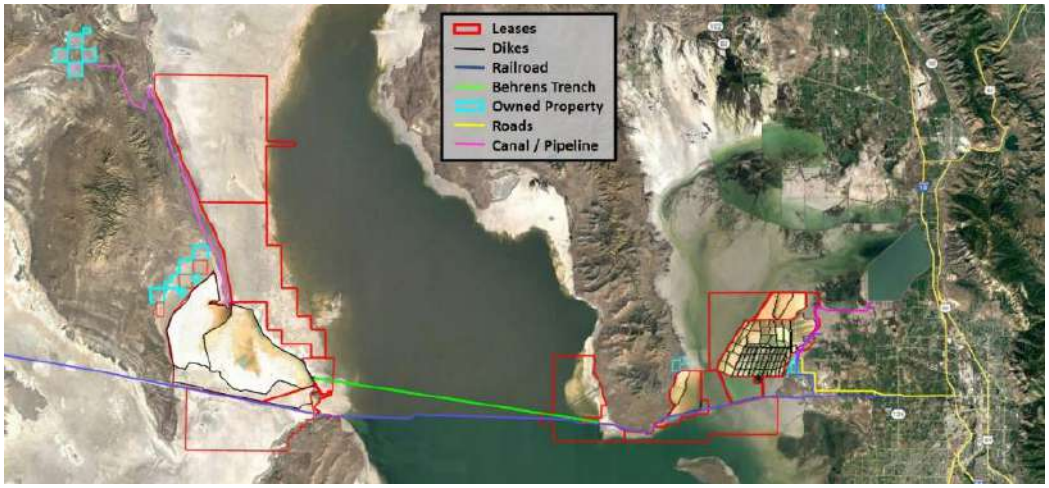


Figure 15-1: Key Infrastructure: Ogden Site

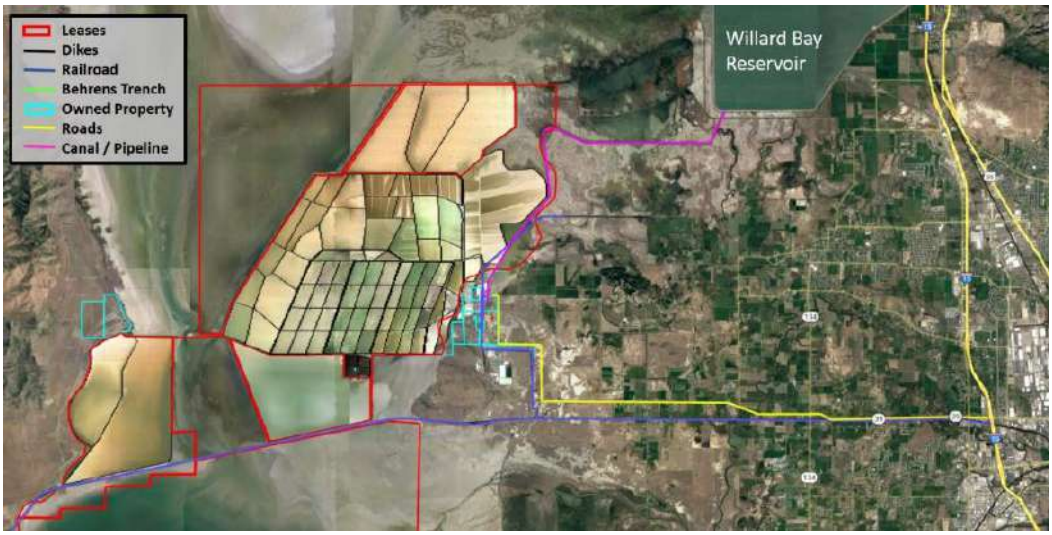


Figure 15-2: Key Infrastructure: SOP Plant Area and East Ponds

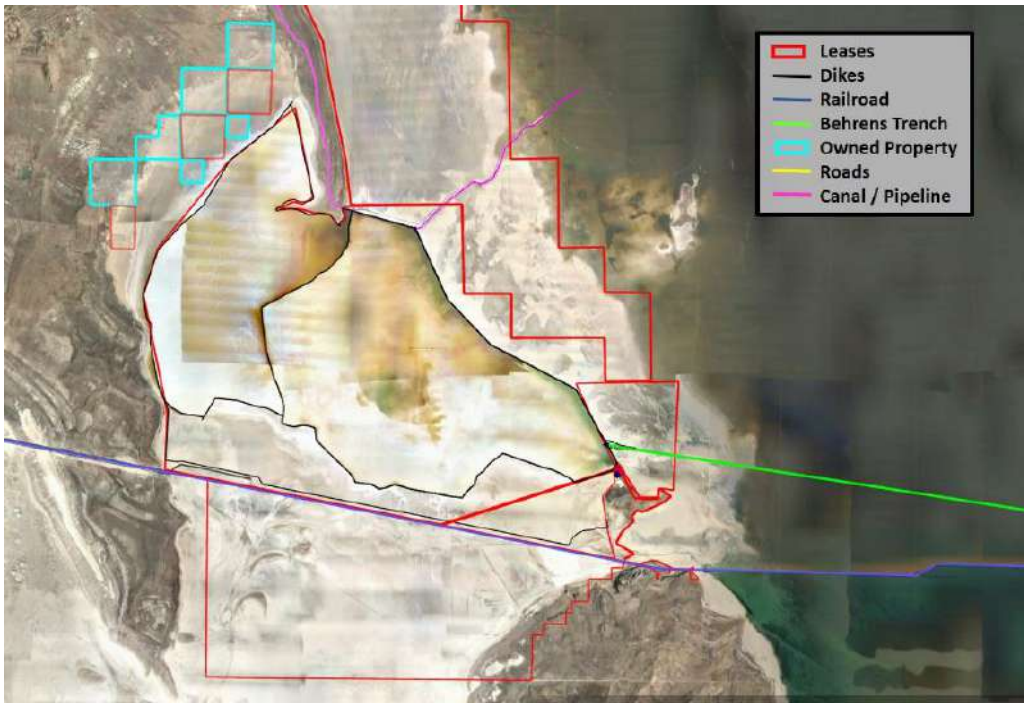


Figure 15-3: Key Infrastructure: West Ponds

Roads

The Ogden Site is 13 miles west of Interstate Highway I-15. State maintained highway 39, or 12th Street provides egress and ingress to the highway. Both I-15 and 12th Street are illustrated on Figures 15-1 and 15-2.

Compass Minerals has access to the UPRR causeway which is constructed of aggregate and maintained by the UPRR. The causeway includes a railbed to support transcontinental rail traffic in addition to a single lane dirt road. Compass Minerals maintains and agreement with UPRR to use the roadway for light truck traffic to move personnel from the mine, plant and administrative offices on the eastern pond and plant complex to the west ponds.

Dikes

The Ogden Site operates and maintains solar evaporation pond and pond dikes. The eastern pond complex is comprised of 115 miles of dikes, with 26.4 miles of acting as the outer perimeter dike. The aggregate for the dikes is mined from an onsite borrow pit, Little Mountain Borrow Pit that is owned and operated by Compass Minerals.

The upper surface of the dikes are maintained by Compass Minerals and are used for road ways to support light truck travel, with main inner roads used to transport heavy equipment moving excavated pond harvest from evaporation pond floor to the SOP processing plant.

The west ponds are contained within 46.1 miles of dikes, with an 8 mile, lake-facing outer dike. The aggregate for the west ponds is yielded from the Strong's Knob quarry that is leased by Compass Minerals from Utah SITLA.

Electricity

Rocky Mountain Power supplies electricity to the site. There is a single feed, 138 kV feed to the plant's main sub-station, with above-ground 12.47 kV distribution. From there the feed separates out through the site to feed the various areas. Feeds are single lined and not double ended.

There are Emergency (diesel) generators located in various plants for critical machinery (process water pumps, IT room, thickeners, battery charger room, promontory site, AT&T site, and for the expansion at SOP). Generators are run weekly for 15 minutes. There are 13 total natural gas or diesel generators ranging from 20 kW to 450 kW.

Public Power is not provided at the West Ponds which are powered by natural-gas generators. There are two Caterpillar 602 horsepower units, one Generac 86.5 horsepower units and one 36 HP unit at the flushing station. These generators provide power for all pumping operations at the West Ponds.

Natural Gas

The natural gas supplier is Dominion Energy. The gas main enters the east pant facility site near the Magnesium Chloride plant and is distributed to various plants at 60 psi with regulators at the various point-of-use equipment. All gas-fired equipment contains adequate safety trains, combustion burner safety controls, and flexible connections.

Steam

There are two natural gas fired boilers each 90,000 lb./hr. Both were installed in 2013 and located in the boilers house. Steam is primarily for the SOP plant with some for mag chloride process and other ancillary uses. The plant is currently running at 70% of steam capacity. Reverse osmosis water treatment is provided.

Water

Treated culinary water and plant process water is supplied by Weber Basin Water Conservancy District via Willard Bay Reservoir under contract (Figure 15-1 and Figure 15-2). Untreated process water is pumped from the reservoir to a canal that connects the reservoir to an onsite storage reservoir. The plant purchases 800 acre feet of treated culinary per year for potable uses, and 8,000 acre feet per year of untreated water from Willard Bay reservoir for plant process water.

Canals and Pipelines

Process and culinary water are pumped to the Ogden Site via canal and water-line respectively along the same corridor (Figure 15-1 and 15-2). Compass Minerals also maintains the Behrens Trench across the north arm of the GSL. The Behrens Trench was constructed in the early 1990s and is used to convey one-year concentrated brine from the west ponds to the east ponds. The 21-mile long 30 to 80-foot wide underwater canal leverages density differences between concentrated brine from the west ponds to flow on the canal floor beneath the less-dense ambient north arm brine. The transit time is roughly 7 days over the 21-mile canal (Figure 15-1 and 15-3). Compass Minerals also maintains an indenture with UPRR to maintain an overland canal along the UPRR mainline on Promontory Point that connects the terminus of Behrens Trench at Pump Station1 with the Ponds 1 and 1A in the east-pond complex. The canal parallels the UPRR rail as illustrated on Figure 13-2.

Rail

The east plant facility is served by Union Pacific Railroad. The site has eight sidetracks off the spur from the main transcontinental east west line. The sidetracks are used for indexing and storage of rail cars awaiting loading or shipping. The Ogden Site operates AutoCar Railyard vehicle to move and index railcars to and from loadout.

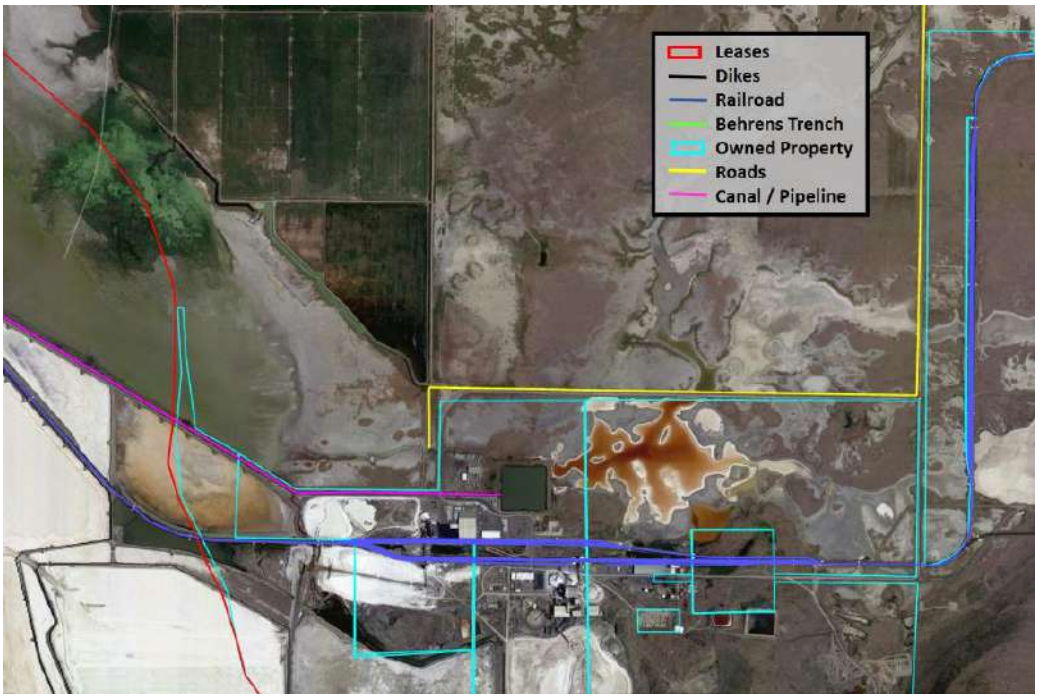


Figure 15-4: Key Infrastructure: Rail Facilities

16 Market Studies

The USGS indicates that potash denotes a variety of mined and manufactured salts that contain the element potassium in water-soluble form. In agriculture, the term potash refers to potassic fertilizers, which are potassium chloride (KCl), potassium sulfate or sulfate of potash (SOP), and potassium magnesium sulfate (SOPM) or langbeinite. Muriate of potash (MOP) is an agriculturally acceptable mix of KCl (95% pure or greater) and sodium chloride for fertilizer use. The fertilizer industry used about 85% of U.S. potash sales, and the remainder was used for chemical and industrial applications. About 65% of the potash produced was SOPM and SOP, which are required to fertilize certain chloride-sensitive crops. The remaining 35% of production was MOP and was used for agricultural and chemical applications.

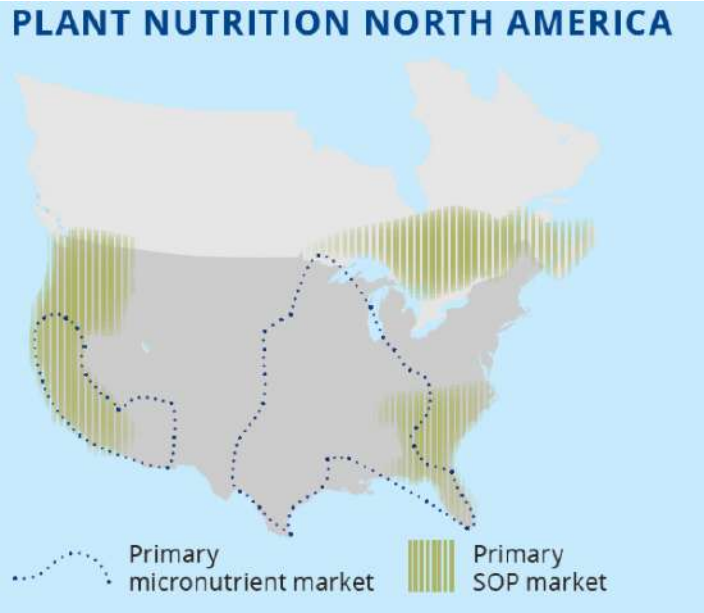
16.1 General Marketing Information - SOP

Compass Minerals is the largest producer of sulfate of potash (SOP) in the Western Hemisphere. This essential mineral product provides nutrients for specialty crops such as fruits, vegetables and tree nuts. As stated in its 2021 Annual Report, Compass Minerals Plant Nutrition North America segment includes sales of SOP and specialty plant nutrients. There are two major forms of potassium-based fertilizer, SOP, a specialty form of potassium which also provides plant-ready sulfur, and muriate of potash (“MOP” or “KCl”).

Compass Minerals believes that the average annual worldwide consumption of all potash fertilizers is approximately 88 million tons, with MOP accounting for over 85% of all potash used in fertilizer production. SOP represents approximately 8% of all potash production. The remainder of potash is supplied in forms containing varying concentrations of potassium (expressed as potassium oxide) along with different combinations of co-nutrients. SOP, which contains the equivalent of approximately 50% potassium oxide, maintains a price premium over MOP due to the fact that it contains the secondary nutrient, sulfur, does not contain chlorides and is more expensive to produce than MOP. Additionally, many high-value or chloride-sensitive crops experience improved yields and quality when SOP is applied instead of MOP. SOP is also a more cost-effective alternative to other forms of specialty potash.

Compass Minerals North American SOP sales are concentrated in the Western and Southeastern U.S. where the crops and soil conditions favor the use of low-chloride potassium nutrients. Figure 16-1 provides an illustration of these markets. Consequently, weather patterns and field conditions in these locations can impact Plant Nutrition North America sales volumes. While long-term global consumption of potash has increased in response to growing populations and the need for additional food supplies, the market for commodity potash has been challenged over the last few years due to a downturn in the broader crop market which has pressured grower incomes. However, recently improved economics for row crops has led to an improved commodity potash market. Compass Minerals expects the long-term demand for all potassium nutrients to continue to grow as arable land per capita decreases, thereby encouraging improved crop yields. Additionally demand for SOP products has been resilient despite the challenges facing the global potash market.

Approximately 91% of Compass Minerals’ Plant Nutrition North America sales in the fiscal year that began on January 1, 2021 and ended September 30, 2021 were made to U.S. customers, who include retail fertilizer dealers and distributors of agricultural products as well as professional turf care customers. In some cases, these dealers and distributors combine or blend SOP with other fertilizers and minerals to produce fertilizer blends tailored to individual requirements.



From Compass Minerals

Figure 16-1: Domestic SOP Market

16.1.1 Current Potash Market

According to Bloomberg GreenMarkets assessment of the Potash Market in July 2021, Global potash prices have diverged, with demand rising in the west and slowing in the east.

North and South American consumption is driving a demand-fueled potash price rally, which Bloomberg sees extending through the end of 2021 based on higher crop prices. Potash demand is usually highest in 3Q, driven primarily by Brazil. This year, Brazilian demand is again expected to reach a record, with imports up 13% vs. last year. Product availability in Brazil is extremely supply-constrained, and port bottlenecks are limiting movement to end users. Green Markets forecasts global potash consumption growth will slow to 1% in 2022 but reach a record 74 million tons as freight disruptions ease, crop prices fall and higher fertilizer-to-crop price ratios destroy demand around the edges.

16.1.2 Long-Term Price Forecast

GreenMarkets also publishes its forecast for potash pricing, including SOP annually. Table 16-1 provides its forecast for SOP pricing through 2031. The QP utilized 'SOP Pacific NW' projected Selling Price from 2022 through 2031 in the life of mine cash flow analysis described in Section 19. Because most row crops, orchards and nut trees require the application of potassium to maximize productivity and to maintain the health of supporting soils such that they are not 'mined' of potassium over time, the application of supplemental potassium is necessary and foreseeable well into the future. For fruit and nut crops, there is no substitute for SOP because root systems for these crops are sensitive to chlorides, yet still require potassium. Therefore, it is reasonable to assume that pricing will sustain and appreciate after the GreenMarkets forecasted pricing for 2028, and appreciate at 2% per annum thereafter for the life of mine.

	Unit	2014	2015	2016	2017	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2031F
NOLA Granular	$/St	351	315	195	217	254	256	205	444	450	380	330	350	385	390
Corn Belt Granular	$/St	388	365	237	256	289	301	250	484	495	425	375	395	430	435
SOP Pacific NW	$/St	NR	NR	602	567	589	603	581	609	650	580	620	650	630	650
Brazil Granular CFR	$/Mt CFR	353	328	237	264	324	332	241	466	490	420	370	390	425	430
NW Europe Granular	€/Mt	281	303	261	254	282	291	249	277	310	305	300	305	320	380
SE Asia Granular	$/Mt	NR	333	285	274	305	323	275	339	335	362	332	342	392	432
Vancouver Granular	C $/Mt	302	310	275	224	230	270	232	230	300	320	290	300	350	390

Source: Green Markets © Bloomberg L.P.

Table 16-1: Forecast Nominal Potash Pricing through 2031

16.2 General Marketing Information - Salt

According to Roskill's Salt Outlook to 2028, global demand for salt is forecast to rise from 352Mt in 2018 to 424Mt in 2028 at an average of around 1.9%py. Regional growth will continue to be led by Asia, especially China and India. Asian demand is projected to rise by 2.8%py from 173Mt to 228Mt. By 2028, Asia is forecast to account for nearly 54% of world demand compared to 49% in 2018. Europe is expected to overtake NAFTA by growing at around 1%py, reflecting low growth in regional chloralkali and synthetic soda ash markets. Demand in North America is projected to grow at 0.4%py, mostly following a rise in chloralkali production. The North American region is the one most strongly influenced by changes in the de-icing market so actual demand by 2028 may diverge from the forecast.

End-use	Asia	North America	Europe	Latin America	Africa	Oceania	Total
Chloralkali	113.8	29.3	23.1	3.9	1.5	0.4	172
Synthetic soda ash	62.1	1.2	20	0.3	-	-	83.6
Road de-icing	4	30	15	-	-	-	49
Food	20.9	1.2	2.6	6.1	6.1	0.2	33.6
Other	27.5	20	25	1	1	2	85.5
Total	228.3	81.7	85.7	16.8	8.6	2.6	423.7

Source: Roskill estimates

Published in: Salt: Outlook to 2028

Table 16-2: World Forecast Demand for salt by region

North American Consumption

In the United States, much of the variation in output and imports is related to that of rock salt which is dependent on the severity of winters. Most imports are from overseas subsidiaries of major US salt producers. Exports are small compared to imports but still average well over 500ktpy and mostly sent to Canada. In 2015, apparent consumption was a record 67.5Mt following a severe winter in 2014/15 and imports of over 21Mt. Mild winters in over the next two years saw this drop to under 55Mt. The return of a more severe winter in 2017/18 saw apparent consumption grow by 7Mt. According to USGS Mineral Commodity Summaries 2021, imports are mostly from Chile (33%), Canada (24%), Mexico (13%), and Egypt (9%) (USGS, 2021).

Like the United States, Canadian consumption of salt can vary widely between years as the de-icing market forms a considerable part of overall use. In years with mild winters, apparent consumption can fall below 8Mt but in those with severe winters it can exceed 11Mt. There is a considerable export trade, nearly all of rock salt, across the border with the USA, which again is closely connected to winter conditions in both countries.

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
United States	Production	43,320	45,010	37,200	40,300	45,300	45,100	41,700	40,000	42,000	44,000
	Imports	12,901	13,852	9,873	11,897	20,186	21,636	12,144	12,609	17,871	19,486
	Exports	655	981	891	592	935	840	739	1,146	1,008	700
	Apparent consumption	55,566	57,881	46,182	51,605	64,551	67,576	53,105	51,463	58,863	62,786
Canada	Production	10,278	12,757	10,820	12,244	14,473	14,343	10,242	11,424	10,568	11,000
	Imports	990	1,628	1,751	1,633	2,436	2,225	1,802	3,361	3,938	3,854
	Exports	4,283	5,338	3,990	4,846	5,795	5,986	3,193	3,668	3,415	4,655
	Apparent consumption	6,985	9,047	8,581	9,031	11,114	10,582	8,851	11,117	11,091	10,199
Combined US and Canada		62,551	66,928	54,763	60,636	75,665	78,158	61,956	62,580	69,954	72,985

Table 16-3: USA and Canada: Production, trade and apparent consumption of salt, 2010-2019

Table 16-3 presents a summary of the average value of price, average value of bulk, pellets and packaged salt, f.o.b. mine and plant annually as summarized by the USGS (USGS, 2021).

	2016	2017	2018	2019	2020
Vaccuum / Open Pan Salt	197.78	211.71	220.00	215.00	215.00
Solar Salt	99.69	115.88	120.00	120.00	120.00
Rock Salt	56.75	60.41	58.00	58.00	57.00
Brine Salt	8.68	9.49	9.00	9.00	9.00

Source: USGS

Table 16-4: USGS Summary of US Salt Pricing

A breakdown of market segments served between 2018 and 2021 by Cote Blanche Mine Production is provided in Table 16-4. A summary of demand and production (imported and exported) is provided in Table 16-2. Salt produced by the Ogden Facility is sold to local bulk deicing markets, and regionally for consumer and industrial markets.

	2018	2019	2020	2021
Consumer and Industrial				
Deicing	4,000	5,000	5,000	5,000
Non-Deicing	660,000	690,000	660,000	663,000
Total C&I	**664,000**	**695,000**	**665,000**	**668,000**
Bulk Highway				
Chemical Salt	34,000	30,000	29,000	33,000
Highway	364,000	342,000	262,000	372,000
Total Bulk Highway	**398,000**	**372,000**	**291,000**	**405,000**
Total Production	**1,062,000**	**1,062,000**	**951,000**	**1,067,000**
Magnesium Chloride				
Solid Flake	**30,100**	**34,900**	**37,200**	**31,600**
Solution - Deicing	**178,000**	**198,000**	**170,000**	**170,000**
Solution - DustGard	**434,000**	**435,000**	**438,000**	**467,000**
Total MgCl	**612,000**	**632,000**	**609,000**	**638,000**

Table 16-5: Summary of Ogden Salt And Magnesium Chloride Production and Sales by Segment

16.3 General Marketing Information - Magnesium Chloride

In 2020, primary magnesium was produced by one company, US Magnesium, also located on the Great Salt Lake. US Magnesium uses an electrolytic process plant that recovered magnesium from brines from the Great Salt Lake. Secondary magnesium was recovered from scrap at plants that produced magnesium ingot and castings and from aluminum alloy scrap at secondary aluminum smelters. Primary magnesium production in 2020 was estimated to have decreased from that of 2019. Information regarding U.S. primary magnesium production was withheld to avoid disclosing company proprietary data. The leading use for primary magnesium metal, which accounted for 47% of reported consumption, was in castings, principally used for the automotive industry. Aluminum-base alloys that were used for packaging, transportation, and other applications accounted for 33% of primary magnesium metal consumption; desulfurization of iron and steel, 16%; and all other uses, 4%. Magnesium chloride accounts for approximately 33% of the magnesium market, with Israel producing 63%; the Netherlands, 24%; China, 5%; India, 3%; and other, 5%.

A summary of magnesium chloride sales from the Ogden facility is provided on Table 16-5. Most magnesium chloride is sold as a solution, that is sold regionally as DustGard for road maintenance markets (de-dusting), with a smaller volume being sold as a solution used in enhanced deicing applications. Magnesium is also processed in to a solid form, magnesium flake, and sold as an additive to commercial deicing products that require lower freeze-point products to effectively melt ice.

16.4 Material Contracts Required for Production

There are no material contracts required for production.

17 Environmental, Social, and Permitting

17.1 Results of Environmental Studies and Baselines

Mine construction commenced in 1968 with production beginning in 1968, prior to the promulgation of the National Environmental Policy Act and Clean Water Act. Operation of the mine has been consistent and ongoing since commencement of production. Therefore, no baseline or environmental studies have been required, nor conducted.

Various pond expansions, notably in the early 1990s and the expansion of Pond 1B in 2006 required application under Clean Water Act 401 and 404 permitting programs as the construction of these facilities resulted in the discharge of fill in into jurisdictional, navigable waters of the United States. Both projects required mitigation to compensate for environmental impacts to the lakebed. Additionally, 401 and 404 permits have been required to support construction of intake canals to the west ponds, construct and maintain the Behrens Trench, and pump station 23 intake canal. Mitigation was required for these projects as well. Where mitigation was required, the Ogden facility purchased mitigation credits at the Machine Lake Mitigation facility in Box Elder County, which is recognized and certificated by the U.S. Army Corps of Engineers.

17.2 Waste, Tailings, and Water Plans - Monitoring and Management

Compass Minerals pumps brine from the GSL, and by the process of evaporation, concentrates and removes salt, potash, and magnesium chloride. During this process, more sodium chloride is produced than any other product, but the potash and magnesium chloride are many times more valuable per ton than sodium chloride. In fact, the Company has large amounts of sodium chloride left in the ponds after harvesting, which must, by contract with the State of Utah, be returned to the GSL under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1). The salt is returned to the lake by the facility pumping water from the Bear River Bay of the GSL, dissolving the remaining salt found in the evaporation ponds and returning them to Bear River Bay.

The solar evaporation mineral mining operation has been operating on the shores of the Great Salt Lake 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 (K2SO4) 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 (MgCl2). 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 chronological 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) under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1) 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 MgCl2.

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 MgCl2 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.

Magnesium Chloride Processing

The residual brine drained from the east solar evaporation ponds contains approximately 30 percent magnesium chloride. This brine is either sold directly to end users for deicing and dust control on roads or further processed into a number of liquid and solid products. The brine directed to the Magnesium Chloride Plant contains trace amounts of sulfate, which is considered an impurity for the purposes of the manufacturing process. This impurity is removed from the brine in a chemical de-sulfating process. The de-sulfated brine, with or without additional additives to improve the performance of the product, may be marketed as a liquid deicing or dust suppression product, or may be processed further into a solid hexahydrate flake. During the flaking process, sodium hypochlorite may be added to the de-sulfated brine solution to improve the color of the final product and is heated using evaporators to create a magnesium solution that can be cooled into a solid hexahydrate flake on a water-cooled belt.

Much of the effluent generated by the Magnesium Chloride Plant is pumped to a nearby pond where discharges to groundwater are covered by the Ground Water Permit-By-Rule under UAC R317-6-6. However, a number of flows, including discharges from air pollution control equipment, intermittent wash-down of production equipment, and cooling tower blowdown, are discharged to the Great Salt Lake through Outfall 001 under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1).

Salt (NaCl) Plant

Harvested NaCl is transferred to the salt plant via haul roads where it is washed to remove organic material and other impurities. After washing, the wet salt is either sold as a highway de-icing product or is, dried, and further processed into saleable products. The majority of these products are unaltered, though a portion may be treated with certain additives to improve the quality of the final product. 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.

Effluent generated by the Salt Plant, including salt wash water, discharges from air pollution control equipment, intermittent wash-down of production equipment, rail and truck rinse water and dissolution of off-specification salt treated with citric acid, are discharged to the Great Salt Lake through Outfall 001 under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1).

Sulfate of Potash (SOP) Plant

Harvested potassium salts are transported to the SOP plant and converted to schoenite (K2SO4-MgSO4-6H2O) in a chemical process. Once at the desired concentration, the slurry is heated to approximately 120˚F, which converts the schoenite into SOP. Once dried, a portion of the SOP material is conveyed to the silos as finished standard SOP product. The remaining SOP is sent through the

compaction process, where a number of formed products are produced with the addition of a binding agent. Finished SOP products are conveyed from the silos to the SOP loadout facility where the majority is treated with a dust suppressant prior to loading into railcar or trucks for transport offsite.

Effluent generated by the remainder of the SOP Plant, including wash-down of production equipment, cooling tower blowdown and rail and truck rinse water, are discharged to the Great Salt Lake through Outfall 001. 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. Additionally, the boiler feed water is treated via carbon filtration, water softening, and reverse osmosis. Reject water from this system is also discharged through Outfall 001.

Processing Plant Effluent Reuse

Flows generated from the schoenite conversion circuit contain recoverable levels of potassium salts. These flows as well as well as excess MgCl2 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.

Miscellaneous Process Flows

The Outfall 001, regulated under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1), discharges specifically include: effluent from the rinsing of truck and railcars that were previously used to ship product; effluent from the use of steam to clean railcar and truck loading chutes; effluent from the washout of buildings, production equipment and general housekeeping; compressor blowdown treated to remove oil prior to discharge; and effluent from the washing of mobile equipment and vehicles where degreasers or chemicals may be used so long as these chemicals are approved for direct release under the EPA's Safer Choice program.

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 then discharged through Outfalls 002 – 008 under the site wide UPDES effluent discharge permit UT0000647 (described in Section 17.4.1), 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.

17.3 Project Permitting Requirements

The Ogden Plant's license to operate is primarily regulated by its water rights (i.e., its right to extract brine from the lake) and its surface leases for its evaporation ponds. These leases and water rights are discussed in more detail in Section 2.3.

Brine and ultimate mineral extraction from brines extracted from the GSL is enabled by a Large Mine Operation mineral extraction permit (GSL Mine M/057/0002) ("Mine Permit") through the Utah Department of Natural Resources ("DNR"), Division of Oil, Gas and Mining ("DOGM"). The mineral extraction permit enables all lake extraction, pond operations, and plant / processing operations conducted by Compass Minerals. The Mine Permit is supported by a reclamation plan that documents all aspects of current operations and mandates certain closure and reclamation requirements in

accordance with Utah Rule R647-4-104. Financial assurance for the ultimate reclamation of facilities is documented in the reclamation plan, and security for costs that will be incurred to execute site closure is provided by a third party insurer to the State of Utah in the form of a surety bond. Any greenfield expansion of ponds or appurtenances beyond the existing facility footprint would require a permit modification regardless of the mineral(s) being developed.

17.4 Air Permit

The site operates under a Title V air permit # 5700001003, which is administered by the Utah Department of Environmental Quality. The permit covers emissions from the pond and plant operations. The permit expires in December 2026.

17.4.1 Surface Water Effluent Discharge Permit

Surface water discharges from the site are regulated under Utah Pollutant Discharge Elimination System (LPDES) permit UT0000647. The permit requires discharge monitoring for effluent flows from the nine outfalls that discharge into the saline waters of Great Salt Lake and regulates inputs in pond and plant processes that may be discharged in project effluent.

17.5 Plans Negotiations or Agreements (Environmental)

There are no plans or agreements relative to environmental matters with any external parties.

17.6 Mine Closure Plans

The mine closure plan is described in detail in Sections 3.5 and 17.3 as it serves as a condition to the operating license generally. The mine closure plan requires provision of financial security for the execution of reclamation held by a third party agency. The amount of the current financial security is $4.6 million.

17.7 Adequacy Assessment of Plans

Relative to other types of mining, the Ogden facility is low risk from an environmental standpoint. It does not require significant disturbance of the landscape and no surface waste (toxic or otherwise) is generated in the process. Going forward, environmental risk to the reserve is viewed as low.

17.8 Local Hiring Commitments

The workforce at the Ogden facility is not unionized. There are no commitments with outside entities or governments relating to the local labor force.

18 Capital and Operating Costs

Capital and operating costs discussed in this section were developed on a unit cost and quantity basis utilizing the QP's estimates that are based on owner's costs from the past five years, current and historic cost data from continuous and ongoing operation of the facility, first principles, and 51 years of operational experience operating the facility at projected production capacity. Operating costs presented herein are the QP's estimates based on actual owner's costs incurred at the operation since 2017, while capital costs projected through 2026 are owners cost estimates developed based on unit cost and quantity basis utilizing historic cost data, first principles, vendor/contractor quotations, and similar operation comparisons.

18.1.1 Operating Cost

Actual fixed and variable operating costs incurred by the Owner at the GSL facility from 2016 through 2021 are provided in Table 18-1. Summarized variable costs include production materials, mobile equipment, rentals, contract hauling, and temporary labor. Summarized fixed costs include labor, maintenance materials, maintenance services, electricity, natural gas steam, local taxes and insurance and allocations.

Specific operating costs associated with magnesium chloride and salt operations are presented on Table 18-2.

Since 2017, total operating costs per ton have ranged from $242 per ton in 2019 to $325 per ton in 2017. Headcount has remained fairly stable overt the period with 340 total salaried and hourly employees in 2017 to 374 employees in 2021.

18.1.2 Capital Costs

The average annual capital expenditure since 2017 at the GSL Facility is $17,125,000, with a high of $30,053,000 in 2017 and a low of $11,255,000 in nine-month fiscal 2021 (Table 18-1). The higher than average capital spend in 2017 was associated with SOP Plant improvements undertaken as maintenance of business. The average annual capital expenditure excluding the SOP Plant improvements is $15,041,000, which is more indicative of a typical annual capital expenditure. All actual capital costs incurred since 2017 were provided by the owner.
A summary of capital costs associated with magnesium chloride and salt operations are presented on Table 18-2.

The GSL Facility, as well as all Compass Minerals facilities, maintains a five-year capital forecast for all planned capital expenditures to support current production. A summary of foreseen capital expenditures for SOP operations through 2026 is provided on Table 18-3. As shown on Table 18-3, total estimated capital expenditure through 2026 is $186,066,000, and is comprised of MOB capital and capital spend for major foreseen capital projects through 2026 including:

- Raising dikes, intake canal maintenance and pump station re-builds $58,041,000.
- Maintenance, replacement and rebuilds of key SOP plant facilities $110,589,000.

The balance of the forecasted capital expenditure through 2026 is $17,436,000 and primarily includes routine replacement and maintenance of mine vehicles and equipment. Listed expenditures are based on historic cost data, vendor/contractor quotations, and similar operation comparisons and are within +/-15% level of accuracy. There are risks regarding the current capital costs estimates through 2026,

including escalating costs of raw materials and energy, equipment availability and timing due to either production delays or supply chain gaps.

$in thousands	2017	2018	2019	2020	2021
Capital Spend	(30,053)	(18,953)	(14,096)	(11,269)	(11,255)
Development CAPEX	(10,215)	(204)	0	0	0
MOB CAPEX	(19,838)	(18,749)	(14,096)	(11,269)	(11,255)
Production / Sales					
SOP Harvest	3,354	3,710	3,694	4,145	4,035
SOP Production Tons (000's)	257	298	313	305	279
Sales Tons (000's)	293	314	277	340	225
Selling Price per Ton	567.48	575.32	577.24	554.26	588.17
Total Sales	166,273	180,650	159,896	188,448	132,338
Operating Costs (Variable / Fixed)					
Production Materials	3,257	4,738	3,246	3,025	3,157
Mobile Equipment	6,943	7,450	6,325	6,754	7,898
Equipment Rental	362	739	288	870	3,933
Contract hauling	4,134	4,649	3,900	3,695	0
Logistics	22,158	22,285	23,448	28,187	17,655
Royalties (4.8%)	4,134	4,649	3,900	3,695	3,695
Temporary Labor	610	1,242	816	1,672	2,818
Subtotal - Variable	(41,598)	(45,753)	(41,923)	(47,899)	(39,156)
Labor / Benefits	10,984	10,925	11,236	11,278	12,770
Maintenance Materials	4,949	7,263	6,723	6,305	5,964
Maintenance Services	3,171	5,955	4,637	5,081	3,361
Power	3,352	3,487	3,488	3,794	4,344
Natural Gas	1,164	1,261	1,167	1,223	1,227
Steam	4,448	4,390	4,390	3,883	4,444
Taxes & Insurance	5,506	4,503	4,876	5,140	6,121
Other Fixed Costs	1,738	1,697	1,247	2,167	3,107
Common Cost Allocation	11,208	13,094	13,593	15,823	15,850
Change In Inventory	(427)	(342)	2,205	1,027	83
Subtotal - Fixed	(46,093)	(39,481)	(37,764)	(38,872)	(41,337)
Operating Cost	(83,557)	(80,584)	(75,787)	(83,075)	(76,798)
Cost / ton (produced)	325	271	242	273	275

Table 18-1: Summary of SOP Capital and Operating Costs: 2017-2021

$in thousands	2017	2018	2019	2020	2021
Capital Spend (C&I Salt)	(669)	(1,794)	(1,602)	(2,878)	(1,813)
Development CAPEX	(32)	0	0	(204)	(1)
MOB CAPEX	(637)	(1,794)	(1,602)	(2,674)	(1,812)
Capital Spend (Highway Salt & Mag)	(184)	(180)	(1,163)	(522)	(165)
Development CAPEX	0	0	0	0	0
MOB CAPEX	(184)	(180)	(1,163)	(522)	(165)
Capital Spend C&I Mag)	(150)	(109)	(358)	(94)	(749)
Development CAPEX	0	0	0	0	0
MOB CAPEX	(150)	(109)	(358)	(94)	(749)
Production / Sales					
Salt Production (tons)	1,083,000	1,061,000	1,061,000	950,000	1,067,000
Salt Sales (tons)	1,002,400	893,150	1,010,040	919,980	899,890
Average Sales Price (All Salt)	$59.90	$60.84	$60.24	$64.25	$66.80
Magnesium Production (tons)	597,766	612,000	632,300	608,831	637,874
Magnesium Sales (tons)	547,542	591,548	633,711	548,058	574,437
Average Sales Price (Magnesium)	$50.50	$50.42	$54.78	$52.23	$52.46
Total Sales (Salt and Magnesium)	$87,696,918	$84,163,617	$95,556,197	$89,611,514	$90,248,559
Operating Costs (Salt)					
Variable Costs					
Salt and Ingredients	5,344	4,994	5,826	5,676	5,444
Packaging	4,934	4,518	4,696	4,433	4,241
Shipping Material	4,114	4,080	4,621	4,523	4,675
Variances and adjustments	(312)	1,081	(1,278)	(805)	609
Dunnage	251	313	271	126	324
Total Variable Costs	14,330	14,985	14,136	13,953	15,292
Fixed Costs					
Labor	5,719	5,516	6,617	7,244	7,056
Maintenance Materials/Services	1,753	1,931	2,876	2,614	2,172
Utilities	1,324	1,354	1,390	1,190	1,186
Mobile Equipment/Rail Switch/Rental	1,413	1,717	1,923	1,537	1,330
Common Cost Allocations	3,180	2,340	2,287	2,425	2,513
All Other	1,014	924	1,281	1,491	1,349
Total Fixed Costs	14,403	13,783	16,374	16,500	15,605
Total Cash Cost	28,733	28,768	30,510	30,453	30,897
Depreciation	2,489	2,181	2,343	2,302	2,154
Total Cost	31,222	30,949	32,853	32,755	33,051
Cost per Ton (Salt)	$46.05	$46.57	$47.62	$49.66	$49.88

Operating Costs (Magnesium)					
Variable Costs					
Calcium Chloride	1,239	1,881	2,247	2,792	2,206
Rust Inhibitor	1,956	2,646	1,655	1,545	1,156
Packaging/Shipping Materials	628	690	790	809	730
Raw Brine/Other Ingredients	1,405	1,288	1,445	1,494	1,316
Rail Switching	636	593	760	722	701
Variances	78	252	13	(396)	(46)
Total Variable Costs	5,943	7,351	6,910	6,966	6,062
Fixed Costs					
Labor and Benefits	1,719	1,607	1,839	2,025	1,905
Maintenance Materials/Services	1,030	686	1,223	1,113	1,002
Utilities	745	870	1,076	1,068	1,058
Mobile Equipment/Rental	32	58	173	136	141
Common Cost Allocations	1,427	1,200	1,004	1,017	1,055
All Other	44	110	155	174	317
Total Fixed Costs	4,997	4,532	5,470	5,532	5,477
Total Cash Costs	10,940	11,883	12,381	12,498	11,539
Depreciation	1,435	1,290	1,188	1,079	1,002
Total Plant Costs	12,375	13,173	13,569	13,577	12,541

Table 18-2: Summary of Magnesium Chloride and Salt Capital and Operating Costs: 2017-2021

18.1.3 Assumptions

The capital projects are assumed to be constructed in a conventional EPCM format. Compass Minerals routinely retains qualified contractor to design projects and act as its agent to bid and procure materials and equipment, bid and award construction contracts, and manage the construction of the facilities.

18.1.4 Accuracy

The accuracy of this estimate for those items identified in the scope-of work is estimated to be within the range of plus 15% to minus 15%; i.e., the cost could be 15% higher than the estimate or it could be 15% lower. Accuracy is an issue separate from contingency, the latter accounts for undeveloped scope and insufficient data (e.g., geotechnical data).

Table 18-3: Summary of Capital Expenses: 2022-2026

	PROJECT DESCRIPTION	2022	2023	2024	2025	2026	5-YrTotal
Ponds	Raise East Pond Dikes and new pump stations	$6,035	$10,167	$5,732	$2,121		$24,055
	West Ponds Intake canal extend/refurb	$1,400	$2,500	$2,000	$2,000		$7,900
	New pump station 115	$0	$5,000				$5,000
	Place rock Pond 115 Dike	$560	$2,000	$2,000			$4,560
	Refurbish Pump Station 4	$270	$4,230				$4,500
	Ponds MCC replacement (PS 5/6/8/9/10/14/16)	$500	$1,100	$1,100	$1,000		$3,700
	Raise Discharge Elevation Pump Station 114	$75	$1,925				$2,000
	North Pond Power line upgrade to PS003	$0		$800			$800
	PS023 Increase intake canal size & rework piping	$600					$600
	Ponds PLC upgrade (PS 5/6/9/10/14/16)	$200	$200	$200			$600
	Ponds power line refurbishment	$150	$150	$150	$150		$600
	OGP* WEST DESERT PUMPS REBUILD 3306 CAT ENGINE	$150	$75	$75	$75	$75	$450
	CR019 Discharge Sump Replacement	$0	$400				$400
	Replace pond bridge 41	$116					$116
	Replace Pond Haul Road Bridges	$640	$700	$120			$1,460
	Portable Pumps (Mobile)	$400					$400
	Replace Portable Pumps (Mobile)	$0	$400				$400
	OGP* REBUILD WEST DESERT PUMPS (3/YR)	$100	$100	$100	$100	$100	$500
	Pond Maintenance Capital Total	**$11,196**	**$28,947**	**$12,277**	**$5,446**	**$175**	**$58,041**
SOP Plant	SOP Power & Control Upgrade	$200	$10,000	$2,000			$12,200
	Ball Mill/Flotation	$0	$5,000	$5,000			$10,000
	Curing Dryers	$0	$10,000				$10,000
	Mobile Shop & Wash Replacement	$0			$7,660	$2,160	$9,820
	Reinforce SOP Silos Phase 3	$0	$9,000				$9,000
	Reinforce SOP Silos Phase 2	$2,220	$5,280				$7,500
	1B Pond SOP Brine Storage Phase 2	$0	$6,793				$6,793
	SOP Loadout and Admin Electrical and Control Upgrade	$1,800	$1,100				$2,900
	BH001 Replacement	$1,600	$1,000				$2,600
	Refurbish Thickener 3	$0	$1,250	$1,250			$2,500
	Structural upgrade for building	$0	$1,000	$500	$500	$500	$2,500
	MOBILE WASH BAY	$0	$2,200				$2,200
	OGD1400 DRYER REPLACE	$0	$2,200				$2,200
	Silo 11 Dust Control	$0	$2,000				$2,000
	Compaction Plant Optimization	$0			$1,700		$1,700
	Replace Compaction Plant Scrubber	$0	$1,500				$1,500
	CR007/CR015 Medium Voltage Motor Upgrade	$0	$1,500				$1,500
	Refurbish 113/114 Dike	$0	$1,500				$1,500
	Add 2 additional heat exchangers to SOP plant	$0	$1,500				$1,500
	Add Drag for C1507	$0	$1,100				$1,100
	Replace conveyor C257	$0	$1,000				$1,000
	BH001 N-S Extensions	$0	$850				$850
	Upgrade S037	$0	$800				$800
	BH008 Replacement	$750					$750
	BH1516 Replacement	$0	$700				$700
	OGC1540 REPLACE WITH DRAG CHAIN	$0	$700				$700
	Thickener and Feed Automation	$0	$600				$600
	PI Vision	$0	$560				$560
	OGAH1403 Dryer 1400 Stack Replacement	$500					$500
	OGW006 Loadout Scale Rebuild	$500					$500
	Pump station 2 fresh water injection	$500					$500
	SOP BUILDING SIDINGS AND PERLINS - PHASE 2	$0	$500				$500
	HOPPER GATES INSTALL HYDRAULIC GATES SYSTEM (5 GAT	$0	$500				$500
	Under-Silo Dust Management	$160	$160	$160			$480
	OGBL006 SIDING, REPLACE - LOADOUT	$0	$480				$480
	SOP BUILDING SIDINGS AND PERLINS - PHASE 1	$0	$480				$480
	OGC1515A and B CONE SCREW WITH DRIVES - CONVEYOR R	$0	$450				$450
	OGC1510A and B CONE SCREW WITH DRIVES - FRESH FEED	$0	$450				$450
	OGC1527 REPLACE C1527 W/ DRAG CONVEYOR	$0	$450				$450
	OGUS001 REPLACE, UNDERGROUND PROCESS WATER LINE	$0	$400				$400
	OGAH1401 Dryer COMBUSTION AIR FAN	$0	$400				$400
	Fire pump station automatic inlet screen structure/mechanism instal	$0	$400				$400
	Optimize Ball mill sizing system to improve output, recovery, and st	$0		$400			$400
	Reinforce SOP Silos Phase 1	$350					$350
	CR019 Trunnion, Chute, Liner, Spout, Seal	$350					$350
	Overhead Power Line Rebuild Mobile/MCC902	$340					$340
	TH006 Foundation Refurbishment	$300					$300
	Boiler Plant communications upgrade	$300					$300

Table 18-3: Summary of Capital Expenses: 2022-2026 (continued)

	PROJECT DESCRIPTION	2022	2023	2024	2025	2026	5-YrTotal
SOP Plant	Flotation Cells Coating	$0	$300				$300
	TH006 Refurbish Cladding & Floors	$0	$300				$300
	OGT030 TANK REPLACEMENT SUPER SATURATION*	$0	$300				$300
	OGT029 TANK REPLACEMENT FLOTATION SECONDARY REAC	$0	$300				$300
	MV1300A Pump Replacement	$0	$280				$280
	Ponds telemetry upgrade (entire east/west systems)	$274					$274
	Replace obsolete starters PS023	$260					$260
	TH006 Piping Sustainability	$250					$250
	Replace Pump Station flush tanks	$0	$150	$100			$250
	Backup pump for P709 Chilltank	$0	$250				$250
	Move PEL line to Pond 88	$200					$200
	C10 Chain & Bucket Replacement	$200					$200
	TH006 Drive Upgrade & Replacement	$0	$200				$200
	Upgrade agitators for T704/ T705	$0	$200				$200
	Boiler plant control room & restrooms	$0	$200				$200
	Track 709 Replacement	$180					$180
	OGCR019 ELECTRIC MOTOR, RE-HAB - NORDBERG BALL MILL	$0	$175				$175
	OGT 113 Ball Mill CR019 Discharge	$174					$174
	OGC1406 CHAIN AND WEAR PAD REPLACEMENT	$0	$160				$160
	FI1300 Schoenite Filter Belt Redesign and Install Belly Pans	$0	$150				$150
	OGCR019 NORDBERG BALL MILL FAILURE GIRTH GEAR	$0		$150			$150
	OGC013 CHAIN AND BUCKET REPLACEMENT	$120					$120
	OGPS003 OGP007, REPLACE PUMP	$17	$90				$107
	OGP364 REPLACE PUMP - SPARE TO PS2	$106					$106
	Total SOP Plant	**$11,651**	**$76,858**	**$9,560**	**$9,860**	**$2,660**	**$110,589**
Mobile Fleet	Rebuild 980 Loader #267	$0	$380				$380
	Rebuild 980 Loader #268	$380					$380
	Rebuild CAT D9T Dozer #289	$0	$550				$550
	Rebuild CAT D9T Dozer #293	$514					$514
	Rebuild CAT D9T Dozer #288	$514					$514
	Rebuild 980 Front End Loader #262	$0	$400				$400
	Total Mobile	**$1,408**	**$1,330**	**$0**	**$0**	**$0**	**$2,738**
Miscellaneous	Septic/Sewer system	$600					$600
	New XRD Analyzer	$0	$250				$250
	Unallocated Capital Estimate (unforseen MOB spend that cannot be	$2,000	$2,000	$2,000	$2,000	$2,000	$10,000
	Smaller Projects < $100k	$1,095	$2,363	$390	$0	$0	$3,848
	Total Miscellanous	**$3,695**	**$4,613**	**$2,390**	**$2,000**	**$2,000**	**$14,698**
Total CAPEX through 2026		**$27,950**	**$111,748**	**$24,227**	**$17,306**	**$4,835**	**$186,066**

19 Economic Analysis

19.1.1 Operating Costs

An economic model was created for the GSL Facility to provide validation of the economic viability of the estimated reserve for the Life of Mine until 2161. Following are the key assumptions:

- Mine run rate at 325,000 tons
- Assumed annual sales at 100% of tons produced
- The five year average sales price for SOP is $573/ton. This price was the beginning price used in the life of mine cash flow analysis.
- Annual average sales price increase of 2% year over year
- A finance rate (cost of capital) of 10%
- A tax rate of 26.00%
- Inflation rate of 2%
- Inflation rate of 2% applied to operating costs
- Sales price increase by 2% annually
- An additional 10% contingency on projected fixed and variable costs
- Estimated capital expenses were inflated by 15%

The QP used partial year 2021 budgeted 2022 costs as the benchmark for which to model operating costs through life of mine, applying a 2% annual increase in operating cost annually.

The QP based selling price for 2022 on the average selling price from 2017 through 2021, and then the forecasted price from Bloomberg's GreenMarkets forecast pricing for SOP Pacific NW for 2023 through 2031 on Bloomberg's GreenMarkets forecast pricing for SOP Pacific NW. The QP then applied a 2% per annum increase from the Bloomberg GreenMarket's 2031 selling price forecast through life of mine.

The QP also included both salt and magnesium chloride sales, using the average volumes from the trailing five year period as future expected sales volumes, as well taking the trailing five-year average sales price as the Year 1 sales price, and increasing thereafter by 2% inflation through life of mine. The QP also determined the five year average for operating costs for the trailing five years, and increased by 2% for inflation annually through life of mine.

19.1.2 Capital Costs

As an ongoing project that is in production and profitable, the QP established a going forward MOB capital based on the average MOB capital profile at the mine since 2016. The QP assessed projected MOB capital spend through 2026, which was collaboratively established with the GSL Facility's financial, engineering, operational and maintenance leadership, and validated by the QP.

Beyond 2026, the QP determined the expected replacement and re-build schedule for the pond complex and SOP plant attain the run of mine rate of 325,000 million tons, and applied projected capital costs on to the life of mine cash flow analysis through the end of life of mine. The QP also calculated the average MOB capital spend from 2016 through present, applied a 2% inflation factor on the average MOB through 2026, and applied of a 15% contingency factor on the projected 2026 MOB capital amount of $19,265,000, arriving at a projected 2027 MOB capital spend at $24,081,000. A 2% annual inflation factor as applied to MOB CAPEX thereafter, through end of life of mine.

The QP reviewed the Company's expected capital expenses for salt and magnesium chloride operations through 2026 plus 15% contingency, and applied these costs to expected CAPEX, then calculated the trailing five-year average capital spend for 2027 plus 15% contingency, and increased by inflation through life of mine as well.

19.3 Economic Analysis

Because the mine is active and profitable, the calculation of an IRR is nuanced since there is not initial development expenditure from which to benchmark net project value. Notwithstanding, the QP calculated the NPV of all capital from 2021 through 2032 which is $254,071,000.

Review of the model indicates that the Mine is immediately cash-flow positive in 2022, and remains so through end of the life of mine. As modelled, the project has an IRR of 19.0%, and an NPV of $346.4 million. The cumulative cash flow of the project is $44.6 billion.

19.1.4 Sensitivity Analysis

The QP assessed sensitivity of key variables, including reduction in expected selling price, increased capital expenses and associated depreciation, and operating costs. To assess these variables, the QP modeled a conducted where the following variables were subjected to increases and decreases of 10% and 20%:

- Average Selling Price
- Operating Costs
- Capital Costs (depreciation)

The NPV of the project is null when selling price of SOP is reduced to $471.74 / ton, keeping salt and magnesium chloride stable. The null NPV is reached when adjusting price for all three products evenly when SOP is reduced to $483.76/ton, salt at $52.73/ton and magnesium chloride to $52.08/ton.

Table 19-1: Life of Mine Cash Flow Analysis

$in thousands	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Capital Spend	(36,339)	(129,632)	(28,839)	(20,056)	(5,835)	(26,494)	(27,023)	(27,564)	(28,115)	(28,677)	(29,251)	(29,836)	(30,433)	(31,041)	(31,662)	(32,295)	(32,941)	(33,600)	(34,272)	(34,958)	(35,657)
Salt/Mag CAPEX	(8,383)	(17,884)	(4,612)	(2,750)	(1,000)	(4,339)	(4,426)	(4,514)	(4,605)	(4,697)	(4,791)	(4,886)	(4,984)	(5,084)	(5,185)	(5,289)	(5,395)	(5,503)	(5,613)	(5,725)	(5,840)
Development CAPEX	(22,847)	(105,805)	(21,837)	(15,306)	(2,835)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MOB CAPEX	(5,103)	(5,943)	(2,390)	(2,000)	(2,000)	(22,155)	(22,596)	(23,050)	(23,511)	(23,981)	(24,460)	(24,950)	(25,449)	(25,956)	(26,477)	(27,006)	(27,546)	(28,097)	(28,659)	(29,232)	(29,817)
SOP Production Tons (000's) - Incre	300	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	270	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	572	581	590	599	607	616	624	633	641	650	663	676	690	704	718	732	747	762	777	792	808
Total SOP Sales	154,573	188,859	191,656	194,457	197,256	200,055	202,854	205,652	208,451	211,250	215,475	219,705	224,190	228,664	233,237	237,902	242,660	247,513	252,463	257,513	262,663
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	62	65	68	71	74	77	80	82	83	85	87	89	90	92	94	96	98	99	101	103	106
Total Salt Sales	58,374	61,145	64,316	67,287	70,058	72,829	75,600	77,112	78,654	80,227	81,832	83,469	85,138	86,841	88,577	90,349	92,156	93,999	95,879	97,797	99,753
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	52	53	54	55	56	57	59	60	61	62	63	65	66	67	69	70	71	73	74	76	77
Total Magnesium Sales	30,539	31,149	31,772	32,408	33,056	33,717	34,391	35,079	35,781	36,496	37,226	37,971	38,730	39,505	40,295	41,101	41,923	42,761	43,617	44,489	45,379
Total OGDEN Site Sales	244,986	281,153	287,746	294,152	300,370	306,601	312,845	317,844	322,886	327,974	334,533	341,224	348,049	355,009	362,109	369,352	376,739	384,273	391,959	399,798	407,794
OPEX (Increase)/Decrease :																					
Production Materials	3,904	4,043	4,124	4,207	4,291	4,377	4,464	4,554	4,645	4,738	4,832	4,929	5,028	5,129	5,231	5,335	5,442	5,551	5,662	5,775	5,891
Mobile Equipment	8,341	8,507	8,678	8,851	9,028	9,209	9,393	9,581	9,772	9,968	10,167	10,371	10,578	10,790	11,005	11,225	11,450	11,679	11,913	12,151	12,394
Equipment Rental	3,905	3,983	4,063	4,144	4,227	4,312	4,398	4,486	4,576	4,667	4,761	4,856	4,953	5,052	5,153	5,256	5,361	5,468	5,578	5,689	5,803
Logistics	22,932	22,472	22,922	23,380	23,848	24,325	24,811	25,307	25,813	26,330	26,856	27,393	27,941	28,500	29,070	29,652	30,245	30,849	31,466	32,096	32,738
SOP Royalties (4.8%)	7,420	9,065	9,206	9,334	9,468	9,603	9,737	9,871	10,006	10,140	10,343	10,550	10,761	10,976	11,195	11,419	11,648	11,881	12,118	12,361	12,608
Temporary Labor	2,327	2,373	2,421	2,469	2,519	2,569	2,620	2,673	2,726	2,781	2,836	2,893	2,951	3,010	3,070	3,132	3,194	3,258	3,323	3,390	3,458
Salt Variable Costs	15,598	15,910	16,228	16,553	16,884	17,222	17,566	17,918	18,276	18,641	19,014	19,395	19,782	20,178	20,582	20,993	21,413	21,841	22,278	22,724	23,178
Magnesium Variable Costs	6,183	6,307	6,433	6,562	6,693	6,827	6,963	7,103	7,245	7,390	7,537	7,688	7,842	7,999	8,159	8,322	8,488	8,658	8,831	9,008	9,188
Subtotal - Variable	(69,770)	(72,662)	(74,069)	(75,500)	(76,958)	(78,442)	(79,953)	(81,492)	(83,059)	(84,654)	(86,347)	(88,074)	(89,836)	(91,632)	(93,465)	(95,334)	(97,241)	(99,186)	(101,170)	(103,193)	(105,257)
Labor / Benefits	13,940	13,201	13,567	13,939	14,115	14,398	14,686	14,979	15,279	15,584	15,896	16,214	16,538	16,869	17,206	17,551	17,902	18,260	18,625	18,997	19,377
Maintenance Materials	7,511	7,861	7,814	7,970	8,130	8,292	8,458	8,627	8,800	8,976	9,155	9,338	9,525	9,716	9,910	10,108	10,310	10,517	10,727	10,941	11,160
Maint Contract Services	4,189	4,273	4,359	4,446	4,535	4,625	4,718	4,812	4,908	5,007	5,107	5,209	5,313	5,419	5,528	5,638	5,751	5,866	5,983	6,103	6,225
Power	4,260	4,345	4,432	4,520	4,611	4,703	4,797	4,893	4,991	5,091	5,193	5,296	5,402	5,510	5,621	5,733	5,848	5,965	6,084	6,206	6,330
Natural Gas	1,303	1,329	1,355	1,383	1,410	1438	1467	1,497	1,526	1,557	1,588	1,620	1652	1685	1719	1,753	1,788	1,824	1,861	1898	1936
Steam	4,890	4,707	4,802	4,900	5,000	5,101	5,205	5,309	5,416	5,526	5,720	5,935	5,951	6,071	6192	6,316	6,442	6,571	6,702	6,836	6,973
Taxes & Insurance	6,110	6,232	6,357	6,484	6,614	6,746	6,881	7,019	7,159	7,302	7,448	7,597	7,749	7,904	8,062	8,223	8,388	8,556	8,727	8,901	9,079
Other Fixed Costs	2,744	2,799	2,855	2,912	2,971	3,030	3,091	3,152	3,216	3,280	3,345	3,412	3,481	3,550	3,621	3,694	3,768	3,843	3,920	3,998	4,078
Common Cost Allocation	17,506	17,012	17,352	17,699	18,053	18,414	18,782	19,158	19,541	19,932	20,330	20,737	21,152	21575	22,006	22,446	22,895	23,353	23,820	24,297	24,783
Change In Inventory	1,338	211	215	220	224	229	233	238	243	248	252	258	263	268	273	279	284	290	296	302	308
Salt Fixed Costs	15,917	16,235	16,560	16,891	17,229	17,574	17,925	18,284	18,649	19,022	19,403	19,791	20,187	20,590	21,002	21,422	21,851	22,288	22,733	23,188	23,652
Magnesium Fixed Costs	5,586	5,698	5,812	5,928	6,047	6,168	6,291	6,417	6,545	6,676	6,810	6,946	7,085	7,227	7,371	7,519	7,669	7,822	7,979	8,138	8,301
Salt and Mag Royalties	2,363	2,410	2,459	2,508	2,558	2609	2,661	2,714	2,769	2,824	2,881	2,938	2,997	3,057	3,118	3,180	3,244	3,309	3,375	3,442	3,511
Subtotal - Fixed	(86,560)	(86,294)	(88,019)	(89,780)	(91,575)	(93,407)	(95,275)	(97,181)	(99,124)	(101,107)	(103,129)	(105,191)	(107,295)	(109,441)	(111,630)	(113,863)	(116,140)	(118,463)	(120,832)	(123,248)	(125,713)
Contingency (Fixed and Variab	(15,833)	(15,898)	(16,209)	(16,529)	(16,853)	(17,185)	(17,523)	(17,867)	(18,218)	(18,576)	(18,949)	(19,327)	(19,713)	(20,107)	(20,510)	(20,920)	(21,339)	(21,765)	(22,200)	(22,644)	(23,097)
Operating Cost	(171,963)	(174,853)	(178,297)	(181,809)	(185,387)	(189,034)	(192,751)	(196,540)	(200,401)	(204,337)	(208,424)	(212,592)	(216,844)	(221,181)	(225,605)	(230,117)	(234,719)	(239,413)	(244,202)	(249,086)	(254,067)
Depreciation	(20,167)	(20,623)	(21,390)	(19,674)	(18,232)	(18,355)	(20,123)	(22,125)	(23,438)	(25,290)	(28,428)	(31,934)	(34,132)	(34,791)	(35,280)	(35,872)	(36,475)	(37,090)	(37,718)	(38,359)	(39,011)
Operating Income	41,956	66,279	69,520	92,468	96,750	99,212	99,971	99,179	99,049	99,346	97,681	96,698	97,072	99,128	101,225	103,363	105,545	107,770	110,040	112,355	114,716
Income Taxes	10,830	22,433	22,863	24,042	25,155	25,795	25,992	25,787	25,753	25,570	25,397	25,141	25,239	25,773	26,318	26,874	27,442	28,020	28,610	29,212	29,826
Income After Tax	30,825	43,847	46,356	68,427	71,595	73,417	73,979	73,393	73,296	72,776	72,284	71,556	71,833	73,355	74,906	76,489	78,103	79,750	81,429	83,143	84,890
MOB Capital	(36,339)	(129,632)	(28,839)	(20,056)	(5,835)	(26,494)	(27,023)	(27,564)	(28,115)	(28,677)	(29,251)	(29,836)	(30,433)	(31,041)	(31,662)	(32,295)	(32,941)	(33,600)	(34,272)	(34,958)	(35,657)
Working Capital	2,027	(3,428)	139	147	156	165	174	183	193	202	64	65	66	68	69	70	72	73	75	76	78
Net Operating Income After Ta	26,980	(48,591)	57,986	68,392	84,149	85,443	67,252	68,136	68,810	69,592	71,525	73,719	75,599	77,082	78,593	80,136	81,709	83,313	84,950	86,619	88,322
Cumulative Cash Flow	26,980	(21,611)	36,375	104,767	188,916	274,358	341,610	409,747	478,556	548,148	619,673	693,392	768,992	846,073	924,667	984,802	1,066,511	1,149,824	1,234,773	1,321,392	1,409,714

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$ in thousands	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Capital Spend	(36,370)	(37,097)	(37,839)	(38,596)	(39,368)	(40,155)	(40,958)	(41,778)	(42,613)	(43,465)	(44,335)
Salt/Mag CAPEX	(5,957)	(6,076)	(6,197)	(6,321)	(6,448)	(6,576)	(6,708)	(6,842)	(6,979)	(7,119)	(7,261)
Development CAPEX	0	0	0	0	0	0	0	0	0	0	0
MOB CAPEX	(30,413)	(31,022)	(31,642)	(32,275)	(32,920)	(33,579)	(34,250)	(34,935)	(35,634)	(36,347)	(37,074)
SOP Production Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	824	841	858	875	892	910	928	947	966	985	1005
Total SOP Sales	267,916	273,274	278,740	284,315	290,001	295,801	301,717	307,751	313,906	320,185	326,588
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	108	110	112	114	117	119	121	124	126	129	131
Total Salt Sales	101,748	103,783	105,858	107,975	110,135	112,338	114,584	116,876	119,214	121,598	124,030
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	79	81	82	84	85	87	89	91	92	94	96
Total Magnesium Sales	46,286	47,212	48,156	49,119	50,102	51,104	52,126	53,168	54,232	55,316	56,423
Total OGDEN Site Sales	415,950	424,269	432,754	441,409	450,238	459,242	468,427	477,796	487,352	497,099	507,041
OPEX (Increase)/Decrease :											
Production Materials	6,008	6,129	6,251	6,376	6,504	6,634	6,766	6,902	7,040	7,181	7,324
Mobile Equipment	12,642	12,895	13,152	13,415	13,684	13,957	14,237	14,521	14,812	15,108	15,410
Equipment Rental	5,919	6,038	6,158	6,282	6,407	6,535	6,666	6,799	6,935	7,074	7,215
Logistics	33,392	34,060	34,742	35,436	36,145	36,868	37,605	38,357	39,125	39,907	40,705
SOP Royalties (4.8%)	12,860	13,117	13,380	13,647	13,920	14,198	14,482	14,772	15,068	15,369	15,676
Temporary Labor	3,527	3,597	3,669	3,743	3,817	3,894	3,972	4,051	4,132	4,215	4,299
Salt Variable Costs	23,642	24,115	24,597	25,089	25,591	26,102	26,624	27,157	27,700	28,254	28,819
Magnesium Variable Costs	9,372	9,559	9,750	9,946	10,144	10,347	10,554	10,765	10,981	11,200	11,424
Subtotal - Variable	(107,362)	(109,509)	(111,699)	(113,933)	(116,212)	(118,536)	(120,907)	(123,325)	(125,792)	(128,308)	(130,874)
Labor / Benefits	19,765	20,160	20,563	20,975	21,394	21,822	22,258	22,704	23,158	23,621	24,093
Maintenance Materials	11,393	11,611	11,843	12,080	12,322	12,568	12,820	13,076	13,337	13,604	13,876
Maint Contract Services	6,350	6,477	6,606	6,738	6,873	7,010	7,151	7,294	7,440	7,588	7,740
Power	6,456	6,585	6,717	6,852	6,989	7,129	7,271	7,416	7,565	7,716	7,870
Natural Gas	1,975	2,014	2,054	2,095	2,137	2,180	2,224	2,268	2,314	2,360	2,407
Steam	7,113	7,255	7,400	7,548	7,699	7,853	8,010	8,170	8,334	8,500	8,670
Taxes & Insurance	9,261	9,446	9,635	9,828	10,024	10,225	10,429	10,638	10,850	11,067	11,289
Other Fixed Costs	4,160	4,243	4,328	4,414	4,503	4,593	4,684	4,778	4,874	4,971	5,071
Common Cost Allocation	25,278	25,784	26,300	26,826	27,362	27,909	28,468	29,037	29,618	30,210	30,814
Change In Inventory	314	320	327	333	340	347	354	361	368	375	383
Salt Fixed Costs	24,125	24,607	25,100	25,602	26,114	26,636	27,169	27,712	28,266	28,831	29,408
Magnesium Fixed Costs	8,467	8,637	8,809	8,986	9,165	9,349	9,536	9,726	9,921	10,119	10,322
Salt and Mag Royalties	3,582	3,653	3,726	3,801	3,877	3,954	4,033	4,114	4,196	4,280	4,366
Subtotal - Fixed	(128,228)	(130,792)	(133,408)	(136,076)	(138,798)	(141,574)	(144,405)	(147,293)	(150,239)	(153,244)	(156,309)
Contingency (Fixed and Variable)	(23,559)	(24,030)	(24,511)	(25,001)	(25,501)	(26,011)	(26,531)	(27,062)	(27,603)	(28,155)	(28,719)
Operating Cost	(259,149)	(264,332)	(269,618)	(275,011)	(280,511)	(286,121)	(291,844)	(297,680)	(303,634)	(309,707)	(315,901)
Depreciation	(39,677)	(40,356)	(41,049)	(41,755)	(42,476)	(43,211)	(43,961)	(44,726)	(45,507)	(46,302)	(47,114)
Operating Income	117,125	119,581	122,087	124,643	127,251	129,910	132,622	135,389	138,211	141,090	144,026
Income Taxes	30,452	31,091	31,743	32,407	33,085	33,777	34,482	35,201	35,935	36,683	37,447
Income After Tax	86,672	88,490	90,345	92,236	94,165	96,133	98,141	100,188	102,276	104,406	106,579
MOB Capital	(36,370)	(37,097)	(37,839)	(38,596)	(39,368)	(40,155)	(40,958)	(41,778)	(42,613)	(43,465)	(44,335)
Working Capital	79	81	83	84	86	88	89	91	93	95	97
Net Operating Income After Tax	90,058	91,830	93,637	95,480	97,360	99,277	101,233	103,228	105,263	107,338	109,455
Cumulative Cash Flow	1,499,772	1,591,602	1,685,239	1,780,719	1,878,079	1,977,354	2,078,587	2,181,815	2,287,078	2,394,416	2,503,871

$ in thousands	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063
Capital Spend	(45,221)	(140,946)	(47,048)	(47,989)	(48,949)	(49,928)	(50,927)	(107,665)	(316,163)	(109,452)
Salt/Mag CAPEX	(7,406)	(7,554)	(7,705)	(7,859)	(8,017)	(8,177)	(8,341)	(8,507)	(8,677)	(8,851)
Development CAPEX	0	(94,621)	0	0	0	0	0	(55,719)	(263,199)	(55,408)
MOB CAPEX	(37,815)	(38,572)	(39,343)	(40,130)	(40,932)	(41,751)	(42,586)	(43,438)	(44,307)	(45,193)
SOP Production Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	1,025	1,045	1,066	1,088	1,109	1132	1,154	1177	1,201	1225
Total SOP Sales	333,120	339,782	346,578	353,510	360,580	367,791	375,147	382,650	390,303	398,109
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	134	137	139	142	145	148	151	154	157	160
Total Salt Sales	126,510	129,041	131,621	134,254	136,939	139,678	142,471	145,321	148,227	151,192
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	98	100	102	104	106	108	111	113	115	117
Total Magnesium Sales	57,551	58,702	59,876	61,074	62,295	63,541	64,812	66,108	67,430	68,779
Total OGDEN Site Sales	517,181	527,525	538,076	548,837	559,814	571,010	582,430	594,079	605,961	618,080
OPEX (Increase)/Decrease :										
Production Materials	7,471	7,620	7,772	7,928	8,086	8,248	8,413	8,581	8,753	8,928
Mobile Equipment	15,718	16,033	16,353	16,680	17,014	17,354	17,701	18,055	18,417	18,785
Equipment Rental	7,360	7,507	7,657	7,810	7,966	8,126	8,288	8,454	8,623	8,796
Logistics	41,519	42,350	43,197	44,061	44,942	45,841	46,757	47,693	48,646	49,619
SOP Royalties (4.8%)	15,990	16,310	16,636	16,968	17,308	17,654	18,007	18,367	18,735	19,109
Temporary Labor	4,385	4,473	4,562	4,654	4,747	4,842	4,939	5,037	5,138	5,241
Salt Variable Costs	29,396	29,984	30,583	31,195	31,819	32,455	33,104	33,766	34,442	35,130
Magnesium Variable Costs	11,653	11,886	12,124	12,366	12,613	12,866	13,123	13,386	13,653	13,926
Subtotal - Variable	(133,491)	(136,161)	(138,884)	(141,662)	(144,495)	(147,385)	(150,333)	(153,339)	(156,406)	(159,534)
Labor / Benefits	24,575	25,067	25,568	26,079	26,601	27,133	27,675	28,229	28,794	29,369
Maintenance Materials	14,154	14,437	14,726	15,020	15,321	15,627	15,940	16,258	16,583	16,915
Maint Contract Services	7,895	8,053	8,214	8,378	8,546	8,717	8,891	9,069	9,250	9,435
Power	8,028	8,188	8,352	8,519	8,689	8,863	9,040	9,221	9,406	9,594
Natural Gas	2,455	2,504	2,554	2,605	2,658	2,711	2,765	2,820	2,877	2,934
Steam	8,844	9,020	9,201	9,385	9,573	9,764	9,959	10,159	10,362	10,569
Taxes & Insurance	11,515	11,745	11,980	12,219	12,464	12,713	12,967	13,227	13,491	13,761
Other Fixed Costs	5,172	5,275	5,381	5,489	5,599	5,710	5,824	5,941	6,060	6,181
Common Cost Allocation	31,430	32,059	32,700	33,354	34,021	34,702	35,396	36,104	36,826	37,562
Change In Inventory	390	398	406	414	422	431	440	449	457	466
Salt Fixed Costs	29,996	30,596	31,208	31,832	32,469	33,118	33,781	34,456	35,145	35,848
Magnesium Fixed Costs	10,528	10,739	10,953	11,172	11,396	11,624	11,856	12,093	12,335	12,582
Salt and Mag Royalties	4,453	4,542	4,633	4,726	4,820	4,917	5,015	5,115	5,218	5,322
Subtotal - Fixed	(159,435)	(162,624)	(165,876)	(169,194)	(172,578)	(176,029)	(179,550)	(183,141)	(186,804)	(190,540)
Contingency (Fixed and Variable)	(29,293)	(29,879)	(30,476)	(31,086)	(31,707)	(32,341)	(32,988)	(33,648)	(34,321)	(35,007)
Operating Cost	(322,219)	(328,663)	(335,237)	(341,941)	(348,780)	(355,756)	(362,871)	(370,128)	(377,531)	(385,081)
Depreciation	(47,942)	(49,310)	(50,957)	(51,571)	(52,465)	(53,379)	(54,311)	(55,684)	(59,093)	(62,531)
Operating Income	147,020	149,552	151,882	155,325	158,569	161,876	165,248	168,267	169,336	170,467
Income Taxes	38,225	38,883	39,489	40,384	41,228	42,088	42,965	43,749	44,027	44,321
Income After Tax	108,795	110,668	112,393	114,940	117,341	119,788	122,284	124,518	125,309	126,146
MOB Capital	(45,221)	(46,126)	(47,048)	(47,989)	(48,949)	(49,928)	(50,927)	(51,945)	(52,984)	(54,044)
Working Capital	99	101	103	105	107	109	111	113	116	118
Net Operating Income After Tax	111,615	113,953	116,404	118,627	120,964	123,348	125,780	128,370	131,534	134,751
Cumulative Cash Flow	2,615,486	2,729,439	2,845,843	2,964,470	3,085,433	3,208,781	3,334,560	3,462,930	3,594,464	3,729,215

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$in thousands	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084
Capital Spend	(94,738)	(63,711)	(57,352)	(58,499)	(59,669)	(60,862)	(62,079)	(63,321)	(64,587)	(65,879)	(67,197)	(68,541)	(69,911)	(71,310)	(72,736)	(74,191)	(75,674)	(77,188)	(78,732)	(80,306)	(81,912)
Salt/Mag CAPEX	(9,026)	(3,203)	(9,393)	(9,581)	(5,772)	(9,966)	(10,167)	(10,370)	(10,576)	(10,783)	(11,005)	(11,225)	(11,450)	(11,679)	(11,912)	(12,151)	(12,394)	(12,641)	(12,894)	(13,152)	(13,415)
Development CAPEX	(39,613)	(7,484)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MOB CAPEX	(46,097)	(47,019)	(47,959)	(48,918)	(49,896)	(50,894)	(51,912)	(52,951)	(54,010)	(55,090)	(56,191)	(57,315)	(58,462)	(59,631)	(60,823)	(62,040)	(63,281)	(64,546)	(65,837)	(67,154)	(68,497)
SOP Production Tons (000's) - Increm	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	1,249	1,274	1,300	1,326	1,352	1,379	1,407	1,435	1,464	1,493	1,523	1,554	1,585	1,616	1,649	1,682	1,715	1,750	1,785	1,820	1,857
Total SOP Sales	406,071	414,193	422,477	430,926	439,545	448,336	457,302	466,448	475,777	485,293	494,999	504,899	514,997	525,297	535,803	546,519	557,449	568,598	579,970	591,569	603,401
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	163	166	170	173	177	180	184	187	191	195	199	203	207	211	215	220	224	229	233	238	242
Total Salt Sales	154,215	157,300	160,446	163,655	166,928	170,268	173,672	177,145	180,688	184,302	187,988	191,748	195,583	199,494	203,484	207,554	211,705	215,939	220,258	224,663	229,156
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	120	122	124	127	129	132	135	137	140	143	146	149	152	155	158	161	164	168	171	174	178
Total Magnesium Sales	70,154	71,559	72,989	74,449	75,937	77,456	79,005	80,585	82,197	83,841	85,518	87,228	88,973	90,752	92,567	94,419	96,307	98,233	100,198	102,202	104,246
Total OGDEN Site Sales	630,441	643,050	655,911	669,029	682,410	696,058	709,978	724,179	738,663	753,436	768,504	783,875	799,552	815,543	831,854	848,491	865,461	882,770	900,426	918,434	936,803
OPEX (Increase)/Decrease :																					
Production/Materials	9,167	9,289	9,475	9,664	9,857	10,054	10,256	10,461	10,670	10,883	11,101	11,323	11,549	11,780	12,016	12,256	12,501	12,751	13,007	13,267	13,532
Mobile Equipment	18,161	18,544	19,935	20,333	20,740	21,155	21,578	22,009	22,450	22,899	23,357	23,824	24,300	24,786	25,282	25,788	26,303	26,829	27,366	27,913	28,472
Equipment Rental	9,372	9,151	9,334	9,521	9,905	10,103	10,305	10,512	10,722	10,936	11,155	11,378	11,606	11,838	12,076	12,318	12,562	12,814	13,070	13,331	13,597
Logistics	50,612	51,624	52,657	53,710	54,784	55,880	56,997	58,137	59,300	60,486	61,696	62,929	64,188	65,472	66,781	68,117	69,479	70,869	72,286	73,732	75,206
SOP Royalties (4.8%)	19,491	19,881	20,279	20,684	21,098	21,520	21,951	22,390	22,837	23,294	23,760	24,235	24,720	25,214	25,719	26,233	26,758	27,293	27,839	28,395	28,963
Temporary Labor	5,345	5,452	5,561	5,673	5,786	5,902	6,020	6,140	6,263	6,388	6,516	6,646	6,779	6,915	7,053	7,194	7,338	7,485	7,635	7,787	7,943
Salt Variable Costs	35,933	36,650	37,291	38,028	38,787	39,563	40,354	41,161	41,984	42,824	43,680	44,554	45,445	46,354	47,281	48,227	49,191	50,175	51,179	52,202	53,246
Magnesium Variable Costs	14,205	14,489	14,778	15,074	15,376	15,683	15,997	16,317	16,643	16,976	17,315	17,662	18,015	18,375	18,743	19,118	19,500	19,890	20,288	20,693	21,107
Subtotal - Variable	(162,725)	(165,980)	(169,299)	(172,685)	(176,139)	(179,662)	(183,255)	(186,920)	(190,658)	(194,472)	(198,361)	(202,328)	(206,375)	(210,502)	(214,712)	(219,007)	(223,387)	(227,854)	(232,411)	(237,060)	(241,801)
Labor / Benefits	29,957	30,556	31167	31,790	32,426	33,075	33,736	34,411	35,099	35,801	36,517	37,248	37,993	38,752	39,527	40,318	41,124	41,947	42,786	43,641	44,514
Maintenance Materials	17,253	17,599	17,950	18,310	18,676	19,049	19,430	19,819	20,215	20,619	21032	21,453	21882	22,319	22,766	23221	23,685	24,159	24,642	25,135	25,638
Maint Contract Services	9,824	9,816	10,013	10,213	10,417	10,625	10,838	11,055	11,276	11,501	11,731	11,966	12,205	12,449	12,698	12,952	13,211	13,476	13,745	14,020	14,300
Power	9,766	9,961	10,161	10,365	10,582	10,804	11020	11,241	11,465	11,695	11929	12,167	12,411	12,659	12,912	13170	13,434	13,702	13,976	14,256	14,541
Natural Gas	2,993	3,053	3,114	3,176	3,240	3,304	3,370	3,438	3,507	3,577	3,648	3,721	3,796	3,872	3,949	4,028	4,109	4,191	4,275	4,360	4,447
Steam	10,780	10,996	11216	11,440	11,669	11,902	12,140	12,383	12,631	12,883	13,141	13,404	13,672	13,945	14,224	14,509	14,799	15,095	15,397	15,705	16,019
Taxes & Insurance	14,026	14,317	14,603	14,895	15,193	15,497	15,807	16,123	16,446	16,775	17,110	17,452	17,801	18,157	18,521	18,891	19,269	19,654	20,047	20,448	20,857
Other Fixed Costs	6,205	6,431	6,559	6,690	6,824	6,961	7,100	7,242	7,387	7,535	7,685	7,839	7,996	8,156	8,319	8,485	8,655	8,829	9,005	9,185	9,369
Common Cost Allocation	38,314	39,080	39,861	40,659	41472	42,301	43,147	44,010	44,890	45,788	46,704	47,638	48,591	49,563	50,554	51,565	52,596	53,648	54,721	55,816	56,932
Change in Inventory	476	485	495	505	515	525	536	547	557	569	580	592	603	615	628	640	653	666	680	693	707
Salt Fixed Costs	36,565	37,297	38,042	38,803	39,579	40,371	41,178	42,002	42,842	43,699	44,573	45,464	46,374	47,301	48,247	49,212	50,196	51,200	52,224	53,268	54,334
Magnesium Fixed Costs	12,934	13,093	13,352	13,619	13,891	14,169	14,453	14,742	15,037	15,337	15,644	15,957	16,276	16,602	16,934	17,272	17,619	17,970	18,329	18,696	19,070
Salt and Mag Royalties	5,428	5,537	5,648	5,761	5,876	5,993	6,113	6,235	6,360	6,488	6,617	6,750	6,885	7,022	7,163	7,306	7,452	7,601	7,753	7,908	8,066
Subtotal - Fixed	(194,350)	(198,237)	(202,202)	(206,246)	(210,371)	(214,579)	(218,870)	(223,249)	(227,712)	(232,267)	(236,912)	(241,650)	(246,483)	(251,410)	(256,441)	(261,570)	(266,801)	(272,137)	(277,580)	(283,132)	(288,794)
Contingency (Fixed and Variab	(35,769)	(36,422)	(37,150)	(37,893)	(38,651)	(39,424)	(40,212)	(41,017)	(41837)	(42,674)	(43527)	(44,398)	(45,286)	(46,192)	(47,115)	(48,059)	(49,019)	(49,999)	(50,999)	(52,019)	(53,060)
Operating Cost	(392,783)	(400,639)	(408,651)	(416,824)	(425,161)	(433,664)	(442,337)	(451,184)	(460,208)	(469,412)	(478,800)	(488,376)	(498,144)	(508,107)	(518,269)	(528,634)	(539,207)	(549,991)	(560,991)	(572,211)	(583,655)
Depreciation	(64,262)	(65,593)	(66,793)	(67,864)	(68,957)	(70,071)	(71,206)	(72,367)	(73,556)	(74,756)	(75,996)	(77,241)	(78,521)	(79,827)	(81,159)	(82,517)	(83,903)	(85,316)	(86,759)	(88,229)	(89,729)
Operating Income	173,376	176,728	180,467	184,341	188,292	192,323	196,434	200,628	204,905	209,268	213,718	218,257	222,887	227,609	232,426	237,340	242,351	247,463	252,677	257,995	263,420
Income Taxes	45,078	45,949	46,921	47,929	48,956	50,004	51073	52,163	53,275	54,410	55,567	56,747	57,951	59,178	60,431	61,708	63,011	64,340	65,696	67,079	68,489
Income After Tax	129,298	130,779	133,545	136,412	139,336	142,319	145,361	148,464	151630	154,859	158,151	161,510	164,936	169,431	171,995	175,631	179,340	183,122	186,981	190,916	194,931
MOB Capital	(55,125)	(56,227)	(57,352)	(58,499)	(59,669)	(60,862)	(62,079)	(63,321)	(64,587)	(65,879)	(67,197)	(68,541)	(69,911)	(71,310)	(72,736)	(74,191)	(75,674)	(77,188)	(78,732)	(80,306)	(81,912)
Working Capital	120	123	125	128	130	133	136	138	141	144	147	150	153	156	159	162	165	168	172	175	179
Net Operating Income After Ta	137,576	140,359	143,112	145,905	148,755	151,661	154,625	157,649	160,733	163,878	167,086	170,360	173,699	177,104	180,577	184,120	187,734	191,419	195,179	199,014	202,925
Cumulative Cash Flow	3,966,791	4,007,149	4,150,261	4,296,166	4,444,920	4,596,581	4,751,206	4,908,855	5,069,588	5,233,467	5,400,553	5,570,913	5,744,612	5,921,716	6,102,293	6,286,413	6,474,147	6,665,566	6,860,745	7,059,759	7,262,684

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$ in thousands	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094
Capital Spend	(83,551)	(85,222)	(86,926)	(88,665)	(90,438)	(92,247)	(94,092)	(95,973)	(97,893)	(261,328)
Salt/Mag CAPEX	(13,684)	(13,957)	(14,236)	(14,521)	(14,812)	(15,108)	(15,410)	(15,718)	(16,032)	(16,353)
Development CAPEX	0	0	0	0	0	0	0	0	0	(161,477)
MOB CAPEX	(69,867)	(71,264)	(72,690)	(74,143)	(75,626)	(77,139)	(78,682)	(80,255)	(81,860)	(83,498)
SOP Production Tons (000's) - Incren	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	1,894	1,932	1,970	2,010	2,050	2,091	2,133	2,175	2,219	2,263
Total SOP Sales	615,469	627,778	640,334	653,140	666,203	679,527	693,118	706,980	721,120	735,542
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	247	252	257	262	268	273	279	284	290	296
Total Salt Sales	233,739	238,414	243,182	248,046	253,007	258,067	263,228	268,493	273,863	279,340
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	181	185	189	192	196	200	204	208	212	217
Total Magnesium Sales	106,331	108,457	110,627	112,839	115,096	117,398	119,746	122,141	124,583	127,076
Total OGDEN Site Sales	955,539	974,650	994,143	1,014,025	1,034,306	1,054,992	1,076,092	1,097,614	1,119,566	1,141,957
OPEX (Increase)/Decrease :										
Production Materials	13,803	14,079	14,360	14,647	14,940	15,239	15,544	15,855	16,172	16,495
Mobile Equipment	29,041	29,622	30,214	30,819	31,435	32,064	32,705	33,359	34,026	34,707
Equipment Rental	13,598	13,870	14,147	14,430	14,719	15,013	15,313	15,620	15,932	16,251
Logistics	76,711	78,245	79,810	81,406	83,034	84,695	86,389	88,116	89,879	91,676
SOP Royalties (4.8%)	29,542	30,133	30,736	31,351	31,978	32,617	33,270	33,935	34,614	35,306
Temporary Labor	8,102	8,264	8,429	8,598	8,770	8,945	9,124	9,306	9,493	9,682
Salt Variable Costs	54,311	55,397	56,505	57,635	58,788	59,964	61,163	62,386	63,634	64,907
Magnesium Variable Costs	21,529	21,960	22,399	22,847	23,304	23,770	24,246	24,731	25,225	25,730
Subtotal - Variable	(246,637)	(251,570)	(256,601)	(261,733)	(266,968)	(272,307)	(277,753)	(283,308)	(288,974)	(294,754)
Labor / Benefits	45,405	46,313	47,239	48,184	49,147	50,130	51,133	52,156	53,199	54,263
Maintenance Materials	26,150	26,673	27,207	27,751	28,306	28,872	29,450	30,039	30,639	31,252
Maint Contract Services	14,586	14,878	15,176	15,479	15,789	16,105	16,427	16,755	17,090	17,432
Power	14,832	15,129	15,431	15,740	16,054	16,376	16,703	17,037	17,378	17,725
Natural Gas	4,536	4,627	4,719	4,814	4,910	5,008	5,108	5,211	5,315	5,421
Steam	16,339	16,666	16,999	17,339	17,686	18,040	18,401	18,769	19,144	19,527
Taxes & Insurance	21,274	21,700	22,134	22,576	23,028	23,488	23,958	24,437	24,926	25,425
Other Fixed Costs	9,556	9,747	9,942	10,141	10,343	10,550	10,761	10,976	11,196	11,420
Common Cost Allocation	58,071	59,232	60,417	61,625	62,858	64,115	65,397	66,705	68,039	69,400
Change In Inventory	721	736	750	765	781	796	812	828	845	862
Salt Fixed Costs	55,421	56,529	57,660	58,813	59,989	61,189	62,413	63,661	64,934	66,233
Magnesium Fixed Costs	19,451	19,840	20,237	20,642	21,055	21,476	21,905	22,344	22,790	23,246
Salt and Mag Royalties	8,228	8,392	8,560	8,731	8,906	9,084	9,266	9,451	9,640	9,833
Subtotal - Fixed	(294,570)	(300,462)	(306,471)	(312,600)	(318,852)	(325,229)	(331,734)	(338,369)	(345,136)	(352,039)
Contingency (Fixed and Variab	(54,121)	(55,203)	(56,307)	(57,433)	(58,582)	(59,754)	(60,949)	(62,168)	(63,411)	(64,679)
Operating Cost	(595,328)	(607,235)	(619,379)	(631,767)	(644,402)	(657,290)	(670,436)	(683,845)	(697,522)	(711,472)
Depreciation	(91,259)	(92,818)	(94,410)	(96,033)	(97,689)	(99,379)	(101,101)	(102,859)	(104,651)	(107,334)
Operating Income	268,953	274,597	280,353	286,225	292,214	298,323	304,555	310,910	317,393	323,151
Income Taxes	69,928	71,395	72,892	74,419	75,976	77,564	79,184	80,837	82,522	84,019
Income After Tax	199,025	203,202	207,461	211,807	216,239	220,759	225,370	230,074	234,871	239,132
MOB Capital	(83,551)	(85,222)	(86,926)	(88,665)	(90,438)	(92,247)	(94,092)	(95,973)	(97,893)	(99,851)
Working Capital	182	186	190	194	197	201	205	209	214	218
Net Operating Income After Ta	206,915	210,984	215,135	219,369	223,688	228,092	232,585	237,168	241,843	246,833
Cumulative Cash Flow	7,469,601	7,680,585	7,895,720	8,115,089	8,338,776	8,566,869	8,799,454	9,036,623	9,278,465	9,525,298

$ in thousands	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105
Capital Spend	(101,848)	(103,885)	(105,962)	(108,082)	(110,243)	(233,067)	(684,456)	(236,935)	(205,083)	(137,918)	(124,152)
Salt/Mag CAPEX	(16,680)	(17,014)	(17,354)	(17,701)	(18,055)	(18,416)	(18,785)	(19,160)	(19,543)	(19,934)	(20,333)
Development CAPEX	0	0	0	0	0	(120,618)	(569,759)	(119,944)	(85,753)	(16,201)	0
MOB CAPEX	(85,168)	(86,871)	(88,608)	(90,380)	(92,188)	(94,032)	(95,913)	(97,831)	(99,787)	(101,783)	(103,819)
SOP Production Tons (000's) - Incren	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	2,308	2,355	2,402	2,450	2,499	2,549	2,600	2,652	2,705	2,759	2,814
Total SOP Sales	750,253	765,258	780,563	796,174	812,098	828,340	844,907	861,805	879,041	896,622	914,554
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	302	308	314	320	326	333	340	346	353	360	368
Total Salt Sales	284,927	290,625	296,438	302,367	308,414	314,582	320,874	327,291	333,837	340,514	347,324
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	221	225	230	235	239	244	249	254	259	264	269
Total Magnesium Sales	129,617	132,209	134,853	137,550	140,301	143,107	145,969	148,889	151,867	154,904	158,002
Total OGDEN Site Sales	1,164,796	1,188,092	1,211,854	1,236,091	1,260,813	1,286,029	1,311,750	1,337,985	1,364,745	1,392,040	1,419,880
OPEX (Increase)/Decrease :											
Production Materials	16,825	17,162	17,505	17,855	18,212	18,577	18,948	19,327	19,714	20,108	20,510
Mobile Equipment	35,401	36,109	36,831	37,568	38,319	39,085	39,867	40,664	41,478	42,307	43,153
Equipment Rental	16,576	16,907	17,245	17,590	17,942	18,301	18,667	19,040	19,421	19,809	20,206
Logistics	93,510	95,380	97,288	99,233	101,218	103,242	105,307	107,413	109,562	111,753	113,988
SOP Royalties (4.8%)	36,012	36,732	37,467	38,216	38,981	39,760	40,556	41,367	42,194	43,038	43,899
Temporary Labor	9,876	10,074	10,275	10,481	10,690	10,904	11,122	11,345	11,571	11,803	12,039
Salt Variable Costs	66,205	67,529	68,879	70,257	71,662	73,095	74,557	76,049	77,569	79,121	80,703
Magnesium Variable Costs	26,244	26,769	27,305	27,851	28,408	28,976	29,555	30,146	30,749	31,364	31,992
Subtotal - Variable	(300,649)	(306,662)	(312,795)	(319,051)	(325,432)	(331,941)	(338,580)	(345,351)	(352,258)	(359,303)	(366,489)
Labor / Benefits	55,348	56,455	57,584	58,736	59,910	61,109	62,331	63,577	64,849	66,146	67,469
Maintenance Materials	31,877	32,515	33,165	33,828	34,505	35,195	35,899	36,617	37,349	38,096	38,858
Maint Contract Services	17,781	18,136	18,499	18,869	19,247	19,631	20,024	20,425	20,833	21,250	21,675
Power	18,080	18,442	18,810	19,187	19,570	19,962	20,361	20,768	21,184	21,607	22,039
Natural Gas	5,530	5,640	5,753	5,868	5,985	6,105	6,227	6,352	6,479	6,608	6,741
Steam	19,918	20,316	20,722	21,137	21,559	21,991	22,430	22,879	23,337	23,803	24,279
Taxes & Insurance	25,933	26,452	26,981	27,520	28,071	28,632	29,205	29,789	30,385	30,993	31,612
Other Fixed Costs	11,648	11,881	12,119	12,361	12,609	12,861	13,118	13,380	13,648	13,921	14,199
Common Cost Allocation	70,788	72,204	73,648	75,121	76,623	78,155	79,719	81,313	82,939	84,598	86,290
Change In Inventory	879	897	915	933	952	971	990	1,010	1,030	1,051	1,072
Salt Fixed Costs	67,558	68,909	70,287	71,693	73,126	74,589	76,081	77,602	79,154	80,738	82,352
Magnesium Fixed Costs	23,711	24,185	24,669	25,162	25,666	26,179	26,703	27,237	27,781	28,337	28,904
Salt and Mag Royalties	10,030	10,230	10,435	10,643	10,856	11,073	11,295	11,521	11,751	11,986	12,226
Subtotal - Fixed	(359,080)	(366,261)	(373,586)	(381,058)	(388,679)	(396,453)	(404,382)	(412,470)	(420,719)	(429,133)	(437,716)
Contingency (Fixed and Variab	(65,973)	(67,292)	(68,638)	(70,011)	(71,411)	(72,839)	(74,296)	(75,782)	(77,298)	(78,844)	(80,421)
Operating Cost	(725,701)	(740,216)	(755,020)	(770,120)	(785,523)	(801,233)	(817,258)	(833,603)	(850,275)	(867,280)	(884,626)
Depreciation	(110,053)	(111,955)	(113,896)	(115,875)	(117,893)	(120,784)	(127,646)	(134,546)	(138,150)	(141,082)	(143,467)
Operating Income	329,042	335,921	342,939	350,097	357,397	364,012	366,846	369,836	376,320	383,677	391,787
Income Taxes	85,551	87,340	89,164	91,025	92,923	94,643	95,380	96,157	97,843	99,756	101,865
Income After Tax	243,491	248,582	253,775	259,071	264,474	269,369	271,466	273,679	278,476	283,921	289,923
MOB Capital	(101,848)	(103,885)	(105,962)	(108,082)	(110,243)	(112,448)	(114,697)	(116,991)	(119,331)	(121,717)	(124,152)
Working Capital	222	227	231	236	241	245	250	255	260	266	271
Net Operating Income After Ta	251,919	256,879	261,939	267,100	272,365	277,950	284,668	291,489	297,558	303,551	309,509
Cumulative Cash Flow	9,777,217	10,034,096	10,296,036	10,563,136	10,835,500	11,113,451	11,398,118	11,689,606	11,987,161	12,290,713	12,600,221

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$in thousands	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125
Capital Spend	(126,635)	(129,168)	(131,751)	(134,386)	(137,074)	(139,815)	(142,611)	(145,464)	(148,373)	(151,340)	(154,367)	(157,455)	(160,604)	(163,816)	(167,092)	(520,793)	(257,216)	(177,319)	(180,866)	(184,483)
Salt/Mag CAPEX	(20,740)	(21,154)	(21,578)	(22,005)	(22,445)	(22,898)	(23,356)	(23,823)	(24,300)	(24,786)	(25,282)	(25,787)	(26,303)	(26,829)	(27,365)	(27,913)	(28,471)	(29,041)	(29,621)	(30,214)
Development CAPEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(350,359)	(83,373)	0	0	0
MOB CAPEX	(105,895)	(108,013)	(110,173)	(112,377)	(114,624)	(116,917)	(119,255)	(121,640)	(124,073)	(126,555)	(129,086)	(131,667)	(134,301)	(136,987)	(139,726)	(142,521)	(145,371)	(148,279)	(151,244)	(154,269)
SOP Production Tons (000's) - Increr	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	2,870	2,928	2,986	3,046	3,107	3,169	3,232	3,297	3,363	3,430	3,499	3,569	3,640	3,713	3,787	3,863	3,940	4,019	4,099	4,181
Total SOP Sales	932,945	951,502	970,532	989,943	1,009,742	1,029,937	1,050,535	1,071,546	1,092,977	1,114,836	1,137,133	1,159,876	1,183,073	1,206,735	1,230,869	1,255,487	1,280,597	1,306,209	1,332,333	1,358,979
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	375	382	390	398	406	414	422	431	439	448	457	466	475	485	495	505	515	525	535	546
Total Salt Sales	354,271	361,356	368,583	375,955	383,474	391,143	398,966	406,946	415,085	423,386	431,854	440,491	449,301	458,287	467,453	476,802	486,338	496,064	505,986	516,105
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	275	280	286	292	297	303	310	316	322	329	335	342	349	356	363	370	377	385	393	400
Total Magnesium Sales	161,162	164,385	167,673	171,026	174,447	177,936	181,495	185,124	188,827	192,604	196,456	200,385	204,392	208,480	212,650	216,903	221241	225,666	230,179	234,783
Total OGDEN Site Sales	1448,278	1477,243	1506,788	1536,924	1567,663	1599,016	1630,996	1663,616	1696,888	1730,826	1765,442	1800,752	1836,767	1873,502	1910,972	1949,191	1988,175	2027,939	2068,498	2109,867
OPEX (Increase)/Decrease :																				
Production Materials	20,920	21,339	21,765	22,201	22,645	23,098	23,560	24,031	24,511	25,002	25,502	26,012	26,532	27,062	27,604	28,158	28,719	29,293	29,879	30,477
Mobile Equipment	44,016	44,897	45,795	46,711	47,645	48,598	49,570	50,561	51,572	52,604	53,656	54,729	55,824	56,940	58,079	59,240	60,425	61,634	62,866	64,124
Equipment Rental	20,610	21,022	21,442	21,871	22,309	22,755	23,210	23,674	24,148	24,631	25,123	25,626	26,138	26,661	27,194	27,738	28,293	28,859	29,436	30,025
Logistics	116,268	118,593	120,965	123,384	125,852	128,369	130,936	133,555	136,226	138,951	141,730	144,564	147,456	150,405	153,413	156,481	159,611	162,803	166,059	169,380
SOP Royalties (4.8%)	44,777	45,672	46,586	47,517	48,468	49,437	50,426	51,434	52,463	53,512	54,582	55,674	56,788	57,923	59,082	60,263	61,469	62,698	63,952	65,231
Temporary Labor	12,290	12,535	12,786	13,031	13,292	13,559	13,829	14,106	14,388	14,675	14,969	15,268	15,574	15,885	16,203	16,527	16,857	17,195	17,539	17,889
Salt Variable Costs	82,317	83,964	85,643	87,356	89,103	90,885	92,703	94,557	96,448	98,377	100,344	102,351	104,398	106,486	108,616	110,788	113,004	115,264	117,569	119,921
Magnesium Variable Costs	32,631	33,284	33,950	34,629	35,321	36,028	36,748	37,483	38,233	38,998	39,778	40,573	41,385	42,212	43,057	43,918	44,796	45,692	46,606	47,538
Subtotal - Variable	(373,839)	(381,295)	(388,922)	(396,700)	(404,634)	(412,727)	(420,981)	(429,401)	(437,989)	(446,749)	(455,684)	(464,797)	(474,093)	(483,575)	(493,247)	(503,111)	(513,174)	(523,437)	(533,906)	(544,584)
Labor / Benefits	68,919	70,195	71,599	73,030	74,491	75,981	77,500	79,050	80,631	82,244	83,889	85,567	87,278	89,024	90,804	92,620	94,473	96,362	98,289	100,255
Maintenance Materials	39,535	40,428	41,237	42,061	42,903	43,761	44,636	45,529	46,439	47,368	48,315	49,282	50,267	51,273	52,298	53,344	54,411	55,499	56,609	57,741
Maint Contract Services	22,108	22,550	23,001	23,461	23,931	24,409	24,897	25,395	25,903	26,421	26,950	27,489	28,039	28,599	29,171	29,755	30,350	30,957	31,576	32,207
Power	22,400	22,930	23,380	23,856	24,333	24,820	25,316	25,823	26,339	26,866	27,403	27,951	28,510	29,080	29,662	30,255	30,860	31,478	32,107	32,749
Natural Gas	6,875	7,013	7,153	7,296	7,442	7,591	7,743	7,898	8,056	8,217	8,381	8,549	8,720	8,894	9,072	9,253	9,438	9,627	9,820	10,016
Steam	24,765	25,260	25,765	26,281	26,806	27,342	27,889	28,447	29,016	29,596	30,189	30,792	31,408	32,036	32,677	33,330	33,997	34,677	35,370	36,078
Taxes & Insurance	32,245	32,890	33,547	34,218	34,903	35,601	36,313	37,039	37,780	38,535	39,306	40,092	40,894	41,712	42,546	43,397	44,265	45,150	46,053	46,974
Other Fixed Costs	14,483	14,773	15,068	15,370	15,677	15,991	16,310	16,637	16,969	17,309	17,655	18,008	18,368	18,736	19,110	19,493	19,882	20,280	20,686	21,099
Common Cost Allocation	89,016	89,776	91,572	93,403	95,271	97,176	99,120	101,102	103,124	105,187	107,291	109,436	111,625	113,858	116,135	118,459	120,827	123,243	125,708	128,222
Change in Inventory	1,093	1,115	1,137	1,160	1,183	1,207	1,231	1,256	1,281	1,306	1,332	1,359	1,386	1,414	1,442	1,471	1501	1,531	1,561	1,592
Salt Fixed Costs	83,999	85,679	87,393	89,141	90,924	92,742	94,597	96,489	98,419	100,387	102,395	104,443	106,531	108,662	110,835	113,052	115,313	117,619	119,972	122,371
Magnesium Fixed Costs	29,462	30,071	30,673	31,286	31,912	32,550	33,201	33,865	34,543	35,233	35,938	36,657	37,390	38,138	38,901	39,679	40,472	41,282	42,107	42,949
Salt and Mag Royalties	12,471	12,720	12,974	13,234	13,498	13,768	14,044	14,325	14,611	14,903	15,201	15,506	15,816	16,132	16,455	16,784	17,119	17,462	17,811	18,167
Subtotal - Fixed	(446,470)	(455,400)	(464,508)	(473,798)	(483,274)	(492,939)	(502,798)	(512,854)	(523,111)	(533,573)	(544,245)	(555,130)	(566,232)	(577,557)	(589,108)	(600,890)	(612,908)	(625,166)	(637,670)	(650,423)
Contingency (Fixed and Variab	(82,029)	(83,670)	(85,343)	(87,050)	(88,791)	(90,567)	(92,378)	(94,225)	(96,110)	(98,032)	(99,993)	(101993)	(104,033)	(106,113)	(108,235)	(110,400)	(112,608)	(114,860)	(117,158)	(119,501)
Operating Cost	(902,319)	(920,365)	(938,772)	(957,548)	(976,699)	(996,233)	(1016,157)	(1,036,480)	(1057,210)	(1078,354)	(1,099,921)	(1,121920)	(1,144,358)	(1,167,245)	(1190,590)	(1214,402)	(1238,690)	(1263,464)	(1,288,733)	(1,314,598)
Depreciation	(145,796)	(148,151)	(150,563)	(153,024)	(155,534)	(158,094)	(160,705)	(163,368)	(166,085)	(168,856)	(171683)	(174,566)	(177,506)	(180,506)	(183,565)	(191,178)	(199,921)	(204,237)	(207,549)	(210,927)
Operating Income	400,174	408,728	417,453	426,353	435,430	444,690	454,134	463,767	473,593	483,616	493,839	504,266	514,902	525,751	536,816	543,612	549,564	560,238	572,216	584,433
Income Taxes	104,045	106,269	108,538	110,852	113,212	115,619	118,075	120,580	123,134	125,740	128,399	131,109	133,875	136,695	139,572	141,339	142,887	145,662	148,776	151,953
Income After Tax	296,128	302,459	308,915	315,501	322,218	329,070	336,058	343,188	350,459	357,876	365,441	373,157	381,028	389,056	397,244	402,273	406,677	414,576	423,440	432,480
MOB Capital	(126,635)	(129,168)	(131,751)	(134,386)	(137,074)	(139,815)	(142,611)	(145,464)	(148,373)	(151,340)	(154,367)	(157,455)	(160,604)	(163,816)	(167,092)	(170,434)	(173,843)	(177,319)	(180,866)	(184,483)
Working Capital	276	282	288	293	299	305	311	318	324	330	337	344	351	358	365	372	379	387	395	403
Net Operating Income After Ta	315,556	321724	328,015	334,432	340,978	347,654	354,464	361,410	368,495	375,722	383093	390,612	398,281	406,103	414,082	423,389	433136	441881	450,517	459,327
Cumulative Cash Flow	12,915,777	13,237,501	13,565,516	13,899,948	14,240,926	14,588,580	14,943,044	15,304,454	15,672,949	16,048,670	16,431,764	16,822,375	17,220,656	17,626,759	18,040,842	18,464,230	18,897,366	19,339,246	19,789,764	20,249,090

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$in thousands	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145
Capital Spend	(188,173)	(191,936)	(195,775)	(199,690)	(203,684)	(207,758)	(211,913)	(660,492)	(220,474)	(224,884)	(229,381)	(233,969)	(238,649)	(504,530)	(1,461,872)	(512,904)	(443,353)	(298,558)	(268,757)	(274,132)
Salt/Mag CAPEX	(30,818)	(31,434)	(32,063)	(32,704)	(33,358)	(34,025)	(34,706)	(35,400)	(36,108)	(36,830)	(37,567)	(38,318)	(39,085)	(39,866)	(40,664)	(41,477)	(42,307)	(43,153)	(44,016)	(44,896)
Development CAPEX	0	0	0	0	0	0	0	(444,340)	0	0	0	0	0	(261,108)	(1,233,382)	(259,648)	(185,632)	(35,071)	0	0
MOB CAPEX	(157,355)	(160,502)	(163,712)	(166,986)	(170,326)	(173,732)	(177,207)	(180,751)	(184,366)	(188,053)	(191,814)	(195,651)	(199,564)	(203,555)	(207,626)	(211,779)	(216,014)	(220,334)	(224,741)	(229,236)
SOP Production Tons (000's) - Increr	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	4,265	4,350	4,437	4,526	4,617	4,709	4,803	4,899	4,997	5,097	5,198	5,303	5,409	5,517	5,628	5,740	5,855	5,972	6,092	6,213
Total SOP Sales	1386,159	1,413,882	1,442,160	1471,003	1,500,423	1530,431	1,561040	1,592,261	1624,106	1656,588	1,689,720	1,723,514	1,757,985	1793,144	1,829,007	1865,587	1,902,899	1,940,957	1979,776	2,019,372
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	557	568	580	591	603	615	627	640	653	666	679	693	706	721	735	750	765	780	796	812
Total Salt Sales	526,429	536,958	547,696	558,649	569,822	581,219	592,843	604,700	616,794	629,130	641,712	654,547	667,637	680,990	694,610	708,502	722,672	737,126	751,869	766,906
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	408	417	425	433	442	451	460	469	478	488	498	508	518	528	539	550	561	572	583	595
Total Magnesium Sales	239,478	244,268	249,153	254,136	259,219	264,403	269,691	275,085	280,587	286,199	291,923	297,761	303,716	309,791	315,986	322,306	328,752	335,327	342,034	348,875
Total OGDEN Site Sales	2,152,065	2,195,108	2,239,008	2283,788	2,329,464	2,375,053	2423575	2,472,046	2521,487	2,571,917	2,623,355	2,675,822	2,729,339	2,783,925	2,839,604	2896,396	2,954,324	3013,410	3073,678	3135,152
OPEX (Increase)/Decrease :																				
Production Materials	31,098	31,709	32,342	32,989	33,649	34,322	35,009	35,709	36,423	37,151	37,894	38,652	39,425	40,213	41,018	41,838	42,675	43,529	44,399	45,287
Mobile Equipment	65,405	66,714	68,049	69,410	70,798	72,214	73,658	75,131	76,634	78,166	79,730	81,324	82,951	84,610	86,302	88,028	89,789	91,584	93,416	95,284
Equipment Rental	30,625	31238	31,862	32,500	33,150	33,813	34,489	35,179	35,882	36,600	37,332	38,078	38,840	39,617	40,409	41217	42,042	42,883	43,740	44,615
Logistics	172,768	176,223	179,747	183,342	187,009	190,749	194,564	198,456	202,425	206,473	210,603	214,815	219,111	223,493	227,963	232,523	237,173	241,916	246,755	251,690
SOP Royalties (4.8%)	66,538	67,866	69,224	70,608	72,020	73,461	74,930	76,429	77,957	79,516	81,107	82,729	84,383	86,071	87,792	89,548	91,339	93,166	95,029	96,930
Temporary Labor	19,247	19,632	19,984	19,364	19,751	20,146	20549	20,960	21,379	21807	22,243	22,688	23,142	23,604	24,077	24,558	25,049	25,550	26,061	26,582
Salt Variable Costs	122,319	124,766	127,261	129,806	132,402	135,050	137,751	140,506	143,316	146,183	149,106	152,089	155,130	158,233	161,398	164,626	167,918	171,276	174,702	178,196
Magnesium Variable Costs	49,169	49,459	50,446	51,457	52,496	53,535	54,606	55,698	56,812	57,949	59,107	60,290	61,495	62,725	63,980	65,259	66,565	67,896	69,254	70,639
Subtotal - Variable	(555,478)	(566,585)	(577,917)	(589,475)	(601,265)	(613,290)	(625,556)	(638,067)	(650,828)	(663,845)	(677,122)	(690,664)	(704,478)	(718,567)	(732,938)	(747,597)	(762,549)	(777,800)	(793,356)	(809,223)
Labor / Benefits	102,269	104,395	106,391	108,519	110,630	112,804	115,162	117,465	119,814	122,210	124,655	127,148	129,691	132,284	134,930	137,629	140,381	143,189	146,053	148,974
Maintenance Materials	59,896	60,074	61,276	62,501	63,751	65,026	66,327	67,653	69,006	70,386	71,794	73,230	74,695	76,189	77,712	79,266	80,852	82,469	84,119	85,801
Maint Contract Services	32,852	33,509	34,179	34,862	35,560	36,271	36,996	37,736	38491	39,261	40,046	40,847	41,664	42,497	43,347	44,214	45,098	46,000	46,920	47,859
Power	33,404	34,072	34,754	35,449	36,158	36,881	37,619	38,371	39138	39,921	40,720	41,534	42,365	43,212	44,076	44,958	45,857	46,774	47,709	48,664
Natural Gas	10,216	10,421	10,629	10,842	11,059	11,280	11,505	11,735	11,970	12,209	12,454	12,703	12,957	13,216	13,480	13,750	14,025	14,305	14,591	14,883
Steam	36,799	37,535	38,286	39,052	39,833	40,630	41442	42,271	43,116	43,979	44,858	45,755	46,671	47,604	48,556	49,527	50,518	51,528	52,559	53,610
Taxes & Insurance	47,314	48,072	49,056	50,047	51,060	52,901	53,959	55,036	56139	57,261	58,407	59,575	60,766	61,982	63,221	64,486	65,775	67,091	68,433	69,801
Other Fixed Costs	21521	21952	22,391	22,839	23,295	23,761	24,236	24,721	25216	25720	26,234	26,759	27,294	27,840	28,397	28,965	29,544	30,135	30,738	31,352
Common Cost Allocation	130,797	133,402	136,076	138,792	141,599	144,399	147,267	150,203	153,207	156,282	159,428	162,647	165,989	169,197	172,576	176,022	179,542	183,133	186,796	190,532
Change In Inventory	1,824	1857	1,690	1,724	1,758	1,793	1829	1,866	1,903	1,941	1,980	2,019	2,060	2,101	2,143	2186	2,230	2,274	2,320	2,366
Salt Fixed Costs	124,819	127,315	129,861	132,459	135,108	137,810	140,566	143,377	146,245	149,170	152,153	155,196	158,300	161,466	164,695	167,989	171,349	174,776	178,272	181,837
Magnesium Fixed Costs	43,808	44,685	45,578	46,490	47,420	48,368	49,335	50,322	51,329	52,355	53,402	54,470	55,560	56,671	57,804	58,960	60,140	61,342	62,569	63,821
Salt and Mag Royalties	18,531	18,901	19,279	19,665	20,058	20,459	20,868	21,286	21,711	22,146	22,589	23,040	23,501	23,971	24,451	24,940	25,438	25,947	26,466	26,995
Subtotal - Fixed	(663,431)	(676,700)	(690,234)	(704,039)	(718,120)	(732,482)	(747,132)	(762,074)	(777,316)	(792,862)	(808,719)	(824,894)	(841,392)	(858,219)	(875,384)	(892,891)	(910,749)	(928,964)	(947,544)	(966,494)
Contingency (Fixed and Variab	(121,991)	(124,329)	(126,816)	(129,351)	(131,939)	(134,577)	(137,269)	(140,014)	(142,814)	(145,671)	(148,584)	(151,556)	(154,597)	(157,679)	(160,832)	(164,049)	(167,330)	(170,676)	(174,090)	(177,572)
Operating Cost	(1,340,799)	(1,367,614)	(1,394,966)	(1,422,866)	(1,451,323)	(1,480,349)	(1509,956)	(1,540,155)	(1,570,959)	(1602,379)	(1,634,426)	(1,667,114)	(1,700,456)	(1,734,465)	(1,769,154)	(1,804,539)	(1,840,629)	(1,877,441)	(1,914,990)	(1,953,290)
Depreciation	(214,372)	(217,866)	(221,471)	(225,123)	(228,857)	(232,661)	(236,541)	(244,125)	(251,783)	(255,906)	(260,106)	(264,380)	(268,750)	(275,018)	(283,674)	(304,810)	(312,611)	(318,358)	(324,121)	(329,141)
Operating Income	596,895	609,696	622,571	635,795	649,284	663,043	677,077	687,765	698,749	713,633	728,823	744,328	760,122	774,442	789,576	787,048	801,084	817,011	834,568	852,722
Income Taxes	155,193	158,497	161,868	165,307	168,814	172,391	176,040	178,819	181,672	185,544	189,494	193,523	197,632	201,355	202,950	204,533	206,282	212,423	216,988	221,708
Income After Tax	441,702	451,199	460,703	470,489	480,470	490,652	501,037	508,946	517,067	528,089	539,329	550,795	562,491	573,087	577,626	582,416	592,802	604,588	617,580	631,014
MOB Capital	(188,173)	(191936)	(195,775)	(199,690)	(203,684)	(207,758)	(211,913)	(216,151)	(220,474)	(224,884)	(229,381)	(233,969)	(238,649)	(243,421)	(248,290)	(253,256)	(258,321)	(263,487)	(268,757)	(274,132)
Working Capital	411	419	427	436	445	453	463	472	481	491	501	511	521	531	542	553	564	575	587	598
Net Operating Income After Ta	468,312	477,477	486,826	496,362	506,088	515,009	526,128	537,392	548,863	559,602	570,555	581,727	593,123	605,215	619,752	634,523	647,657	660,634	673,531	686,621
Cumulative Cash Flow	20,717,403	21,194,880	21,681,706	22,178,068	22,684,155	23,200,164	23,726,292	24,263,684	24,812,547	25,372,149	25,942,703	26,524,430	27,117,553	27,722,769	28,342,520	28,977,043	29,624,700	30,285,334	30,959,965	31,646,586

Table 19-1: Life of Mine Cash Flow Analysis (continued)

$in thousands	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161
Capital Spend	(279,615)	(285,207)	(290,911)	(296,729)	(302,664)	(308,717)	(314,892)	(321,189)	(327,613)	(334,166)	(340,849)	(347,666)	(354,619)	(361,712)	(368,946)	(376,325)
Salt/Mag CAPEX	(45,794)	(46,710)	(47,644)	(48,597)	(49,569)	(50,560)	(51,572)	(52,603)	(53,655)	(54,728)	(55,823)	(56,939)	(58,078)	(59,239)	(60,424)	(61,633)
Development CAPEX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MOB CAPEX	(233,821)	(238,497)	(243,267)	(248,132)	(253,095)	(258,157)	(263,320)	(268,587)	(273,958)	(279,437)	(285,026)	(290,727)	(296,541)	(302,472)	(308,521)	(314,692)
SOP Production Tons (000's) - Increr	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Sales Tons (000's) - Incremental	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Selling Price per Ton	6,338	6,464	6,594	6,726	6,860	6,997	7,137	7,280	7,426	7,574	7,726	7,880	8,038	8,199	8,362	8,530
Total SOP Sales	2,059,759	2,100,954	2,142,974	2,185,833	2,229,550	2,274,141	2,319,624	2,366,016	2,413,336	2,461,603	2,510,835	2,561,052	2,612,273	2,664,518	2,717,809	2,772,165
Salt Sales Tons (000's)	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Salt Selling Price per Ton	828	844	861	878	896	914	932	951	970	989	1,009	1,029	1,050	1,071	1,092	1,114
Total Salt Sales	782,244	797,889	813,846	830,123	846,726	863,660	880,933	898,552	916,523	934,854	953,551	972,622	992,074	1,011,916	1,032,154	1,052,797
Magnesium Sales Tons (000's)	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
Magnesium Selling Price per Ton	607	619	631	644	657	670	683	697	711	725	740	755	770	785	801	817
Total Magnesium Sales	355,852	362,969	370,229	377,633	385,186	392,889	400,747	408,762	416,937	425,276	433,782	442,457	451,307	460,333	469,539	478,930
Total OGDEN Site Sales	3,197,855	3,261,812	3,327,048	3,393,589	3,461,461	3,530,690	3,601,304	3,673,330	3,746,797	3,821,733	3,898,168	3,976,131	4,055,653	4,136,767	4,219,502	4,303,892
OPEX (Increase)/Decrease :																
Production Materials	46,193	47,116	48,059	49,020	50,000	51,000	52,020	53,061	54,122	55,204	56,308	57,435	58,583	59,755	60,950	62,169
Mobile Equipment	97,190	99,134	101,117	103,139	105,202	107,306	109,452	111,641	113,874	116,151	118,474	120,844	123,261	125,726	128,240	130,805
Equipment Rental	45,507	46,417	47,346	48,293	49,259	50,244	51,249	52,274	53,319	54,385	55,473	56,583	57,714	58,868	60,046	61,247
Logistics	256,724	261,858	267,095	272,437	277,886	283,444	289,113	294,895	300,793	306,809	312,945	319,204	325,588	332,099	338,741	345,516
SOP Royalties (4.8%)	98,868	100,846	102,863	104,920	107,018	109,159	111,342	113,569	115,840	118,157	120,520	122,930	125,389	127,897	130,455	133,064
Temporary Labor	27,114	27,656	28,210	28,774	29,349	29,936	30,535	31,146	31,769	32,404	33,052	33,713	34,387	35,075	35,777	36,492
Salt Variable Costs	181,760	185,395	189,103	192,885	196,743	200,678	204,691	208,785	212,961	217,220	221,564	225,996	230,516	235,126	239,828	244,625
Magnesium Variable Costs	72,052	73,493	74,963	76,462	77,991	79,551	81,142	82,765	84,420	86,108	87,831	89,587	91,379	93,206	95,071	96,972
Subtotal - Variable	(825,408)	(841,916)	(858,754)	(875,929)	(893,448)	(911,317)	(929,543)	(948,134)	(967,097)	(986,439)	(1,006,167)	(1,026,291)	(1,046,817)	(1,067,753)	(1,089,108)	(1,110,890)
Labor / Benefits	151,953	154,992	158,092	161,254	164,479	167,769	171,124	174,547	178,037	181,598	185,230	188,935	192,713	196,568	200,499	204,509
Maintenance Materials	87,517	89,267	91,052	92,873	94,731	96,625	98,558	100,529	102,540	104,590	106,682	108,816	110,992	113,212	115,476	117,786
Maint Contract Services	48,816	49,792	50,788	51,804	52,840	53,897	54,975	56,074	57,195	58,339	59,506	60,696	61,910	63,148	64,411	65,700
Power	49,637	50,630	51,642	52,675	53,729	54,803	55,899	57,017	58,158	59,321	60,507	61,717	62,952	64,211	65,495	66,805
Natural Gas	15,181	15,485	15,794	16,110	16,432	16,761	17,096	17,438	17,787	18,143	18,506	18,876	19,253	19,638	20,031	20,432
Steam	54,682	55,776	56,891	58,029	59,190	60,373	61,581	62,812	64,069	65,350	66,657	67,990	69,350	70,737	72,152	73,595
Taxes & Insurance	71,197	72,621	74,074	75,555	77,066	78,608	80,180	81,783	83,419	85,088	86,789	88,525	90,296	92,101	93,944	95,822
Other Fixed Costs	31,980	32,619	33,271	33,937	34,616	35,308	36,014	36,734	37,469	38,218	38,983	39,763	40,558	41,369	42,196	43,040
Common Cost Allocation	194,342	198,229	202,194	206,237	210,362	214,569	218,861	223,238	227,703	232,257	236,902	241,640	246,473	251,402	256,430	261,559
Change In Inventory	2,413	2,462	2,511	2,561	2,612	2,665	2,718	2,772	2,828	2,884	2,942	3,001	3,061	3,122	3,185	3,248
Salt Fixed Costs	185,474	189,183	192,967	196,826	200,763	204,778	208,874	213,051	217,312	221,658	226,092	230,613	235,226	239,930	244,729	249,623
Magnesium Fixed Costs	65,097	66,399	67,727	69,081	70,463	71,872	73,310	74,776	76,271	77,797	79,353	80,940	82,559	84,210	85,894	87,612
Salt and Mag Royalties	27,535	28,086	28,648	29,221	29,805	30,401	31,009	31,630	32,262	32,907	33,565	34,237	34,922	35,620	36,332	37,059
Subtotal - Fixed	(985,824)	(1,005,541)	(1,025,652)	(1,046,165)	(1,067,088)	(1,088,430)	(1,110,198)	(1,132,402)	(1,155,050)	(1,178,151)	(1,201,714)	(1,225,749)	(1,250,264)	(1,275,269)	(1,300,774)	(1,326,790)
Contingency (Fixed and Variab	(181,123)	(184,746)	(188,441)	(192,209)	(196,054)	(199,975)	(203,974)	(208,054)	(212,215)	(216,459)	(220,788)	(225,204)	(229,708)	(234,302)	(238,988)	(243,768)
Operating Cost	(1,992,355)	(2,032,202)	(2,072,846)	(2,114,303)	(2,156,589)	(2,199,721)	(2,243,716)	(2,288,590)	(2,334,362)	(2,381,049)	(2,428,670)	(2,477,243)	(2,526,788)	(2,577,324)	(2,628,870)	(2,681,448)
Depreciation	(334,260)	(339,483)	(344,809)	(350,242)	(355,784)	(361,437)	(367,202)	(373,083)	(379,082)	(385,201)	(391,442)	(397,807)	(404,301)	(410,924)	(413,187)	(414,517)
Operating Income	871,239	890,127	909,393	929,044	949,088	969,532	990,386	1,011,657	1,033,353	1,055,483	1,078,056	1,101,080	1,124,565	1,148,519	1,177,444	1,207,927
Income Taxes	226,522	231,433	236,442	241,551	246,763	252,078	257,500	263,031	268,672	274,426	280,295	286,281	292,387	298,615	306,135	314,061
Income After Tax	644,717	658,694	672,951	687,492	702,325	717,454	732,886	748,626	764,681	781,058	797,761	814,799	832,178	849,904	871,309	893,866
MOB Capital	(279,615)	(285,207)	(290,911)	(296,729)	(302,664)	(308,717)	(314,892)	(321,189)	(327,613)	(334,166)	(340,849)	(347,666)	(354,619)	(361,712)	(368,946)	(376,325)
Working Capital	610	623	635	648	661	674	687	701	715	729	744	759	774	790	805	821
Net Operating Income After Ta	699,973	713,592	727,484	741,653	756,106	770,847	785,884	801,221	816,865	832,822	849,098	865,700	882,633	899,906	916,356	932,880
Cumulative Cash Flow	32,345,459	33,059,051	33,786,535	34,528,188	35,284,294	36,055,141	36,841,025	37,642,246	38,459,111	39,291,934	40,141,032	41,006,731	41,889,365	42,789,271	43,705,626	44,638,506

Cost Sensitivities		After Tax IRR	After Tax NPV ('000s)
Expected Case		19.0%	$346,374
Capital Expenditures	20% Increase	16.7%	$300,179
	10% Increase	17.8%	$323,276
	10% Decrease	20.4%	$369,471
	20% Decrease	22.1%	$392,568
Mining Cost	20% Increase	11.6%	$63,116
	10% Increase	15.3%	$204,745
	10% Decrease	22.7%	$488,002
	20% Decrease	26.5%	$629,631

Table 19-2: Sensitivity Analysis: Cost Factors

Price Sensitivity		After Tax IRR	After Tax NPV ('000s)
Expected Case		19.0%	$346,374
Expected Average Selling Price	20% Increase	29.6%	$815,632
	10% Increase	24.3%	$577,249
	10% Decrease	13.5%	$122,458
	20% Decrease	0%	$(94,992)

Table 19-3: Sensitivity Analysis: Price

20 Adjacent Properties

The evaporation ponds associated with the property are within the mineralized deposit of the GSL, and draw upon the ambient mineralized brine in the GSL. The operation has significant additional lease area outside its current developed footprint that could be developed. However, limitations on any pond expansion include regulatory decision risk associated with permitting, the possibility of environmental and ecological impacts associated with expansion, and bathymetry of the lakebed; generally, development of evaporation ponds below 4,195' amsl is infeasible due to the mass of diking material required to protect against future elevated lake elevations that have been as high as 4,213' amsl.

Also, the GSL Comprehensive Management Plan (Utah DNR, 2011) established leasable area on the bed of the GSL. As shown in Figure 20-1, the western side of the GSL is leasable for salt development. However, considering areas either under existing lease, bathymetric limitations and the restrictive classifications of the lakebed including presence of wildlife resource areas which would limit development Figure 20-2, the developable portions of the GSL lakebed are generally under existing lease.

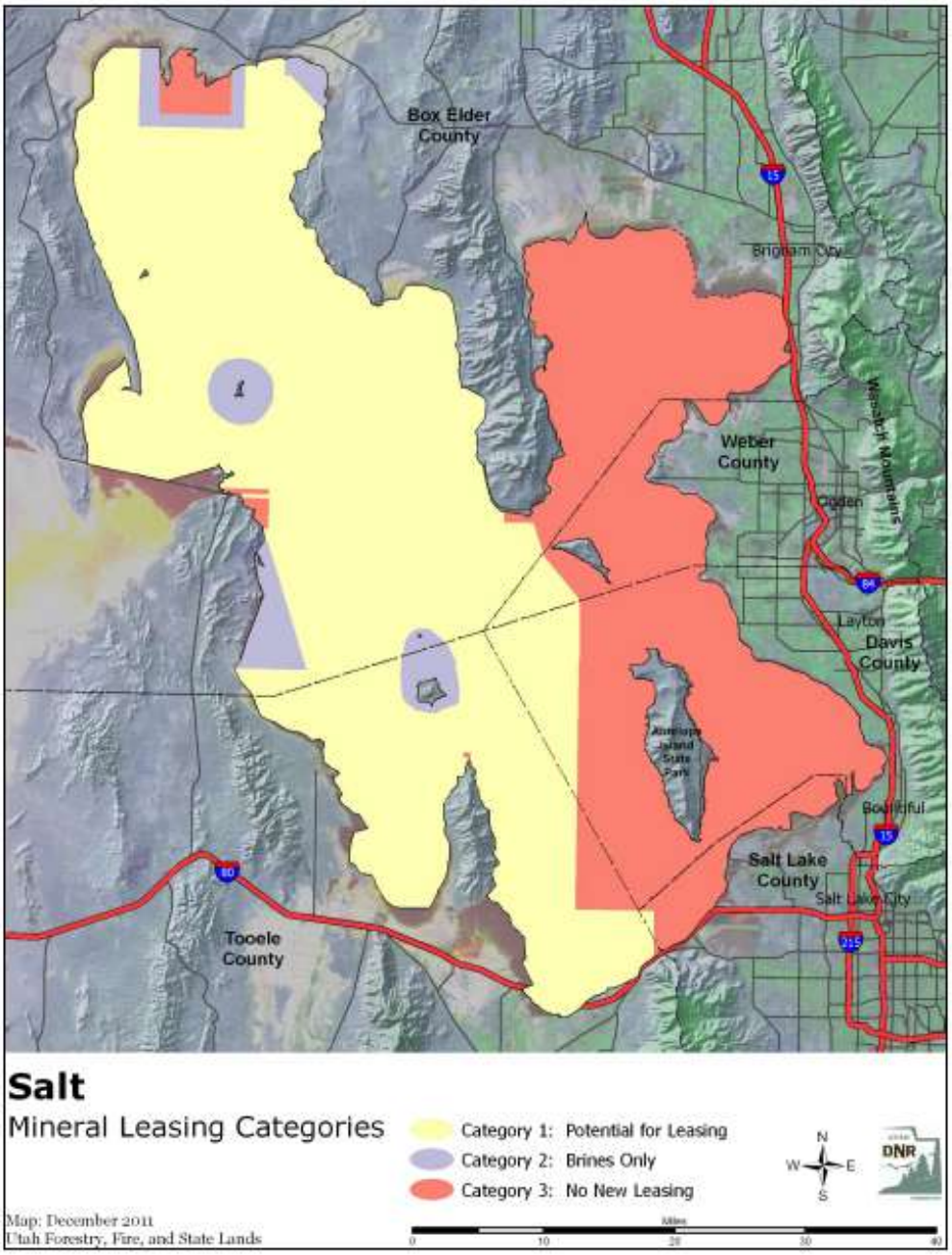


Figure 20-1: Leasable Areas of the GSL

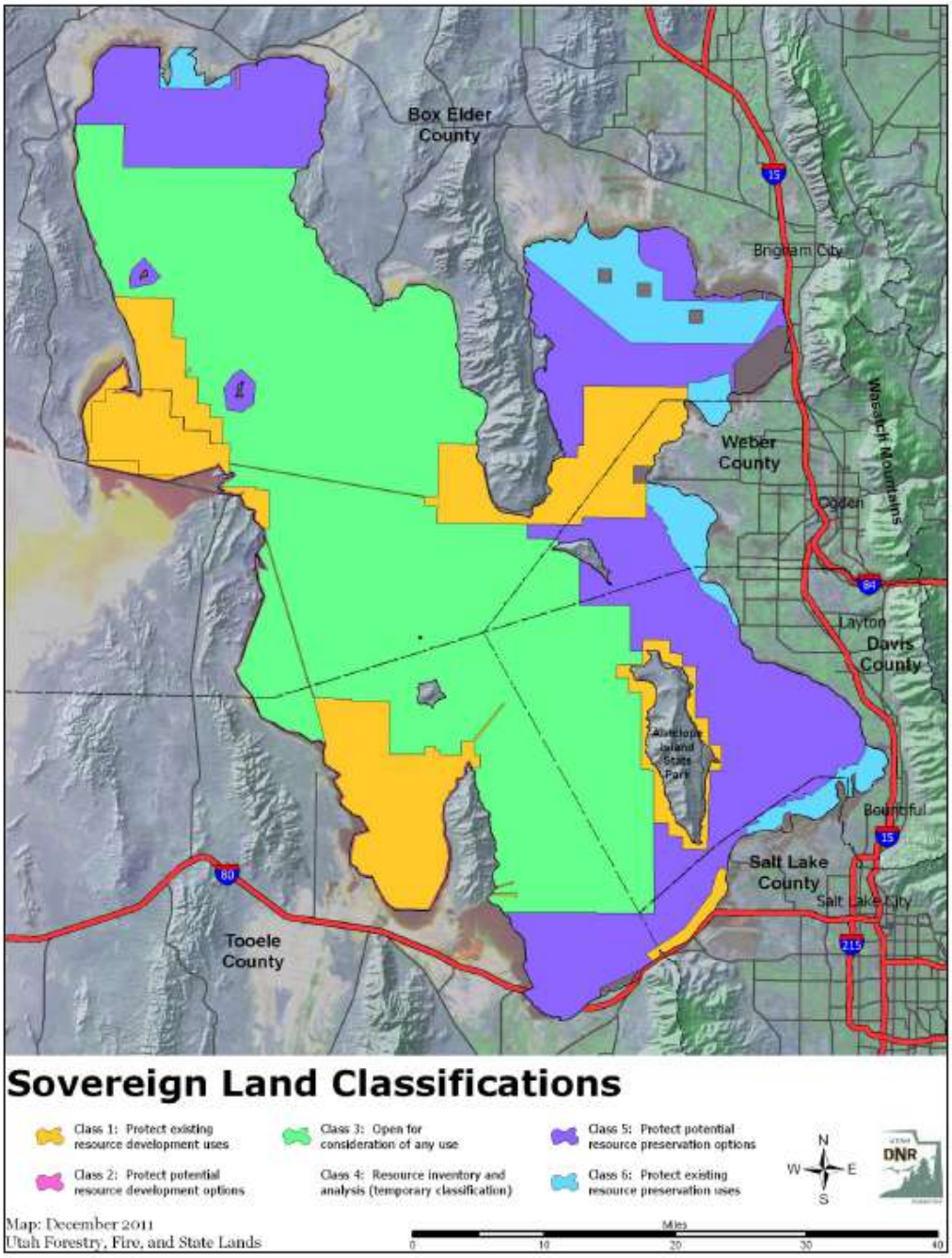


Figure 20-2: Sovereign Land Classifications

21 Other Relevant Data and Information

All data relevant to the estimated mineral reserves and mineral resources have been included in the sections of this Technical Report Summary.

22 Interpretation and Conclusions

22.1 Mineral Resource

For the mass load estimations in the Great Salt Lake brine, the Utah Geological Survey ("UGS") as of September 2020 (water samples across five locations) and United States Geological Survey bathymetry data from 2000 (sonar sampling) were used as the basis for the modeling of sodium, magnesium, potassium and lithium mass loads, the critical ions of interest. Key data from the common sampling points were compared to confirm data correlated. Because these reports are independently produced, undergo inter-agency review, and their key data points correlate, no further evaluation of sampling methods or quality control were reviewed by Company management or the QP. In addition, the Company conducted its own sampling at UGS sample locations to further define potassium resource, in addition to lithium. The Company collected potassium and other ion data during this campaign in order to relate ion relationships and ratios in its modelling as well. These data were derived from samples collected by the QP in hermetically sealed samples containers, sent to an external laboratory under chain of custody, analyzed by an accredited laboratory for metals analysis, and data were reviewed and validated by SRK Consulting. Review of the data derived from the Company's sampling campaign revealed that the data were of sufficient quality to integrate in to the historic UGS data set for further mass load modelling.

The GSL facility resource model was developed and reviewed and by the QP, who also made refinements to the hydrologic model. The mineral resources stated in this TRS are based upon currently available exploration information. This data includes historical information that was collected prior to current standards. However, the uncertainty and risk associated with this historic data has been mitigated through the addition of modern sampling that has been subjected to strict QA/QC protocols that met or exceeded the industry best practices at the time.

The QP is satisfied that the hydrological/chemical model for the Great Salt Lake reflects the current hydrological and chemical information and knowledge.

22.2 Mineral Reserves

The mineral resource model is informed by brine sampling data spanning approximately 55 years and recent bathymetry data. Continuity of the resource is not a concern, as the lake is a visible, continuous body. The Company's experience in extracting potassium and other salts from the Great Salt Lake for over 50 years under dynamic conditions, such as changing lake elevations and ion concentrations, lends confidence regarding the ability to operate under varying conditions, utilizing ion concentrations as a tool to monitor reserve estimates and make operational decisions.

Continued sampling for potassium and other key ions at UGS sample locations will assist in calibrating lake conditions with ion concentration and mass load.

22.3 Financials

Sensitivity analysis indicates that this is a robust project that can withstand 20% increases in the key cash flow components.

- If mining operating costs were to increase 20% from those currently estimated, the project would still remain viable by interpolation of the sensitivities shown in Table 19-1.
- If capital construction costs were to increase 20% from those currently estimated, the project would still remain viable by interpolation of the sensitivities shown in Table 19-1.
- The facility can also withstand a decrease in average selling price of SOP, Magnesium chloride and Salt of 10% from those currently estimated according to the sensitivities shown in Table 19-2, but is negative with a 20% reduction in price per Table 19-2.

23 Recommendations

The QP recommends continuing to collect potassium, magnesium, sodium, boron, and lithium concentration data from the Great Salt Lake to further expand on the current time series of data for the GSL.

23.1 Recommended Work Programs

The following activities are proposed to further inform the potassium concentration data for the GSL, with the objective of continuing the existing time series of data.

- Continue to collect sample data from UGS sample locations in the Great Salt Lake:
- LVG-4
- RD-2
- FB-2
- Continue to follow the UGS methodology for sample collection with the addition of blanks and sample duplicates for QA/QC purposes.
- These samples should be collected at minimum on a quarterly period, as is currently the practice for the UGS when sampling for other ions in the GSL.
- Collection and analysis of samples from the Pond 114 intake should continue to for verification purposes as comparison to the data at LVG4 and RD2 sites.

23.2 Recommended Work Program Costs

Based upon the recommendations presented in Section 23.1, the following cost estimate has been completed to summarize costs for recommended work programs (Table 23-1).

Activity	Cost (US$)
Quarterly GSL Brine Sampling, (12) Quarters	**$60,000**
Laboratory Costs for Brine Analysis	**$10,000**
Full Analysis of GSL, Brine Chemistry Data	**$60,000**
Total Estimated Cost	**$130,000**

Table 23-1: Summary of Costs for Recommended Work

Source: Compass Minerals

*The cost of a demonstration scale plant will be estimated once a technology and targeted production rate are defined.

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25 Reliance on Information Provided by Registrant

The QP has relied upon Compass Minerals' information and data in completing this TRS, in addition to written reports and statements of other individuals and companies with whom it does business. Materials provided by Compass Minerals include permits, licenses, historic exploration data, pumping data, production records, equipment lists, geologic and ore body resource and reserve information, mine modeling data, financial data and summaries, plant equipment specifications and summaries, and plant process information. It is believed that the basic assumptions are factual and accurate, and that the interpretations are reasonable. This data has been relied upon in the mine capital and cost planning, and audited and there is no reason to believe that any material facts have been withheld or misstated. The QP has taken all appropriate steps, in its professional judgment, to ensure that the work, information, or advice from outside governmental agencies and historic engineering and design studies and evaluations are sound and the QP does not disclaim any responsibility for this Technical Report Summary.

26 Date and Signature Page

Signed on December 14, 2022

Prepared by a Qualified Person

/s/ Joseph Havasi

Joseph Havasi, CPG-12040