NI 43-101 TECHNICAL REPORT FOR THE SAGE PLAIN POTASH PROPERTY

PREPARED BY
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PREPARED FOR
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CERTIFICATE OF AUTHOR

I, Dr. Jon P. Thorson, PhD, CPG#10994, do hereby certify that:

1. I am currently a consulting geologist operating an international consulting practice with an office at 3611 South Xenia Street, Denver, Colorado, USA.

2. I am the author of the report entitled *NI 43-101 Technical Report for the Sage Plain Potash Property* (the "Report") with an effective date of November 21, 2022, and prepared at the behest of Sage Potash Corp. (the "Issuer"). I am responsible for all sections of the Report.

3. I am a professional geologist and have been practicing in that capacity since 1966. I have carried out consulting assignments for junior and major natural resource companies in the western United States, most Canadian provinces, Mexico, Argentina, Indonesia, China, Australia, Democratic Republic of the Congo, Namibia, and several European countries.

4. I received a BS in Geology from Washington State University in 1966 and a PhD in Geology from the University of California, Santa Barbara in 1971.

5. I am a Certified Professional Geologist (CPG #10994) as awarded by the American Institute of Professional Geologists. I am also an Emeritus Fellow of the Society of Economic Geologists and a member of the Society for Geology Applied to Mineral Deposits and Denver Region Exploration Geologists Society.

6. I visited the Issuer's potash property (the "Property"), located in the Paradox Basin in Utah, on November 21, 2022, and spent one day on the Property.

7. Since 1986, I have been carrying out consulting assignments and conducting exploration programs in the Paradox Basin for numerous mining companies. My tasks included: evaluation of potash intercepts in oil and gas well logs; acquisition and reprocessing of seismic data; preparation of resource estimates; preparation of an environmental assessment; preparation of a preliminary economic analysis; and land-owner relations.

8. I am a founding member of the Paradox Basin Paleofluids Research Group at the University of Arizona, and I have authored or co-authored papers on Paradox Basin topics for Society of Economic Geologists, Utah Geological Association, Geological Society of Nevada, American Institute of Professional Geologists and American Association of Petroleum Geologists. In addition, I have served on graduate student committees for Masters degree students at Colorado School of Mines for theses on Paradox Basin geology topics.

9. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument ("NI") 43-101.

10. I have no involvement with the activities of the Issuer or the Property's prior owner, beyond the preparation and writing of the Report.

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11. I am independent of the Issuer and the Property's prior owner, applying all tests in Section 1.5 of NI 43-101.

12. I have read NI 43-101 and NI 43-101F1, and the Report has been prepared in compliance with that instrument and form.

13. I have read the relevant sections of the prospectus being filed by the company and do not have any reason to believe that there are any misrepresentations in the information derived from the technical report or that the written disclosure contains any misrepresentation of the information contained in the technical report.

14. As of the effective date of this Report, to the best of my knowledge, information and belief, this Report contains all scientific and technical information that is required to be disclosed to make it not misleading.

Signed in Denver, February 8, 2023.

Jon P. Thorson, PhD, CPG#10994

TABLE OF CONTENTS

List of Tables

List of Figures

1.0 SUMMARY

This Technical Report (TR) discusses the potash resource located under Utah State mineral leases granted to the client, Sage Potash Corporation (hereinafter referred to as Sage Potash), and under Private Mineral Leases, for its Sage Plain Property (also referred to as the Project Area or Property) located in San Juan County, Utah. The Property is a potash prospect situated east of the town of Monticello, Utah. A previous TR (Stirrett and Shewfelt, 2015) that summarized the Property was completed by North Rim Exploration Ltd. (now called RESPEC) for Sennen Potash Corporation (Sennen). As of January 31, 2017, Sennen holds no further interest in the Property, and the company relinquished its mineral leases.

On October 30, 2020, RESPEC conducted an internal update of the Resource Estimation for the Property commissioned by North American Holding Inc. (NAH) for O. Jay Gatten (Gatten), who was the leaseholder at the time. Gatten has assigned all Utah State mineral leases to Sage Potash as of January 14, 2022. Sage Potash is solely vested in the Sage Plain Property and intends to become a prominent domestic potash producer through sustainable solution-mining techniques applied within the Sage Plain Property.

The Property is covered under Mineral Lease (ML) 53646–Other Business Arrangement (OBA) that is wholly owned by Sage Potash. The Property is located approximately 110 kilometers (km) south of the Intrepid Potash solution-mining facility that currently exploits the potash resources of Salt Cycle 5 and Cycle 9 of the Paradox Formation (Agapito Associates, Inc., 2021). The Property encompasses 6,538 acres (2,282 hectares), of Utah State minerals leases. Sage Potash has recently acquired approximately 11,700 net acres (4735 net hectares) of leases on private mineral rights in the Resource Estimation area.

The Mineral Resources established within this report are estimated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Best Practices and Reporting Guidelines [CIM, 2019] and CIM Definition Standard for Mineral Resources and Mineral Reserves [CIM, 2014]. In this TR, the terms “Mineral Resource”, “Inferred Mineral Resource”, “Indicated Mineral Resource” and “Measured Mineral Resource” have the meanings ascribed to those terms by the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as amended.

Investors are cautioned that Resources cannot be classified as Mineral Reserves until further drilling, metallurgical work, and mine planning are completed. Resources also cannot be reclassified until other economic and technical feasibility factors based upon such work have been resolved and can be demonstrated that the Resources may be legally and economically extracted and produced. As a result, investors should not assume that all or any part of the mineralized material reported in any of these categories referred to in the Resource Estimate and TR will be converted into Mineral Reserves.

This TR categorizes vintage historical drill data into a Potential Quantity, classifies Inferred Resources based on modern drill results from collected drill cores and assays reported in the 2015 Sennen TR (Stirrett and Shewfelt, 2015), and updates the historical resource estimate for the Project Area. Sage Potash, a natural-resource company focused on the exploration and development of the Sage Plain Potash Property in southeast Utah, is based in Vancouver, British Columbia, Canada. Sage Potash is planning on developing a small-scale potash production facility and deploying solution-mining techniques similar to those employed by Gensource Potash Corporation and Western Potash Corporation, both located in Saskatchewan, Canada. This TR and the Mineral Resource Estimate discussed, as well as the author's recommendations, reflect the preferred approach of Sage Potash.

The author is entirely independent of Sage Potash and has no interest in any manner in the mineral properties discussed in this report. The effective date of this report is November 21, 2022, which is the date on which the author made a site visit to the Property.

Potash was first discovered in the Paradox Basin in 1922 while exploring for oil and gas southeast of Crescent Junction (Evans, 1956). Between 1953 and 1961, several companies were actively exploring the basin for petroleum and potash resources, and several wells were drilled into the Paradox Formation that helped further define the potash occurrences and formulate geologic models for the deposits. Promising results from the Cane Creek area in the Paradox Basin were obtained and, by 1965, Texas Gulf Sulfur was in full production at an underground potash mine (Durgin, 2011). The target potash horizon at Cane Creek Mine was 3.4 meters (m) thick and averaged 25–30 percent potassium oxide (K_2O) (Jackson, 1973). In 1971 after years of operational difficulty, the Cane Creek Mine was flooded and converted to a solution-mining operation using solar evaporation recovery techniques. Intrepid Potash is the current mine operator and is producing 97,000 to 100,000 tonnes of potash per year from the flooded mine works in Cycle 5 and a series of horizontal caverns from Cycle 9 (Agapito Associates, Inc., 2021).

1.1 GEOLOGY

The Paradox Basin is situated largely within southeast Utah and southwest Colorado and extends into northwest New Mexico and northeast Arizona; The Basin was initially a restricted marine basin that was repeatedly flooded and desiccated, depositing a series of cycles of evaporite minerals including salt and potash, alternating with lesser amounts of dolomite, gypsum (now anhydrite), black shale, carbonaceous siltstone and other clastic sedimentary lithologies in a stratigraphic unit called the Paradox Formation. The Paradox Basin's boundary is commonly represented by the extent of its salt-bearing member, the Paradox Formation of the Hermosa Group.

The Paradox Basin is part of the Colorado Plateau Province and was formed during ancient orogenic events that took place during Pennsylvanian time. The geometry of the present-day Paradox Formation is roughly wedge-shaped with the thickest sedimentary sequences present along the steeply dipping northeastern basin margin. The Paradox Basin is more complex than other sedimentary basins currently being explored for economic potash mineralization in North America. The potash-bearing horizons have been affected by various degrees of post-depositional deformation, including faulting, uplift, and tectonic salt diapirism. The Property is located centrally in the Paradox Basin and away from the more complex structural features.

The Paradox Formation is characterized by thick, cyclical successions of interbedded evaporite and clastic sediments deposited within a northwest-southeast trending elongated basin. Potash mineralization in Cycle 18 generally occurs in one main horizon; however, potash can also occur as two discrete zones and termed the Upper and Lower Cycle 18 potash beds. The Upper Cycle 18 potash bed generally contains the greater concentration of potash. Detailed examination of the drill core indicates that the potash sequence consists of halite, sylvite, and minor anhydrite.

In 2013, approximately 275 linear km from 13 individual, two-dimensional (2D) seismic lines covering the Project Area were purchased and interpreted by RPS Group (RPS) of Calgary, Alberta, on behalf of Sennen (Flynn, 2013). The results of the 2D surveys, along with regional and local geologic cross sections, were used to avoid potentially anomalous ground in placing the Johnson 1 well drilled in 2014. The Johnson 1 well was drilled for Sennen in San Juan County, Utah, on State Lease in NW-NW, S30, T34S, R26E in the fall of 2014 as a stratigraphic test well. North Rim Exploration (now RESPEC) completed a TR in July 2015 (Stirrett and Shewfelt, 2015) for Sennen on the Property.

1.2 RECENT EXPLORATION WORK

Sage Potash has not performed new exploration work on the Property since the Utah State leases were acquired.

1.3 MINERAL RESOURCE ESTIMATE

The Mineral Resource Estimate assumes that potash will be recovered using solution-mining methods. No advanced scoping study or preliminary economic assessments have been performed to date on the Property.

Inferred Resources are reported for the Upper and Lower Cycle 18 potash beds for the Johnson 1 well, and a Potential Quantity tonnage is reported for the Upper Cycle 18 potash bed for the Western Natural Gas 1 and Johnson 1 wells. The Sage Plain Property currently defines Mineral Resource as follows:

- Inferred Resource for Upper Potash Bed, Cycle 18: 42.9 million metric tonnes (MMT), grading 26.96 percent K_2O with 0.01 percent carnallite and 0.62 percent insolubles.
- Inferred Resource for Lower Potash Bed, Cycle 18: 27.2 MMT, grading 22.60 percent K_2O.

Potential Quantity tonnage for the Johnson 1 and Western Natural Gas 1 wells was estimated as:

- Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Johnson 1 well: 138.8 – 147.3 MMT, grading 27.0–29.3 percent K_2O with 0.01 percent carnallite and 0.6–0.62 percent insolubles.
- Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Western Natural Gas 1 well: 2.8 – 14.3 MMT, grading between 5.0–17.0 percent K_2O.

Note: The reader is cautioned that the Potential Quantity tonnage and grade are conceptual in nature and exploration is insufficient to classify the potash beds as a Mineral Resource at this time. It is uncertain at this time if additional exploration work will result in the Potential Quantity tonnage and grade being further delineated as a Mineral Resource.

CIM recognizes that a cut-off may be a stratigraphic cut-off rather than a grade cut-off with the contacts between rock types defining the mining limits. This type of cut-off is particularly true of conventional potash mines where rock mechanics and safety constraints contribute to the portion of a mineralized section being mined. Solution-mining operations are less constrained by the occurrence of mud seams or limited by mining machine dimensions to zones of highest grade and stability. Insoluble materials will largely be left behind as they settle out in the cavern, and the potassium chloride (KCl) concentration in the return brines will depend on operation practices such as the introduced brine temperatures and flow rate. Published data on mining methods, room-and-pillar sizes, and extraction rates for conventional mines that have had a long, successful operating life can be referenced when suggesting a conventional mining operation; however, no data exist for an operating solution mine.

Solution-mined cavern sizes and extraction rates will depend on the type of geology as well as the drilling and chosen well design to maximize potash extraction. The exact solution-mining method has not been determined for this project and will be further assessed in subsequent studies. Solution mining using traditional vertical caverns is currently being evaluated by RESPEC through additional engineering studies, and the design details will be adjusted based on the most suitable cavern design for the geology and recovery rates required as the project progresses.

The reader is cautioned that the Mineral Resource tonnage (not considering the addition of any new geological data) may decrease as the project progresses. For example, mining parameters such as the extraction ratio and refined economic grade cut-off (modifying factors) are expected outputs from future engineering studies, at which time an updated Resource estimate will be completed. No modifying factors have currently been applied to the Resource estimate.

The Cycle 18 Lower Potash Bed was present in the Johnson 1 well, and the Cycle 18 Upper Potash Bed was observed in both wells. Additional drilling will be required to determine the continuity of these beds within the Project Area. The Upper Potash Bed currently appears to be present across the Property. Detailed engineering studies have not been completed at the time of this report; therefore, the Resource Estimate of the Upper Potash Bed is constrained to the Inferred category.

All cut-off parameters are applied to distinct potash beds. The two potash beds are evaluated as a single unit for each drillhole location. The parameters used are summarized as follows:

- For estimating the Mineral Resource and Potential Quantity, the areal extent surrounding a drillhole for which it is reasonable to infer geological continuity is termed the "radius of influence" (ROI). For the Johnson 1 well, an ROI of 0 to 2,400 m was used to bound the Inferred tonnage, and an ROI of 2,400 to 5,000 m was used for the Potential Quantity tonnage. Inferred resource tonnage was not assigned to the Western Natural Gas 1 well. An ROI of 0 to 5,000 m was used for the Potential Quantity tonnage around the Western Natural Gas 1 well. A 25 percent deduction was applied for seismically undetectable geological anomalies. ROIs and deductions for unknown geologic anomalies were determined by the QP based on his experience and confidence in the geological continuity of the mineralized horizon.

- A geological interval was defined based on reviewing the core to identify the top and bottom of the mineralized contacts and was further refined after the assay results were returned. A 5 percent K_2O grade cut-off was used to delineate the geological boundaries (top and base) of the mineralized section of the potash bed.
- The Potential Quantity tonnage is defined using a 5 percent K_2O grade cut-off and a thickness range between 7.0 and 10.5 m to delineate the geological boundaries. The grade cut-off range in the Western Natural Gas 1 well is 5 percent K_2O, which was calculated with the Gamma Ray Equivalent Calculation (GREC).
- Carnallite and insoluble concentrations present in the Johnson 1 well are very low, and similar values are expected at the Western Natural Gas 1 well.

A summary of the Potential Quantity and Inferred Resource tonnage is provided in Table 1-1. The main parameters and deductions applied to the Mineral Resource estimate are listed as footnotes in the table.

Table 1-1. Resource Estimation Summary (Effective Date November 21, 2022)

Cycle 18 Member	Area With Exclusions (km^2)	Thickness (m)	Weighted Average K_2O Grade (%)	Weighted Average KCl Grade (%)	Weighted Average Carnallite Content (%)	Weighted Average Insoluble Content (%)	In-Place Sylvinite Tonnage (MMT)[a, b, c, d]	Gross K_2O Tonnage (MMT)[a, b, c, d]
Inferred Mineral Resources								
Upper Potash Bed[e]	10.55	7.26	26.96	42.67	0.01	0.62	159.3	42.9
Inferred Mineral Resources [f]								
Lower Potash Bed	10.55	5.48	22.60	35.77	N/A	N/A	120.2	27.2
Potential Quantities [g]								
Upper Potash Bed (Johnson 1)	36.19	6.3 – 7.3	27.0–29.3	42.6–46.3	0.01	0.6–0.62	474.2–546.5	138.8–147.3
Upper Potash Bed (Western Natural Gas 1)[e, h]	3.85	6.3 – 10.5	5.0–17.0	7.9–26.9	N/A	N/A	50.4–84.1	2.5–14.3

Notes: Deductions for unknown seismic anomalies are 25 percent as no 3D seismic has been completed.

The following deductions are anticipated but not yet applied: (a) mining parameter deductions for extraction ratio and cavern or plant loss and (b) economic grade cut-offs from a project-specific economic analysis. The appropriate deduction values are anticipated as outputs from further studies.

km^2 = square kilometers.

N/A = Not Applicable.

GREC = Gamma Ray Equivalent Calculation of K^2O from wireline logs.

(a) MMT = Million Metric Tonnes.

(b) Density of sylvinite = 2.08 tonnes per cubic meter (m^3).

(c) In-Place sylvinite is calculated based on area × thickness × density.

(d) Gross Resource based on 100 percent extraction ratio and 0 percent plant loss.

(e) Upper Potash Bed Inferred Resource uses a 5 percent K_2O grade cut-off to define the upper and lower contacts and is further described in Section 14.0 of this report.

(f) Inferred Resource ROI is 0–2,400 m.

(g) Potential Quantity ROI is 0–5,000 m for the Western Natural Gas 1 well and 2,400–5,000 m for the Johnson 1 well.

(h) Potential quantities for the Upper Potash Bed (Western Natural Gas 1 well) were estimated from GREC using a range between the minimum thickness in the Johnson 1 well and the maximum thickness observed in the Western Natural Gas 1 well, as described in Section 14.0 of this report.

1.4 CONCLUSIONS

The following summary of conclusions that pertain to the Property geology, Mineral Resources, infrastructure, and data quality:

- Potash mineralization showing economic potential was identified from drillhole data within the Project Area and consisted of two primary zones: Cycle 18 Upper and Cycle 18 Lower Potash horizons.
- Cycle 18 structure contours show that the mapped horizons are all relatively flat units that gently dip in a south-southwest direction at an angle of less than 5 degrees. Major structural irregularities and geological anomalies were not identified in reviewing the 2D trade-seismic data.
- The estimated bottom-hole temperature from the wireline tools is 68 degrees Celsius (°C).
- Access to the Project Area is good overall and is provided via several paved state highways and gravel roads that serve the local communities and farming operations.
- The data are of acceptable quality and reliance for use in a Mineral Resource estimation.

1.5 RECOMMENDATIONS

The author's recommendations are outlined in Table 1-2. The initial part of Phase 1, a scoping study and/or preliminary economic assessment, is recommended to determine if the Project should progress to Phase 2, drilling another well on the Sage Plain Project. A positive result from the scoping study/ preliminary economic assessment is recommended as necessary before progressing to Phase 2. The remining tasks in Phase 1 are preparatory planning for Phase 2, but are unlikely to be required if the preliminary economic assessment is unfavorable.

During Phase 2, the drilling of another well on the Sage Plain Project, the author of the TR recommends that Sage Potash make every attempt reasonable to complete coring, core recovery, and assaying of potassium content (K_2O %) of both the Upper Cycle 18 potash horizon and the Lower Cycle 18 potash horizon. Data on potassium content of the Lower Cycle 18 potash horizon will allow greater accuracy of a future update to the resource estimation.

Table 1-2. Recommendation Summary

Recommendation	Estimated Cost (CAD)
Phase 1	
Completion of a scoping study/preliminary economic assessment with ongoing supporting engineering studies	$250,000
Predrilling planning and permitting	$400,000
Vendor coordination, evaluation, and selection	
Phase 2	
Completion of one stratigraphic well to be used to assess the full potential of the Upper and Lower Cycle 18 horizon. If positive results are returned, this well could be converted to a pilot test well.	$4.5M
Assaying, dissolution, and rock-mechanics testing are recommended during the stratigraphic well drilling program to assist with future mining studies.	

2.0 INTRODUCTION

2.1 ISSUER OF REPORT

This report was prepared at the request of Sage Potash to disclose Mineral Resources on its Sage Plain Property in southeastern Utah. The Property is situated east of the town of Monticello, Utah. Sage Potash is a natural-resource company focused on the exploration and development of the Sage Plain Property in southeast Utah and is based in Vancouver, British Columbia, Canada. Sage Potash has a 100 percent right, title, and interest in the Sage Plain Property. The author is entirely independent of Sage Potash and has no interest in any manner in the mineral properties discussed in this report.

The effective date of this report is November 21, 2022.

2.2 SOURCE OF INFORMATION

The interpretations and conclusions presented in this TR are primarily based on information acquired from one potash test hole completed by Sennen in late 2014. The drillhole data were supplemented by public record sources, including additional TRs and publicly available historical exploration records within the vicinity of the Project Area. All materials references are cited at the end of this report.

The author performed the following Scope of Work for this TR:

- Completed property mapping that covered Utah State lease ML 53646-OBA.
- Reviewed and summarized historical exploration data and geological reports pertinent to the Project Area.

- Reviewed geological interpretations of the local and regional potash geology.
- Reviewed the available historical wells and well data provided by Sage Potash in the vicinity of the Project Area.
- Reviewed and updated parameters for the Mineral Resource estimate.
- Estimated Potential Quantity and Inferred Mineral Resource tonnages based on NI 43-101 requirements.
- Reviewed dissolution testing on drill core from the potash horizons present in the Johnson 1 well.
- Made a site visit on November 21, 2022 to evaluate continuing exploration in the vicinity of the Sage Plain property by other companies.

Property descriptions and land status were obtained from the lists of lands as set forth in the documents provided by Sage Potash and are outlined in Appendix A and Appendix B. State Lease holdings were verified through documentation recorded with the State of Utah School and Institutional Trust Lands Administration (SITLA). The author made no attempt to independently verify the land tenure information.

Throughout this TR, geological, technical, and potash industry-specific terminology is commonly used. Table 2-1 provides a list of definitions for the most common terms and phrases.

Table 2-1. Glossary of Terms

Term	Chemical Formula	Definition
Assay		A test performed to determine a mineral sample's chemical content.
Carnallite	$KCl.MgCl_3$ $6(H_2O)$	A mineral containing hydrated potassium and magnesium chloride.
Halite	NaCl	Sodium chloride: Naturally occurring sodium salt mineral.
Sylvite	KCl	Potassium Chloride: A metal halide salt comprising potassium and chlorine. Generally known as potash.
Sylvinite		A rock consisting of a mineralogical mixture of halite and sylvite crystals with possible minor clay and carnallite.
K_2O	K_2O	Potassium oxide: A standard that is generally used to indicate/report a potash deposit ore grade.
Insolubles		Water-insoluble impurities, generally clay, anhydrite, dolomite, or quartz.
Seismic anomaly		A structural change in the natural, uniformly bedded geology.
CIM		The Canadian Institute of Mining, Metallurgy and Petroleum.

2.3 TERMS OF REFERENCE

The author prepared this TR in accordance with the following:

- NI 43-101 Standards of Disclosure for Mineral Projects
- NI 43-101 CP Companion Policy
- NI 43-101F1 Technical Report of the Canadian Securities Administrators, effective June 30, 2011

The Mineral Resources were prepared in following:

- CIM Best Practices and Reporting Guidelines [CIM, 2019]
- CIM Definition Standard for Mineral Resources and Mineral Reserves [CIM, 2014].
- CIM Industrial Minerals Best Practice Guidelines for Potash [CIM, 2003].

The overall effective date (or the cut-off date) for data included in this report is November 21, 2022. In this TR, the terms “Mineral Resource”, and “Inferred Mineral Resource”, have the meanings ascribed to those terms by the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council, as amended.

Investors are cautioned that Resources cannot be classified as Mineral Reserves until further drilling, metallurgical work, and mine planning are completed. Resources also cannot be classified until other economic and technical feasibility factors based upon such work have been resolved and can be demonstrated that the Resources may be legally and economically extracted and produced. As a result, investors should not assume that all or any part of the mineralized material reported in any of these categories referred to in the Resource Etimate and TR will be converted into Mineral Reserves.

2.4 QUALIFIED PERSONS AND REPORT CONTRIBUTORS

The QP and author of this report is Dr. Jon P. Thorson, an independent consulting geologist with an office in Denver, Colorado, who has over thirty years of experience evaluating the geology and natural resources of the Paradox Basin, including potash resources. Dr. Thorson has reviewed, and to the extent possible, verified all the sections of this report. Dr. Thorson is responsible for all sections of this report.

The author of this report is independent of Sage Potash and the Property.

2.5 SITE VISITS

As required by NI 43-101, site visits to the Project Area have been conducted as described below.

A site visit was completed by Susan Patton (RESPEC) on January 27, 2022, deemed necessary because of the land transfer from Gatten to Sage Potash. The Johnson 1 well location and other historical drillhole locations were inspected during this site visit, and general infrastructure and access were examined. Future potential drill locations were also explored to determine the accessibility and to assess the general topography in the area. The photographs in Figure 2-1 depict the Johnson 1 well location and the current activity on the site as of that date.

Figure 2-1. Views of the Johnson 1 Location Looking Northeast, January 27, 2022.

A site visit by Dr. Thorson was completed on November 21, 2022. An updated site visit was deemed necessary because the January 2022 visit revealed continuing exploration in the area of the Sage Plain property by Four Corners Helium, Valence Resources and Grand Gulf Energy Ltd. Since January 2022, Valence Resources has drilled the Jesse #1A well (Grand Gulf Energy, Ltd., 2022a), discovered a helium resource that is being tested for possible production (Grand Gulf Energy, Ltd., 2022b), and have prepared a drill site for a subsequent well, Jesse #2 (Grand Gulf Energy, Ltd., 2022c).

During the November 21, 2022, site visit it was observed that the site of the Johnson #1 well has been entirely re-contoured for the drill site for the Jesse#1A well, drilled by Valence Resources, a corporate relation to Grand Gulf Energy and Four Corners Helium. All equipment and facilities for testing the Jesse#1A well have been removed, except for the well head (Figure 2-2); the site has been reasonably, but not quite completely, cleaned up as of that date. No marker remains for the precise location of the Johnson #1 well site, but a comparison of the survey plat for the Johnson 1 well with the location for the Jesse #1A well indicates that the Johnson 1 well was located about 10 feet west-northwest of the Jesse #1A.

No confirmation was possible at that time for the announced new well site for the Jesse#2 well.

Figure 2-2. Jesse#1A well site, November 21, 2022; left, well identification marker; right, view across well site with village of Eastland, Utah in the middle distance and Abajo Mountains, located west of Monticello, Utah, on the horizon; site of the Johnson#1 well has been regraded, no marker remains for the precise location of the Johnson#1 well, see text above.

3.0 RELIANCE ON OTHER EXPERTS

For Section 4.0, the author has relied on information for the legal land holdings provided by Sage and verified using the State of Utah School Institutional Trust Lands Administration (SITLA) for Lease ML 53646 OBA database, accessed November 17, 2022 (Appendix A) within the content of this TR. The author also relied upon a Board Memorandum from Tom Faddies and Tyler Wiseman, of SITLA, to the Board of Trustees of SITLA dated April 21, 2022, titled "Amendment to existing Other Business Arrangement (ML-53646-OBA)" and included in Appendix A.

Data on Private Mineral Leases was verified by Sage Potash and not independently verified by the author.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Property is situated in southeastern Utah in San Juan County, near the Utah/Colorado border. The Johnson 1 well is located at the North American Datum of 1983 (NAD 83) latitude of 37.7994°N and longitude of 109.1172°W and is approximately 24 km southeast of Monticello, Utah, and approximately 24 km northwest of Dove Creek, Colorado. The larger population center of Moab, Utah, is approximately 110 km northwest of the Johnson 1 well; Cortez, Colorado, is located about 70 km southeast of the Johnson 1 well.

The Property encompasses 6,538 acres (2,282 hectares) of Utah State Potash Mineral Leases, plus additional lands under Private Lease. A property map outlining the State of Utah Lease to Sage Potash is provided in Figure 4-1. A complete list of Utah State Lease lands is provided in Appendix A and discussed in Section 4.2.

Figure 4-1 also shows the location of Private Mineral Leases in the area of the Resource Estimation. Details of Private Mineral Leases are included in Appendix B and discussed in

Section 4.2. The Utah State lease blocks, and Private Mineral leases are also shown on most of the maps in this Technical Report.

Sage Potash has also filed Potash Prospecting Permits Applications (PPPA) with the Bureau of Land Management (BLM) on U.S. Federal potash mineral rights in lands south of the areas of State Leases and Private Mineral Leases. Potash is classified as a "leasable commodity" on U.S. Federal mineral rights. PPPA's allow an applicant to propose an exploration plan for each Application block, and when accepted by the BLM, an exclusive right to explore for potash in that area. Successful exploration, confirming the presence of potash resources on a PPPA block, allows the PPPA-holder the right to negotiate a Federal Lease on those potash resources. The area of PPPA's is shown on Figures 7-5 and 7-10.

4.2 MINERAL TENURE

Land ownership in Utah is a mixture of private, State of Utah, Native American and Federal lands. Federal lands are primarily administered by the U.S. Forest Service in the Department of Agriculture, the U.S. Bureau of Land Management (BLM) and National Park Service in the Department of Interior, plus lesser amounts of Federal lands administered by other Federal agencies. Prospecting for, and leasing, potash on Federal mineral rights is administered by the BLM. State of Utah lands are primarily administered the Utah Division of Forestry, Fire & State Lands in the Utah Department of Natural Resources, except for leases of natural resources, which are administered by State of Utah School and Institutional Trust Lands Administration (SITLA). Sage Potash currently holds 6,538 acres (2,282 hectares) of Utah State Mineral Leases for potash. As described in section 4.6 of this report, Concurrent Property Leases, the State of Utah has also leased some or all of the Sage Plain Project areas for oil, gas and helium exploration; see also the site visit by Dr. Thorson on November 21, 2022, for additional details about current helium exploration near the Sage property.

Appendix A provides a summary of Utah State Leases, along with unique mineral identifications, maintained for the Property as of November 21, 2022. Tables 4-1 and 4-2 summarize the details and history of ML 53646-OBA. The OBA in the lease title indicated Other Business Arrangement of noncompetitive bid. Utah state leases were effective April 21, 2022, and are granted a 10-year primary term in issuance to Trust Lands Statute and Regulations, Title 53C, Utah Code Annotated, 1953. Sage Potash was granted the rights to surface lands to convey, store, load, haul, excavate, remove stockpiles, deposit, and redeposit surface materials; and develop and use mine portals and adjacent areas for access, staging, and other purposes incident to mining, subsidence, mitigation, restoration, and reclamation. Sage Potash was also granted rights to the subsurface to explore, drill, mine, remove, transport, convey, cross-haul, commingle, and sell the leased substances covered by this lease. The annual rental on the Utah State Leases is $2.00 USD per acre and is to be paid on or before the anniversary of the effective date. A production royalty of 5 percent of the gross value is to be paid to Lessor. The Lessee is to maintain and record documents for at least 7 years in accordance with the production of leased lands. The Lessor reserves the right to inspect and examine the leased lands during the leased period.

Sage Potash has acquired leases on privately held mineral rights and surface use rights in the Project area. Details of those leases have not been independently confirmed by the author, and rely on data supplied by Sage Potash.   Private Mineral lease acreage has a significant impact on the Mineral Resource Estimation, and is thus included here in Figure 4-1 (and subsequent figures) and Appendix B.

Sage Potash has applied for Federal Potash Prospecting Permits PPPA's, as described above, on potash mineral rights held by the U. S. Federal Government and administered by the BLM. Since the PPPA's are not germane to the Resource Estimation, they are not detailed further in this Technical Report.

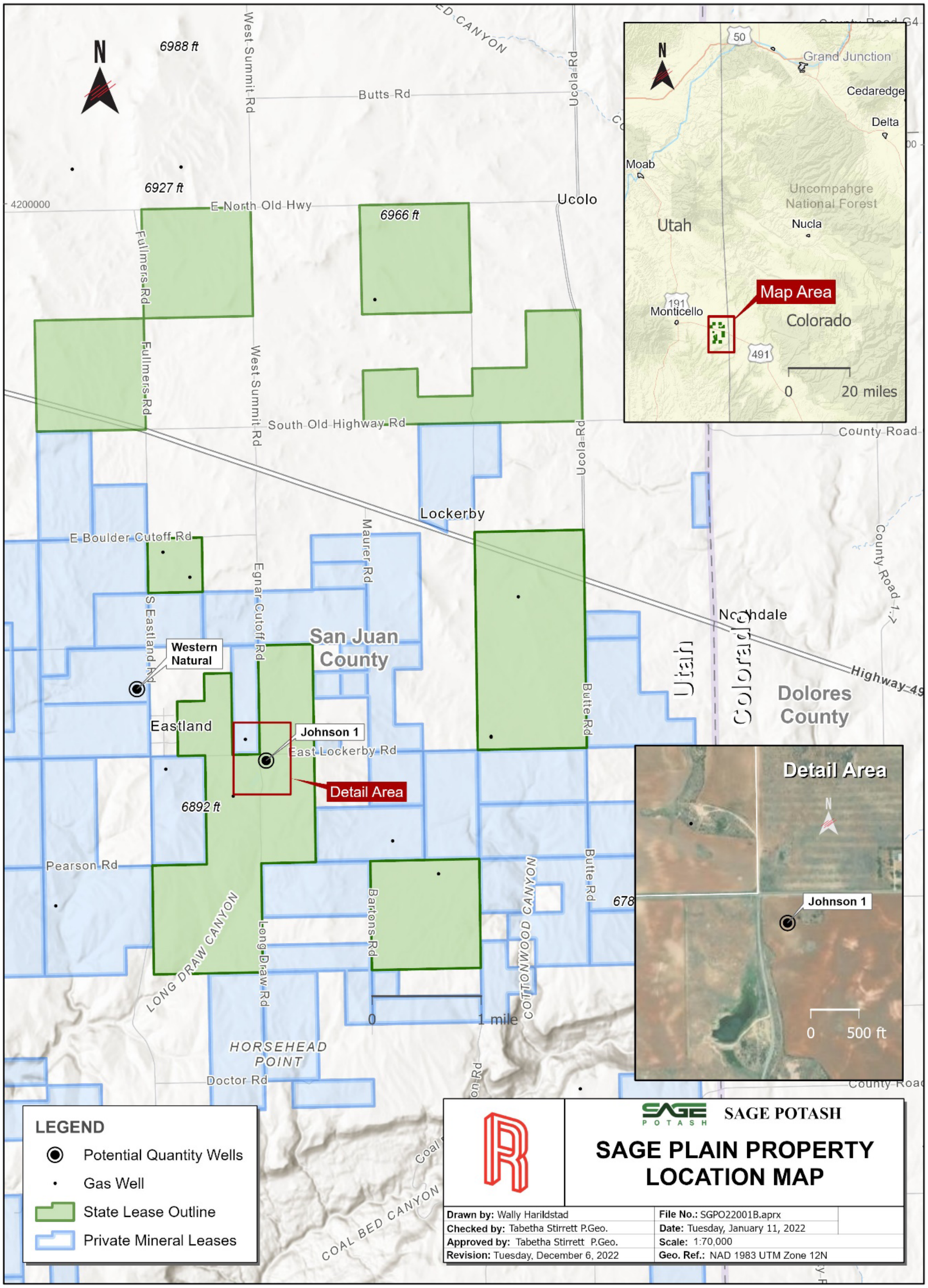

Figure 4-1. Sage Plain Property Location Map.

Table 4.1. Details of Mineral Lease 53646-OBA

Mineral Lease No.	Status	Holder	Effective Date	Acres
ML 53646-OBA	Active	Sage Potash Corporation 100%	April 22, 2022	6,538

Table 4.2 . Lease Modification History of Mineral Lease 53646-OBA

Date	Modification History
April 21, 2022	Sage Potash amended the lease from 3,880 to 6,538 acres
February 22, 2022	O. Jay Gatten signed the Title Record assignment to Sage Potash Corporation
November 1, 2017	O. Jay Gatten acquired 3,880 acres of relinquished leases
April 17, 2017	Sennen Potash Corporation relinquished leases
Fall 2014	All items in Property Option Agreement completed
December 11, 2013	Sennen Potash Corporation and Paradox Basin Resources enter a Property Option Agreement
May 2012	Sennen leased 5,167 acres of Utah state leases and 5,236 acres of Utah private leases for potash

Sources: State of Utah School & Institutional Trust Land Administration document "ML536460BA.pdf" chronological lease documentation and "NI 43-101 Technical Summary Report, Sennen Potash Corporation Monument Project Potash Resource Assessment San Juan County, Utah, US."

4.3 TERMS OF SUBSURFACE MINERAL PERMIT AND OBLIGATIONS OF A UTAH PERMITTEE/LESSEE

In accordance with the Utah State Mineral Lease, Sage Potash is to comply with all federal, state, and local statutes and regulations. These statutes and regulations include but are not limited to the Utah Mined Land Reclamation Act of 1975; regulations pertaining to mine safety and health; and regulations pertaining to public health, pollution control, management of hazardous substances, and environmental protection. A complete list of regulations and terms is provided within the Utah State Mineral Lease form. Before any exploration, drilling, or mining operations on the leased lands, the Lessee is required to gain the Lessor's approval with a plan of operations. No hazardous substances of any kind are allowed to be kept on the property within the leased lands in accordance with 42 U.S. Code 9601(14). The Lessee is to provide a waste certificate when the lease expires as defined in 40 Code of Federal Regulations (CFR). A record stating that no reportable hazardous substances remain on the site should accompany the waste certificate. When the Lease expires, the Lessee shall restore and reclaim the leased lands in agreement with the requirements of applicable law, including mine permits and reclamation plans. The Lessee is to remove all equipment, stockpiles, and dumps from the leased lands within 6 months of the lease expiration date. The author is unaware of any current development restrictions within the Project Area. After acquiring potash and drilling permits from the State of Utah, further studies regarding archaeological, environmental, and wildlife reserves may be deemed necessary.

4.4 ROYALTIES, BACK-IN RIGHTS, AND OTHER AGREEMENTS AND ENCUMBRANCES

The author is unaware of any royalties other than those discussed in Section 4.2. The Project Area is currently not subject to back-in rights, payments, or other agreements and encumbrances, aside from the work commitments, fees, and rentals as described in the preceding sections.

4.5 ENVIRONMENTAL LIABILITIES

The author is unaware of any environmental liabilities to which the Project Area is subject, other than the normal licensing and permitting requirements that must be made before undertaking certain operations and those environmental restrictions as set forth in the Utah State's Acts and Regulations. Sage Potash should exercise best practices to avoid adverse environmental effects and maintain the original state of the land by taking reasonable measures to reduce the environmental footprint from the construction and operation of the Project Area.

4.6 CONCURRENT PROPERTY LEASES

Valence Resources LLC ("Valence") holds several mineral leases (registered in the name of RCS Resources, LLC) located in the same area as the Property. The terms of these mineral leases entitle the holder to explore and develop the land for oil, gas, associated hydrocarbons and helium. As shown in Figure 4-3, some of Valence's mineral leases overlap the Company's mineral leases.

Based on the current understanding of solution-mined caverns comingling with helium production wells, an initial two-phased approach is recommended if both entities operate within close proximity. The helium wells and maximal areal extent of the solution-mined caverns should be offset by a minimum of 150 m. Helium wells penetrating through actively mined potash caverns should provide dual casing protection through that zone to prevent inadvertently fracturing the salt and potash members that could result in conduit pathways into the caverns. Formation fracture gradient testing should be performed during development to better quantify the fracture pressure near the potash horizons.

Future engagements with potential helium producers in the area should focus on establishing the lease areas that are to be targeted first and the expectation for production timelines and maximum life extents of production wells. This information could be tied with the production timing and scheduling for solution-mined caverns to sequence the development and extraction of each resource in a mutually beneficial manner. The value from each resource could be maximized and potential negative impacts from the production operations interfering with one another could be minimized.

Although helium by nature is stable and will not burn or react with other elements, it is sourced within natural gas deposits with other compounds that may adversely affect the solution-mining activities. The infrastructure and wellfield controls within the solution-mining system are designed with accommodation for relieving pressure buildups because those parameters are vital for controlling the mining operation and stabilizing the solution-mined caverns. Consideration for effectively managing and integrating helium production over the contiguous spatial area of the current leases should be planned and designed in advance to prevent an unexpected interaction between potentially reactive compounds, such as hydrogen sulfide (H_2S), within the targeted helium extraction horizon and the potash production.

These findings should be further researched and planned because helium production from areas within the Sage Potash lease boundaries could substantially impact the solution caverns if not managed carefully. The websites of Four Corners Helium (subsidiary of Grand Gulf Energy) and the ASX Announcements by Grand Gulf Energy (2022a, 2022b, 2022c) illustrate the Red Helium Project of these companies to extend into Colorado adjacent to the Sage Plain property. To the extent that leasing and/or helium exploration in adjacent Colorado would affect the Sage Plain property, investors are encouraged to further investigate.

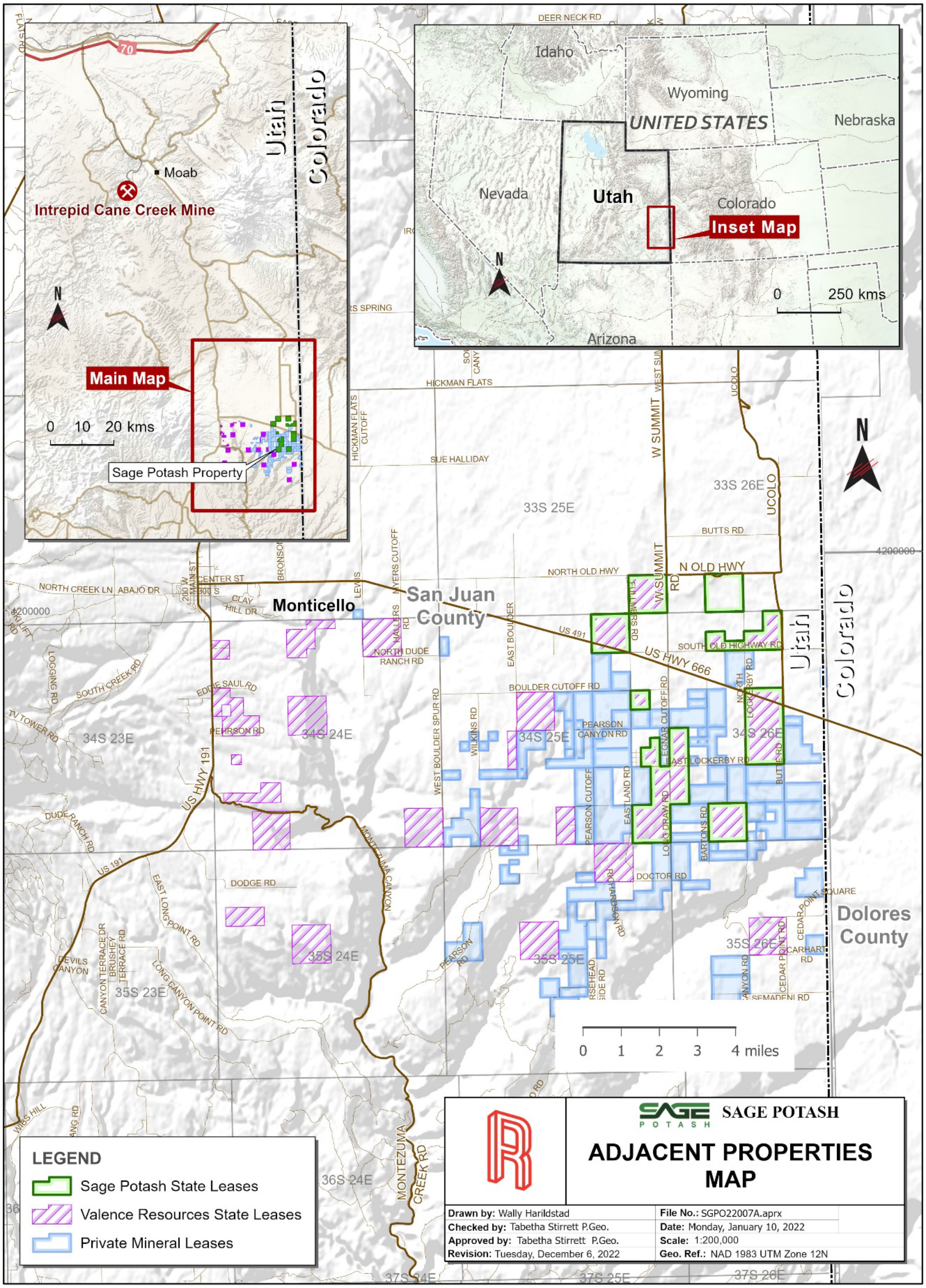

Figure 4-2. Adjacent Properties Map.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 TOPOGRAPHY AND VEGETATION

As shown in Figure 5-1, the Project Area is situated in an area of gently rolling hills in San Juan County, southeastern Utah. Elevations in the Project Area are roughly 2,075 m (6800 feet) above sea level. The land around the Resource Estimation Area is predominantly used for farming purposes but also contains localized bluffs and small patches of forest where the majority of the vegetation is pinyon and juniper trees. South of the Resource Estimation Area, the topography becomes more varied with sharply incised canyons separated by flat-topped mesas.

Figure 5-1. Looking Northwest toward historical Western Natural Gas 1 well location from site near village of Eastland, Utah; Abajo Mountains on the horizon are located west of Monticello, Utah.

5.2 ACCESSIBILITY AND LOCAL RESOURCES

U.S. Highway 491 passes through the northern portion of the Project Area and provides easy access to the Property. A series of highways and gravel roads can be used to travel from Highway 491 to access the northern and southern extents of the Project Area. The Project Area may also be accessed from the south through a series of county roads. As discussed in Section

4.1, two nearby towns are located equidistant from the Project Area. Monticello is located west on Highway 491, and Dove Creek is located east on Highway 491, approximately 12.8 km east of the Utah/Colorado border. Monticello has a population of approximately about 2000 and has a grocery store, hospital, schools, restaurants, accommodations, gas stations, and other small-service stores. Dove Creek has a population of approximately 725 and has similar services as Monticello but has a health clinic instead of a hospital. Blanding, located 32 km south of Monticello, has a population of about 3,600 and provides similar services as Monticello.

Larger centers with a wide variety of services include Grand Junction and Cortez, Colorado. Grand Junction has a population of about 67,000 and is located approximately 290 km northeast of the Project Area. Cortez has a population of about 8,600 and is located approximately 70 km southeast of the Project Area. Both locations have airports with daily scheduled flights.

5.3 CLIMATE

San Juan County, located in the southeastern portion of Utah, experiences a climate that ranges from a humid continental climate to a dry semiarid (steppe) climate, as classified by the Koppen Climate Classification System. Utah weather consists of a winter period generally from November to March with average low temperatures of –7°C (20°F). Modest amounts of precipitation occur in the southeast in the form of snow. Temperatures average around 18°C (65°F) in the spring (April–May) and fall (September–October) with rates of precipitation averaging around 3.5 centimeters (1.4 inches) either in the form of rain and/or snow. The summer season (June–August) is characterized by a warm and dry climate with high temperatures averaging around 27°C (80°F) and a lower average rate of precipitation of 34 millimeters (1.3 inches). The Project Area is well-suited for year-round operations because exploration activities in Utah are not typically constrained by seasonal weather variations. Table 5-1 provides the climate data from 1961 to 1990 for Monticello, Utah.

Table 5-1. Climate Data for Sage Plain Project Area [U.S. Climate Data, 2022]

Utah Climate Data: 1961–1990 Normals						
	January	**February**	**March**	**April**	**May**	**June**
Average High (°C)	1.1	3.9	8.6	14.0	19.4	25.7
Average Low (°C)	–9.9	–7.4	–3.7	–0.7	3.5	7.8
Average Precipitation (mm)	46	33	30	24	26	16
	July	**August**	**September**	**October**	**November**	**December**
Average High (°C)	28.6	27.1	22.7	15.8	7.2	2.3
Average Low (°C)	11.6	11.0	6.6	0.9	–4.8	–9.0
Average Precipitation (mm)	34	47	39	48	36	32

5.4 INFRASTRUCTURE

The key infrastructure considerations for the Sage Plain Property are summarized as follows:

- A network of highways and gravel roads provide access to the Project Area from all cardinal directions, as depicted in Figure 5-2; thus, the Project Area is easily accessible for personel and transporting equipment.
- Highway 491 provides access to the northern portion of the Property.
- The Project Area is located close to an existing power and energy distribution grid system.
- A 345,000-volt transmission line extends north-south about 10 miles west of the Property.
- The Project Area has a natural gas pipeline service in close proximity; the closest services are near Blanding to the south or Monticello to the north.
- The closest rail line is at the Intrepid Cane Creek Mine, which is located southwest of Moab approximately 32 km and approximately 93 km from the Project Area. The mine is serviced by an operational railway spur line.

Sufficient surface rights for mining operations, potential tailings storage areas, water supply, potential waste disposal areas, and potential processing plant sites should be assessed during project advancement.

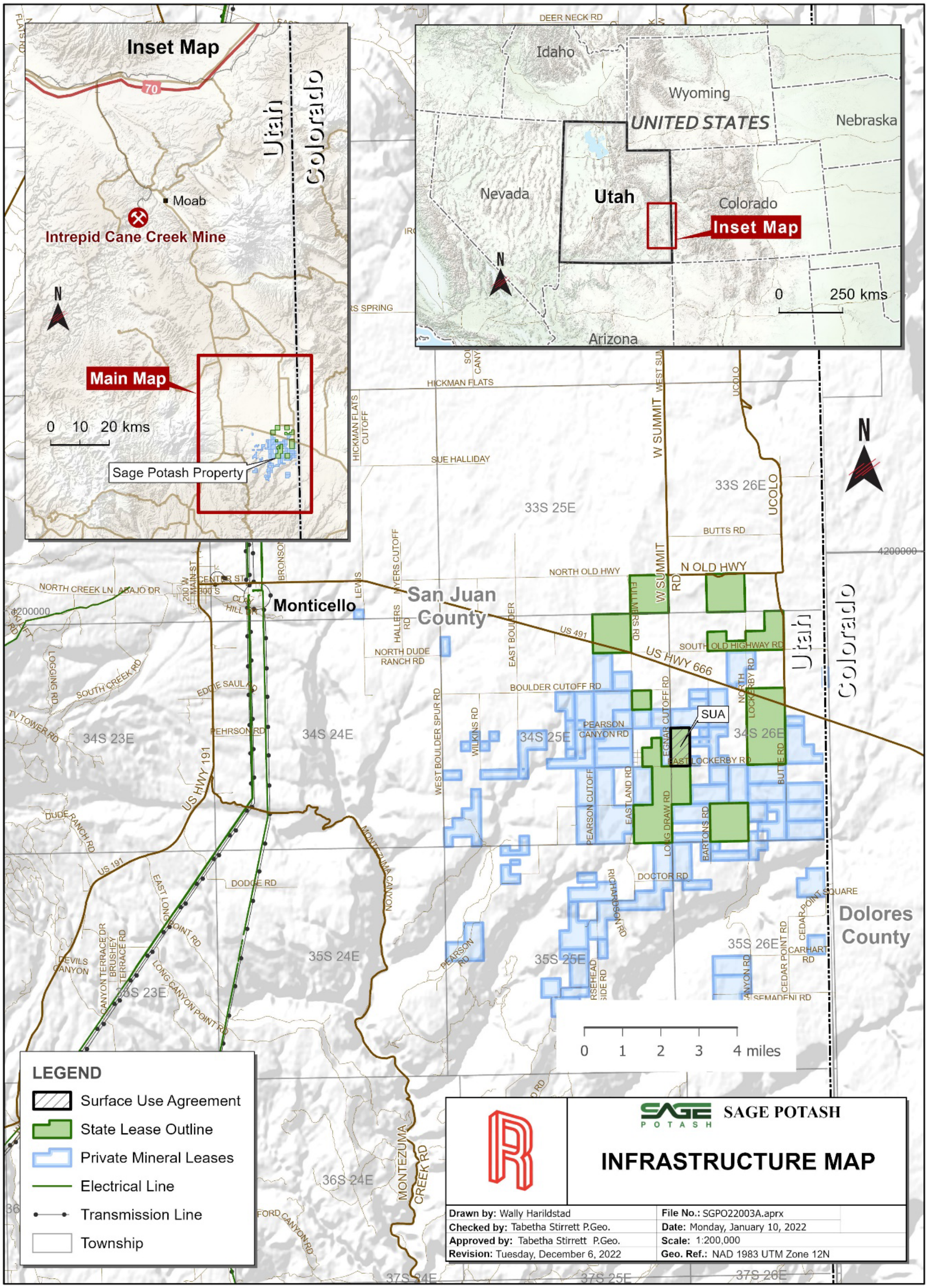

Figure 5-2 Infrastructure Map.

6.0 HISTORY

6.1 HISTORY OF POTASH EXPLORATION IN THE PARADOX BASIN

Potash was first discovered in the Paradox Basin in 1922 during exploration for oil and gas southeast of Crescent Junction (Evans, 1956) Between 1953 and 1961, several companies were actively exploring the basin for petroleum and potash resources, and several wells were drilled into the Paradox Formation that helped further define the potash resource and formulate geologic models for the deposits. Figure 6-1 depicts the historical drilling in the Project Area and other historical exploration efforts discussed in the following sections. Promising results from the Cane Creek Mine (see Figure 5-2 for location relative to the Project Area) were obtained and, by 1965, Texas Gulf Sulfur was in full production at an underground potash mine (Durgin, 2011). The target potash horizon at the Cane Creek Mine was 3.4 m thick and averaged 25–30 percent K_2O (Jackson, 1973). In 1971, after years of operational difficulty, the Cane Creek Mine was intentionally flooded and converted to a solution-mining operation using solar evaporation recovery techniques. Intrepid Potash is the current mine operator and is producing 97,000 to 100,000 tonnes of potash per year (Agapito Associates, Inc., 2021). Intrepid Potash is currently producing from the original mine in Paradox Cycle 5 and has a series of horizontal caverns in Cycle 9 (Agapito Associates, Inc., 2021). To date, potash has not been commercially produced within the Sage Property. A historical Resource Estimate was previously completed for the Property and is documented in a previous TR (Stirrett and Shewfelt, 2015).

6.2 SENNEN HISTORICAL EXPLORATION ON THE SAGE PLAIN PROPERTY

In 2013, approximately 275 linear km from 13 individual, 2D seismic lines covering the Property were purchased and interpreted by RPS on behalf of Sennen (see Figure 6-1 for the locations of the historical seismic lines used in the seismic interpretation). The 2D seismic data were tied to existing historical drillholes to correlate seismic horizons with the local Project Area stratigraphy. Seismic surveys are highly effective subsurface analytical tools for potash exploration and are used in identifying and estimating the total salt thickness, degree of salt loss, salt dissolution-induced collapse structures, as well as identifying other geological elements such as faulting. The results of the 2D surveys, along with regional and local geologic cross sections, were used in placing the Johnson 1 well to avoid potential anomalous ground. The Johnson 1 well was drilled in San Juan County, Utah, on a State Lease in NW-NW, S30, T34S, R26E in the fall of 2014 (see Figure 6-1). Geological seismic interpretations are discussed further in Section 6-4. Table 6-1 summarizes the exploration activity in and around the Property. Mineral Resource Estimates provided in the previous TR (Stirrett and Shewfelt, 2015) are no longer valid because of changes in lease boundaries.

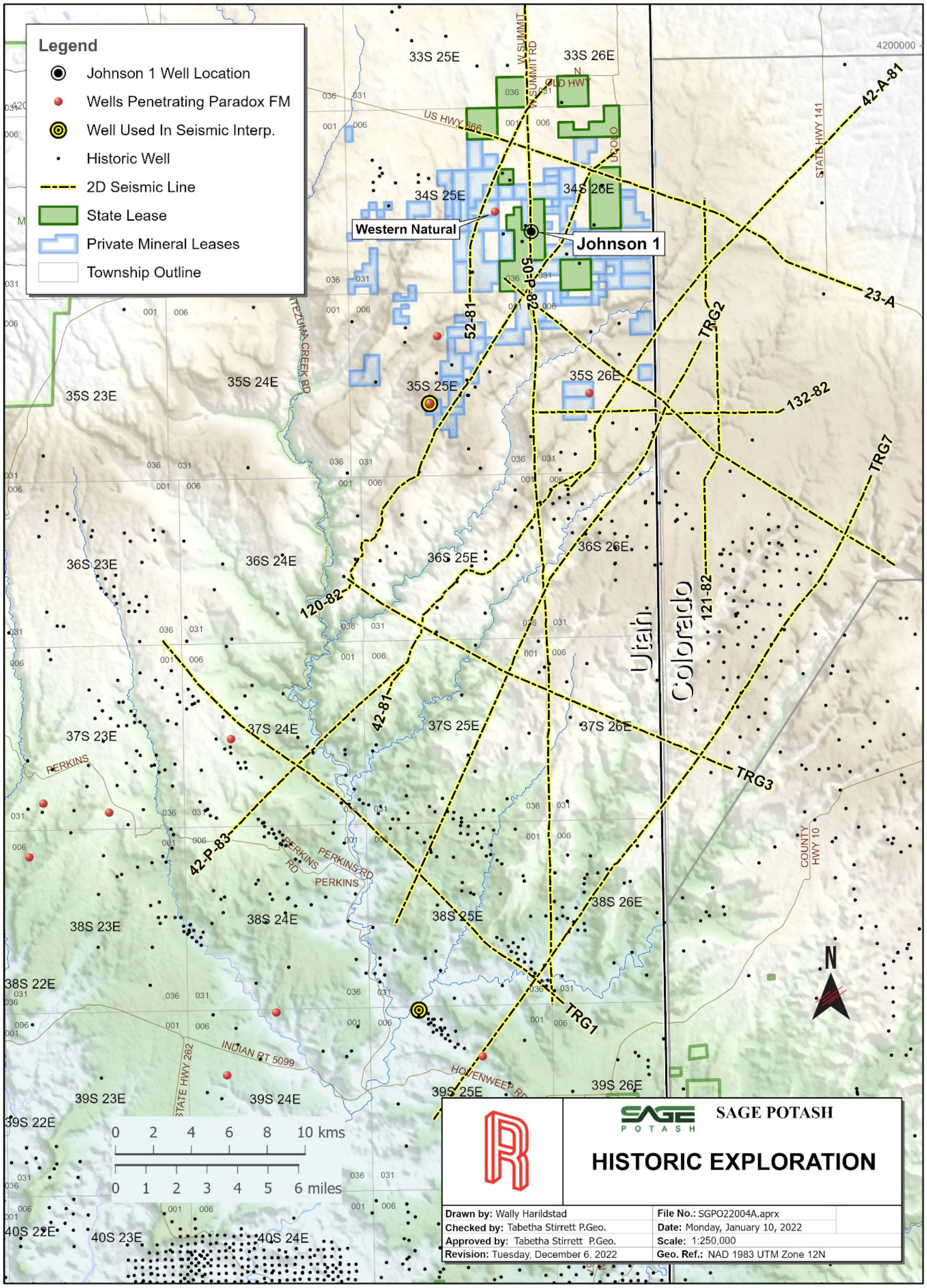

Figure 6-1. Historic Exploration Map.

Table 6-1. Sage Plain Project and Surrounding Area Exploration Activity

Exploration Program	Start Date	Completion\ Date	km/ Number of Wells	Coring Interval	Meters Drilled
Purchase and Interpretation of 2D Trade-Seismic Data	July 2013	April 2014	275 linear km	N/A	N/A
Sennen 2014 Drilling Program (Johnson 1 well)	October 7, 2014	November 30, 2014	1 well	2,123–2,156 m	2,193 m
Historical Wells Penetrating the Paradox Formation	1953	< 2014	14 wells	N/A	> 27,500
Other Historical Wells (oil-and-gas exploration)	1922	< 2014	1,033 wells	N/A	Not Compiled

N/A = Not Applicable.

6.3 SENNEN EXPLORATION

In 2013, RESPEC provided a report to Sennen that recommended purchasing trade-seismic data encompassing the area of interest, followed by reinterpreting the seismic data, examining local historical drillhole data, and identifying potential drillhole locations. Sennen carried out this exploration strategy, which is summarized in the following sections.

6.4 SENNEN SEISMIC ANALYSIS

The seismic interpretation completed by RPS was conducted with the intention that the Project Area would be drill-tested for use in developing a potash Mineral Resource Estimate if generally consistent potash member stratigraphy and minimal anomalies were identified. Table 6-2 summarizes the exploration programs for the Sage Plain Project Area, including the drilling program that will be discussed in Section 10.0. In early 2013, 2D trade-seismic data were acquired and interpreted by RPS on behalf of Sennen to support a seismic study of the Project Area. Approximately 275 linear km from 13 individual, 2D seismic lines covering the Project Area were purchased and interpreted (see Figure 6-1). The data were acquired as a tool for evaluating the Project Area geology and focused on identifying anomalous geological features to assist in interpreting the potential for potash mineralization that would be sufficient to support a mining operation. The 2D seismic data were tied to historical drillholes to correlate seismic horizons with the local Project Area stratigraphy (see Figure 6-1 for historical wells used to tie in the seismic data).

No anomalous ground was identified in the Sage Plain Project Area; however, a highly faulted area south of the Sage Plain Project Area was identified (see Figure 7-5).

Table 6-2. Summary of Sage Plain Project Exploration Activity

Exploration Program	Start Date	Completion Date	Km/ Number of Wells	Coring Interval	Meters Drilled
Other Historical Wells (oil-and-gas exploration)	1922	< 2014	1,033 wells	N/A	Not compiled
Historical Wells Penetrating the Paradox Formation	1953	< 2014	14 wells	N/A	> 27,500
Technical Review and Exploration Strategy Report (North Rim)	Spring 2013	April 2013	N/A	N/A	N/A
Purchase and Interpretation of 2D Trade-Seismic Data (Sennen and RPS)	Spring 2013	July 2013	275 linear km	N/A	N/A
Identification of Potential Well Locations (North Rim, RPS)	Winter 2014	April 2014	N/A	N/A	N/A
Sennen 2014 Drilling Program	October 7, 2014	November 30, 2014	1 well	2,123–2,156 m	2,193 m

N/A = Not Applicable.

6.5 2014 SENNEN DRILLING PROGRAM

One exploration drillhole (Johnson 1) was completed by Sennen on the Property in 2014. The purpose of the drillhole was to retrieve core from Paradox Salt Cycle 18 to determine the quantity, continuity, and grade of the potash in the subsurface. This vertical exploratory well was drilled down to the Cycle 18 potash horizon, where five 3.5-inch cores were cut for a total of 33.2 m in drill core.

The drillhole was logged with geophysical wireline tools from total depth to the surface casing. The geophysical parameters measured with the wireline tools include the Gamma Ray, Resistivity, Self Potential, Neutron Porosity, Density, Caliper, and Sonic Velocity. The Gamma Ray log provides a depth-recorded dataset of the natural formation radioactivity and is displayed in American Petroleum Institute (API) units.

North Rim (now RESPEC) completed the sample preparation of drill cores obtained for Sennen using suitable quality assurance/quality (QA/QC) control procedures. An example of the prepared core is illustrated in Figure 6-2. The Saskatchewan Research Council (SRC) performed the geochemical analysis. According to the SRC Geoanalytical Laboratories Customer Quality Control policy, the sample preparation and analytical procedures are of the highest quality and meet NI 43-101 standards.

The historical well Western Natural Gas 1 west of Johnson 1, was reviewed to understand the continuity of the geology in the area. The wireline logs from the well demonstrated that the Cycle 18 potash bed was present. These two wells were used for the resource estimate. The author has confidence in the resource classification using one recent well and one historical well because the Paradox Basin is very well explored with published maps of the high-grade potash horizons and the 2D seismic showed bedding continuity. There may however be local disruptions of the deposit, either structural or mineralogical, which have been accounted for in the 25% reduction in the estimate of the area. Section 7 discusses the geology of the area in more detail.

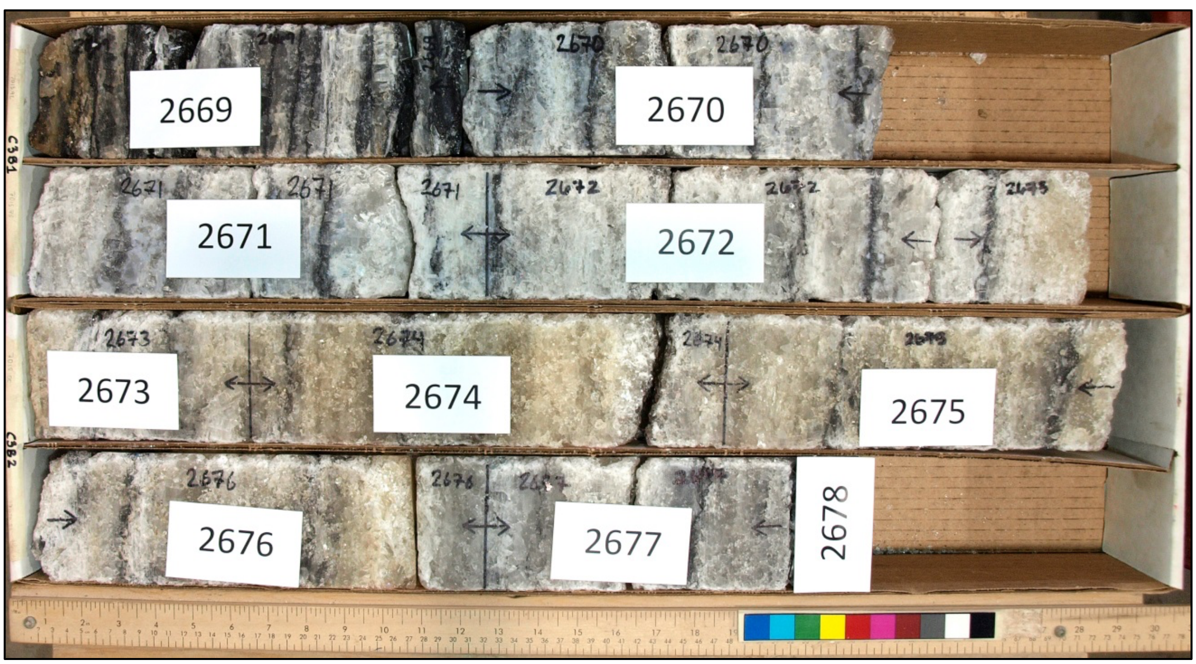

Figure 6-2. Assay Core Photograph Example from the Johnson 1 Well; the numerical indicators are sample numbers for approximately foot-long assay intervals.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Paradox Basin, largely situated within southeast Utah and southwest Colorado, extends into northwestern New Mexico and northeastern Arizona; definition of the Basin boundaries depends on how the sedimentology and stratigraphy of the Paradox Formation is considered. The Basin was initially a restricted marine basin that was repeatedly flooded and desiccated, depositing a series of cycles of evaporite minerals including salt and potash, alternating with lesser amounts of dolomite, gypsum (now anhydrite), black shale, carbonaceous siltstone and other clastic sedimentary lithologies in a stratigraphic unit called the Paradox Formation. Limestone, dolomite, and clastic strata equivalent to the Paradox Formation were deposited around the margins of the Basin. In the latest Pennsylvanian through Permian periods the Basin was filled with fine clastic and limestone marine lithologies, and then with coarse to fine clastic debris shed from the Uncompaghre Uplift (Williams-Stroud, 1994). The Paradox Basin's boundary is commonly represented by the extent of its salt-bearing member, the Paradox Formation of the Hermosa Group. The spatial extent of the Paradox Basin, the potash-bearing cycles, and related Pennsylvanian subperiod sedimentary facies with respect to the Sage Plain Property are shown in Figure 7-1.

The Paradox Basin is part of the Colorado Plateau Province. The Basin was formed during ancient orogenic events that took place during Pennsylvanian time, which led to the uplift of the Ancestral Rocky Mountains. One of these mountain ranges, the Uncompahgre uplift, contributed to rapid rates of subsidence in the area and the formation of the Paradox Basin. Because subsidence was at its highest rate at the foot of the uplift, the geometry of the present-day Paradox Formation is roughly wedge-shaped with the thickest sedimentary sequences present along the steeply dipping northeastern basin margin. The Paradox Basin is further bounded by the San Luis uplift to the east, the Monument Upward and Defiance uplift to the south, and the San Rafael Swell to the northwest (see Figure 7-1). A summary of the geological history of the Paradox Basin is provided in Williams-Stroud, 1994.

The Paradox Basin is more complex than other sedimentary basins currently being explored for economic potash mineralization in North America. The potash-bearing horizons have been affected by various degrees of post-depositional deformation, including faulting, uplift, and tectonic salt diapirism. This deformation resulted in extensive folding and buckling of the subsurface strata and the formation of several regional northwest-southeast-trending linear salt-cored anticlines (i.e., salt walls). These anticlinal structures often yield surface expressions manifested as large salt valleys over the crest of the anticline. Figure 7-2 highlights the local structural features within the Paradox Basin. The Property is located centrally in the Paradox Basin and away from the more complex structural features.

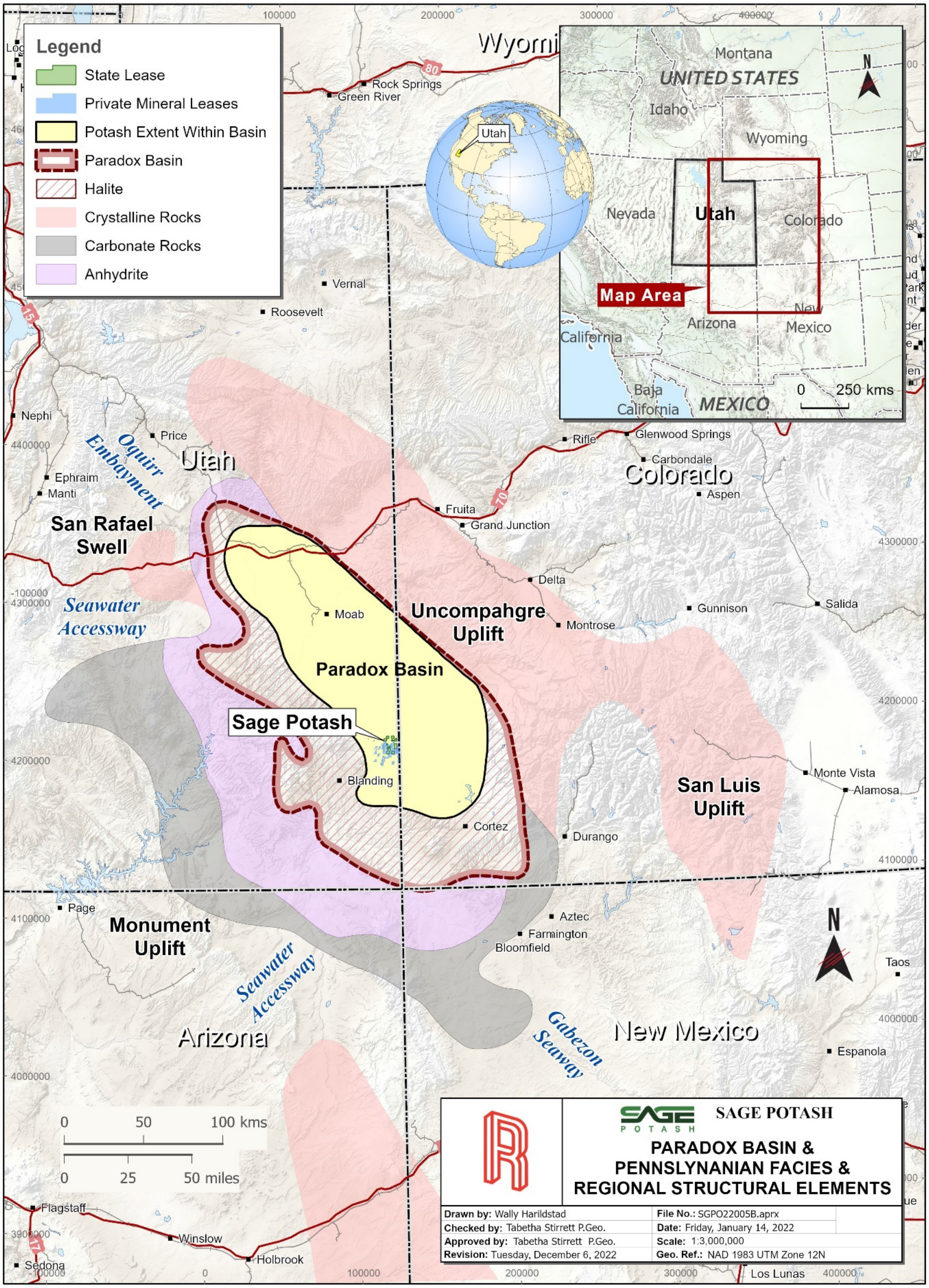

Figure 7-1. Project Area and Paradox Basin Regional Structural Element (Modified from Williams-Stroud, 1994).

7.2 PARADOX BASIN GEOLOGY

The Paradox Basin is of Mid-Pennsylvanian to Lower Permian in age. The Hermosa Group within the Paradox Basin (Figure 7.2) consists of (in descending order) the Honaker Trail, Paradox, and Pinkerton Trail Formations. The Honaker Trail Formation conformably overlies the Paradox Formation and is the uppermost formation of the Hermosa Group. The Honaker Trail Formation is made up of gray to reddish-gray, fine-grained to coarse-grained limestone with black and red chert, and reddish-gray to buff-gray carbonaceous sandy siltstones (Williams-Stroud, 1994). The Paradox Formation is divided into three members; the Upper and Lower Members are similar in lithology with limestone strata similar to the overlying and underlying Honaker Trail and Pinkerton Trail Formations with variable amounts of anhydrite (deposited as gypsum) plus lesser amounts of clastic lithologies. The Paradox Fm. Middle member, the Salt member, contains thick deposits of halite (NaCl) separated by clastic intervals characterized by dolomite, anhydrite, and carbonaceous siltstone or shale.

In the Hermosa Group, the Paradox Formation (Figure 7-2) is Utah's potash resource. The Paradox Formation was deposited during repeated inflows of seawater and major evaporation periods which left deposits of potash (potassium) minerals, mostly sylvite (KCl) or carnalite [K, Mg, $Cl_3.6H_2O$] usually from the final stage of extreme evaporation (figure 7.3). The Paradox Formation is generally considered to contain 29 or more cycles of salt deposition separated from one another by the clastic intervals (Durgin, 2011). Other studies suggest, however, that as many as 33 salt beds are present in certain localities (Williams-Stroud, 1994). The uncertain number of salt horizons is largely related to the salt horizons' discontinuity resulting from non-deposition, post depositional erosion, or post-depositional structural influence and salt flow tectonics. The thickness of each salt cycle can range from 7 to 270 m in the center of the basin to zero near the edges.

A commonly accepted nomenclature of these salt cycles has been adopted after Raup and Hite (1992), who applied a sequential numbering scheme to the Paradox Formation depositional cycles. The uppermost salt bed was termed "Salt 1" and the uppermost "clastic" interval was termed "Clastic 1." Likewise, the underlying salt bed was sequentially named "Salt 2" and its corresponding basal "clastic" interval was named "Clastic 2," with the naming convention continued throughout the basin. Figure 7-3 indicates the most regionally occurring salt cycles and mineralized horizons within the Paradox Formation. In areas where one or more of these cycles are absent, marker horizons such as the potash- and/or carnallite-bearing salt cycles and other distinctive marker horizons are used to determine the stratigraphic architecture of a particular area. Potash mineralization has been identified in as many as 18 of these salt cycles. However, the distribution of these potash beds is not uniform across the entire basin because the basin center shifted throughout geological time as a result of varied rates of basin subsidence. These mineralized horizons are often assigned names corresponding to their respective depositional cycles. For example, one of the potash horizons mined at Intrepid's Cane Creek Mine ("Sylvite 5" bed) occurs within the uppermost salts of "Cycle 5."

Within the northeastern part of the Paradox Basin the salt units of the Paradox Fm. have been deformed into salt anticlines by diapiric, plastic, flow to the extent that salt has been exposed at the surface several times in the Basin's history (Figure 7.4). In this severely deformed part of the Basin, there is little or no salt remaining between the anticlines. Along a trend through the middle of the basin, through the Cane Creek, Lisbon Valley and Dolores salt-cored anticlines, salt deformation has been much less. Further to the southwest, where the Sage Property is located, salt deformation has been minimal.

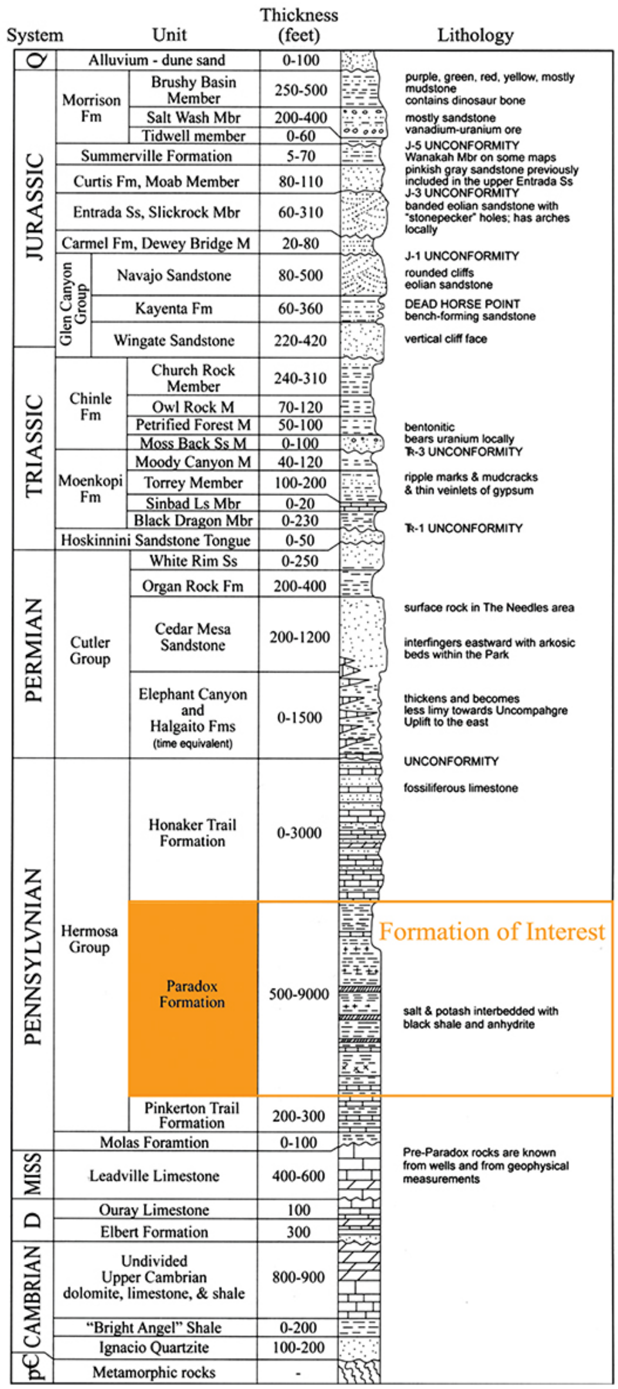

Figure 7-2. Stratigraphic Column of the Project Area (modified from Massoth, 2011).

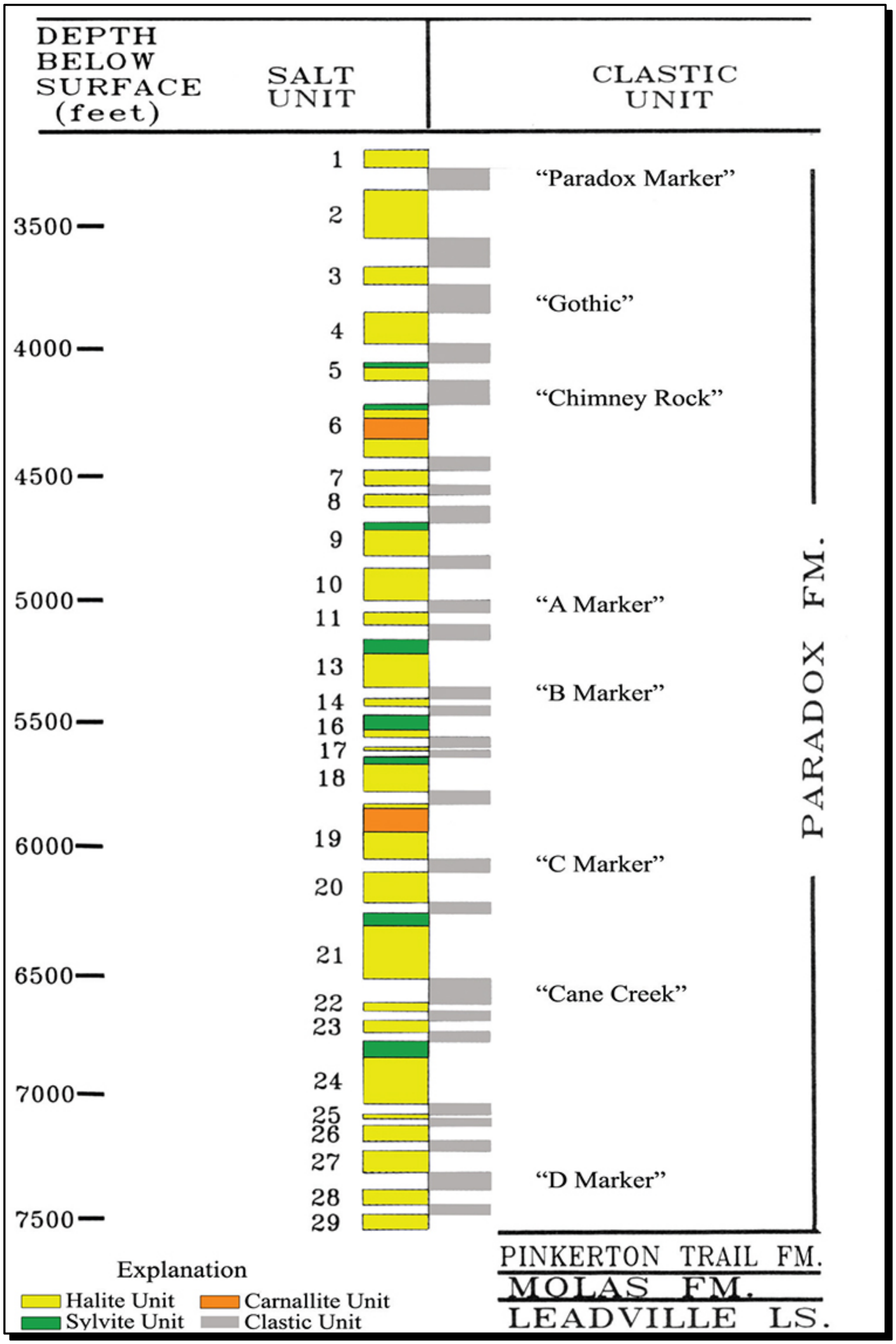

Figure 7-3. Detailed Stratigraphic Column of the Paradox Formation (modified From Massoth, 2011).

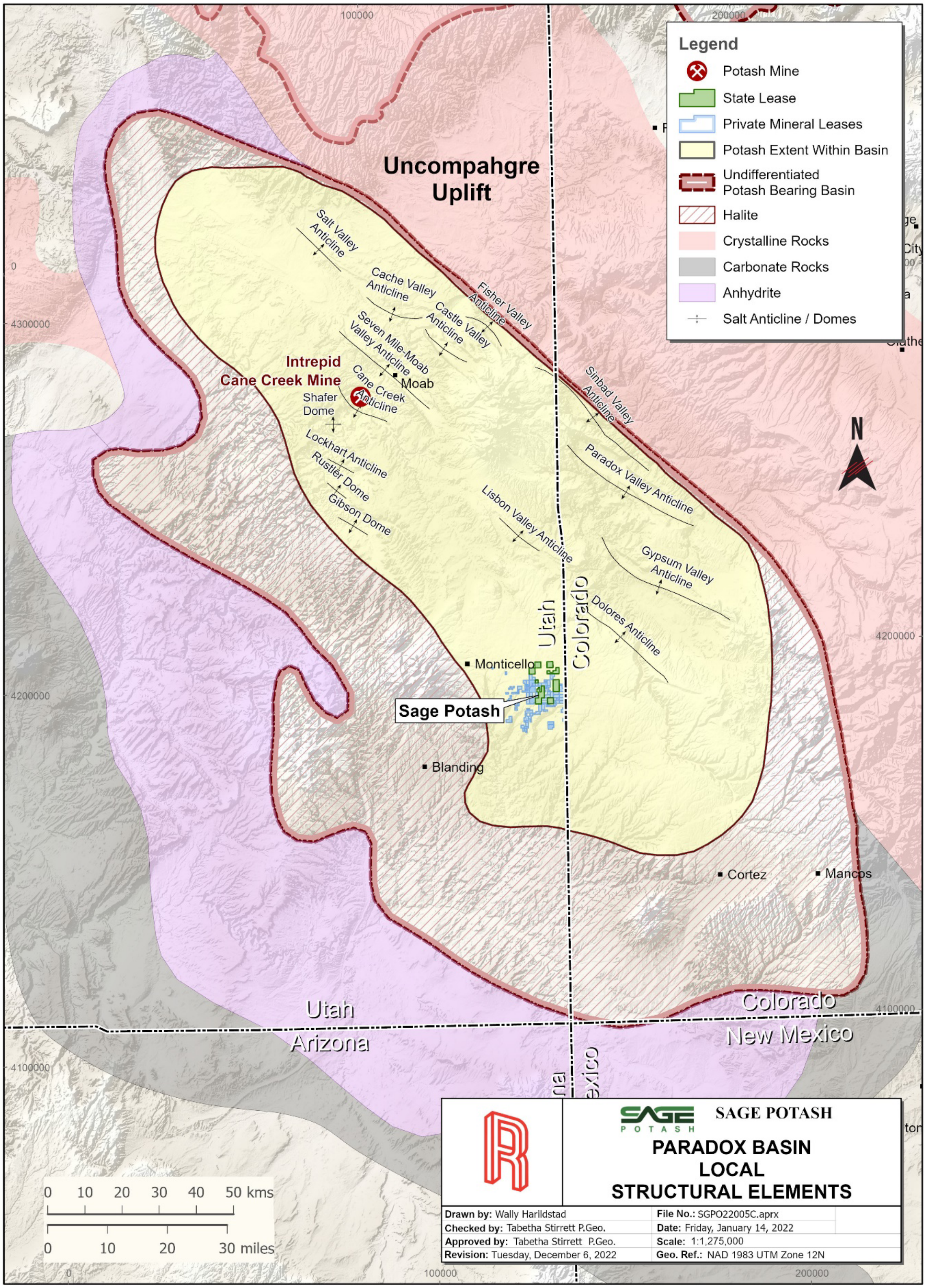

Figure 7-4 Structural Features within the Paradox Basin (modified from Raup and Hite, 1992).

7.3 PROPERTY GEOLOGY AND MINERALIZATION

Potash mineralization showing economic potential was encountered in the Johnson 1 exploration well. The economic zones of interest within the Project Area are the Upper and Lower Cycle 18 potash horizons. The Upper and Lower Cycle 18 horizons occur as discrete stratiform evaporite beds midway through the Paradox Formation at a depth of approximately 2,100 m (6900 feet). The Upper and Lower Cycle 18 potash horizons predominantly consist of sylvite and halite with minor amounts of carnallite and insolubles and are overlain and underlain by barren salt interbeds. The Upper and Lower Cycle 18 potash horizons were identified by the author based on the data collected from geochemical assays, core descriptions, and wireline log interpretation.

Dip and structure, potash grade, thickness, temperature, and carnallite and insoluble content are geological factors examined when considering solution mining. The discussion of the Property's geology in Section 7.4 summarizes these important geological factors for each of the potash cycles. Appendix C provides a detailed summary of the geological interpretations for the exploration well. The information in Appendix C provides the geological summary and is the basis for the following geological discussion as well as the Resource Estimate described in Section 14.0. The Paradox Formation isopach map shown in Figure 7-5 illustrates the member distribution. The Paradox Formation ranges from 365 m (1200 feet) thick in the south to 884 m (2900 feet) in the north. Within the Project Area, the Paradox Fm. thickness is approximately 822 m (2700 feet).

7.4 DIP AND STRUCTURE

The structural geology of the top and base of the Paradox Formation are illustrated in Figures 7-6 and 7-7, respectively. The maps were created using seismic interpretations provided by RPS (Flynn, 2013). Historical well data and 2D seismic lines indicate that the depth to the top of the Paradox Formation in the Sage Plain Project Area averages 365 m above sea level and the base averages –300 m above sea level. The Paradox Formation structural dip angle is regionally interpreted to be less than 5° towards the south.

Figures 7-6 and 7-7 illustrate the structural trend of the top and base of the Paradox Formation. The dip depicted in the figures in the vicinity of the Johnson 1 well is calculated to be less than 2° to the southeast, and confirmed to be nearly flat between the Western Natural Gas well and the Johnson 1 well (see Appendix D). Very low angle dips of the target potash horizon are critical to efficient solution mining since steeper dips restrict the potential size of solution caverns.

Seismic data indicate a highly faulted area south of the Property, and interpretations have approximated the dimensions to be 17 miles in length from west to east and 6 miles from north to south. The seismic data for all interpretations were interpolated from actual data points and are not a representation of true structure.

7.5 STRATIGRAPHY AND MINERALOGY

Potash mineralization encountered from drillholes within the Project Area consists of Cycle 18 potash. Potash mineralization in Cycle 18 generally occurs in one main horizon; however, potash can also occur as two discrete zones: the Upper and Lower Cycle 18 potash horizons. These horizons are separated by as much as 10 m of barren halite. The uppermost zone generally contains the greatest concentration of potash (Hite, 1978). A detailed examination of modern drill core indicates the presence of several horizontal, thin dark bands throughout the potash sequence (see Figures 7-8 and 7-9). The X-Ray Diffraction (XRD) analysis completed on Cycle 18 samples indicates that these areas have similar mineralogy to the adjacent zones and consist largely of halite, sylvite, and minor anhydrite.

A summary plot for the Johnson 1 well, drilled by Sennen in 2014 within the Property, is provided in Appendix C. The plot illustrates specific correlations between various datasets, namely Cycle 18 potash geology, geophysical wireline logs, and geochemical assay results. The horizon tops were chosen using the gamma-ray, neutron porosity, and density porosity wireline log signatures and examining drill core and geochemical analyses. The Cycle 18 potash horizons demonstrate the lateral continuity across the Project Area and potash grade and thickness required to classify the Property as a potential economic resource. The Lower Cycle 18 potash horizon was observed in the geophysical logs after the hole was completed. This interval was encountered while drilling the sump for the wireline logging tools; thus, no drill core was recovered for this bed. Inferences in the potash grade and thickness of the Lower Cycle 18 potash bed were determined by examining the geophysical logs.

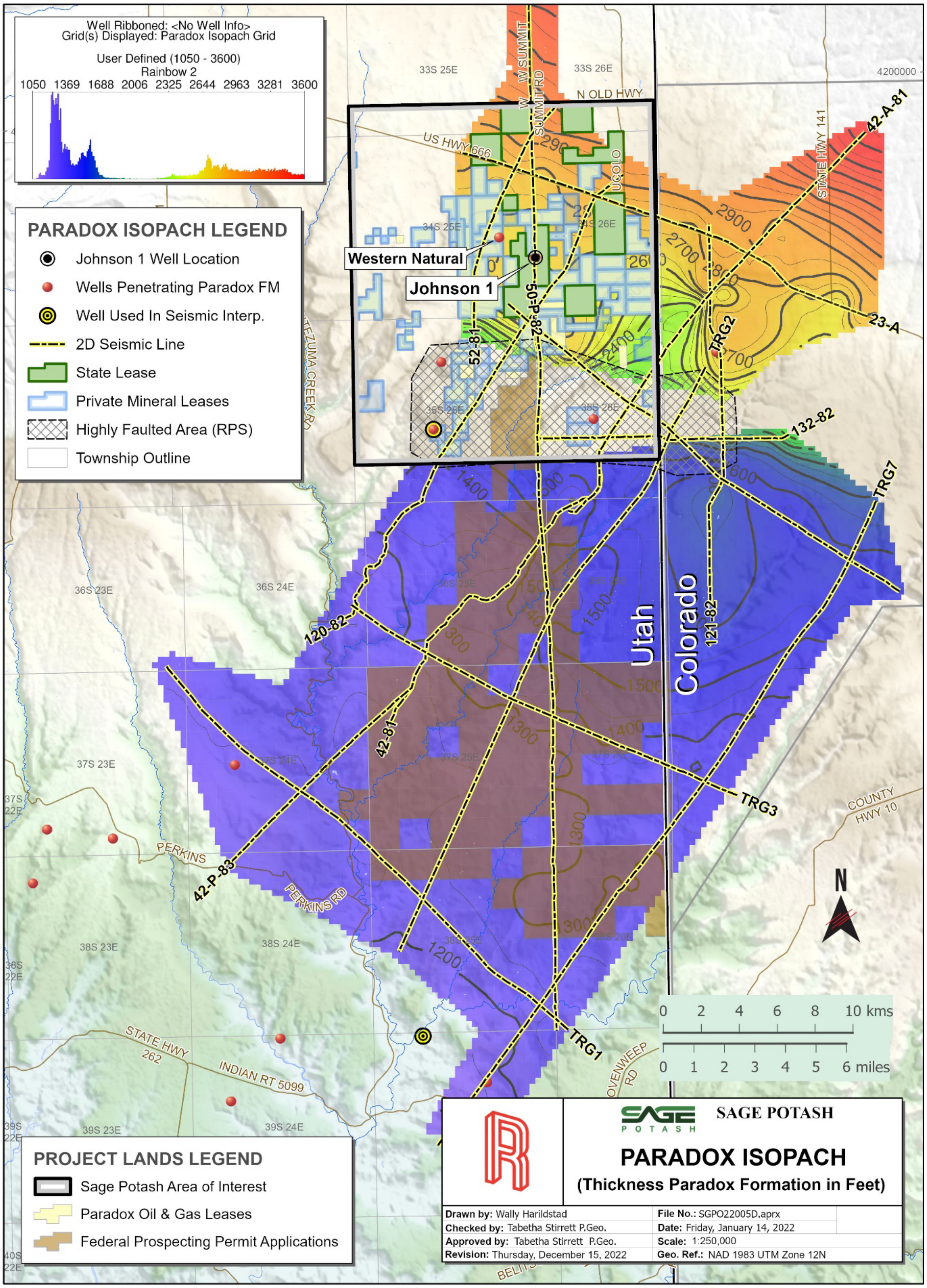

Figure 7-5. Paradox Formation Isopach Map (modified from Flynn, 2013).

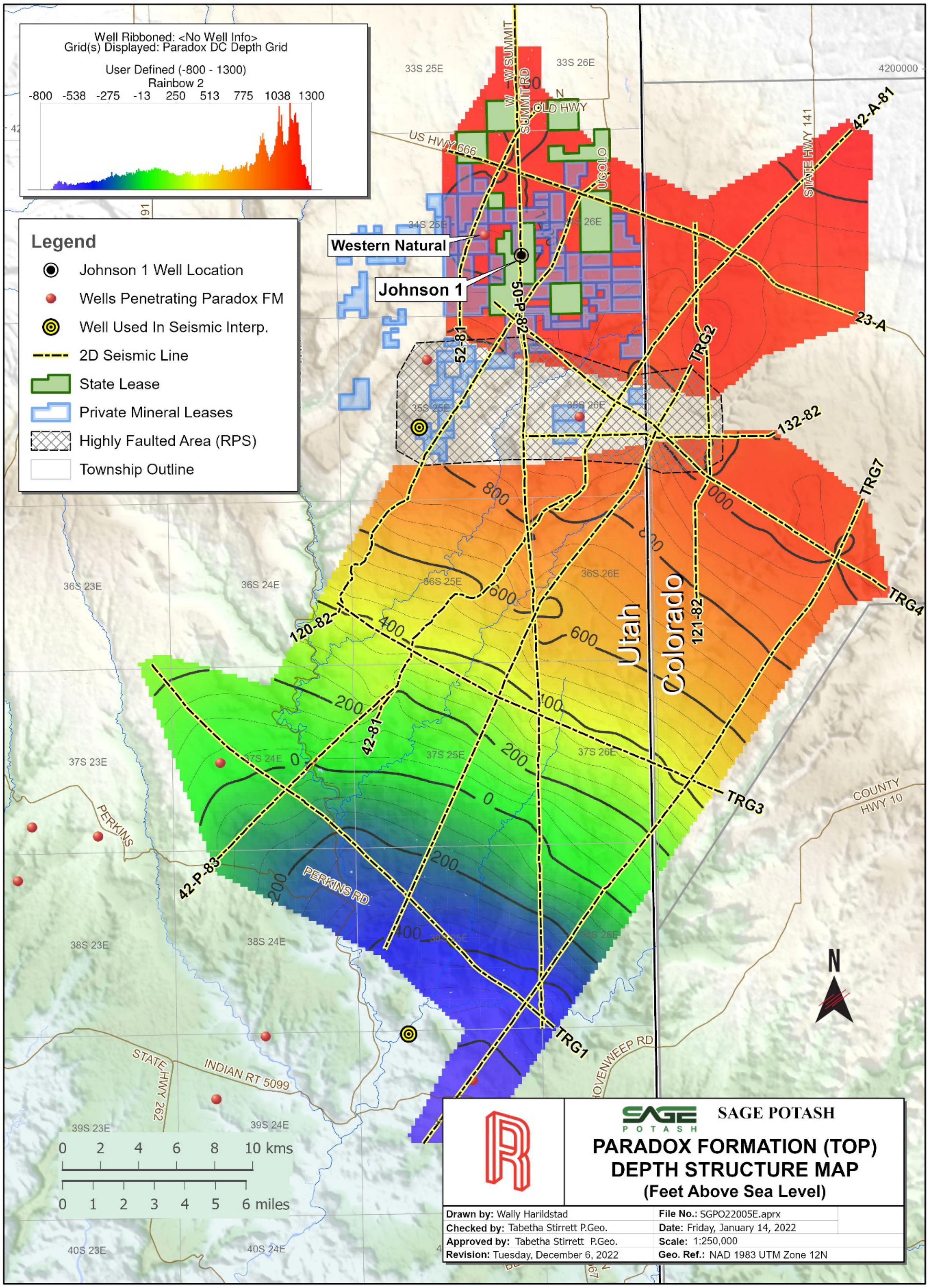

Figure 7-6. Top of the Paradox Formation Depth Structure Map (modified from Flynn, 2013).

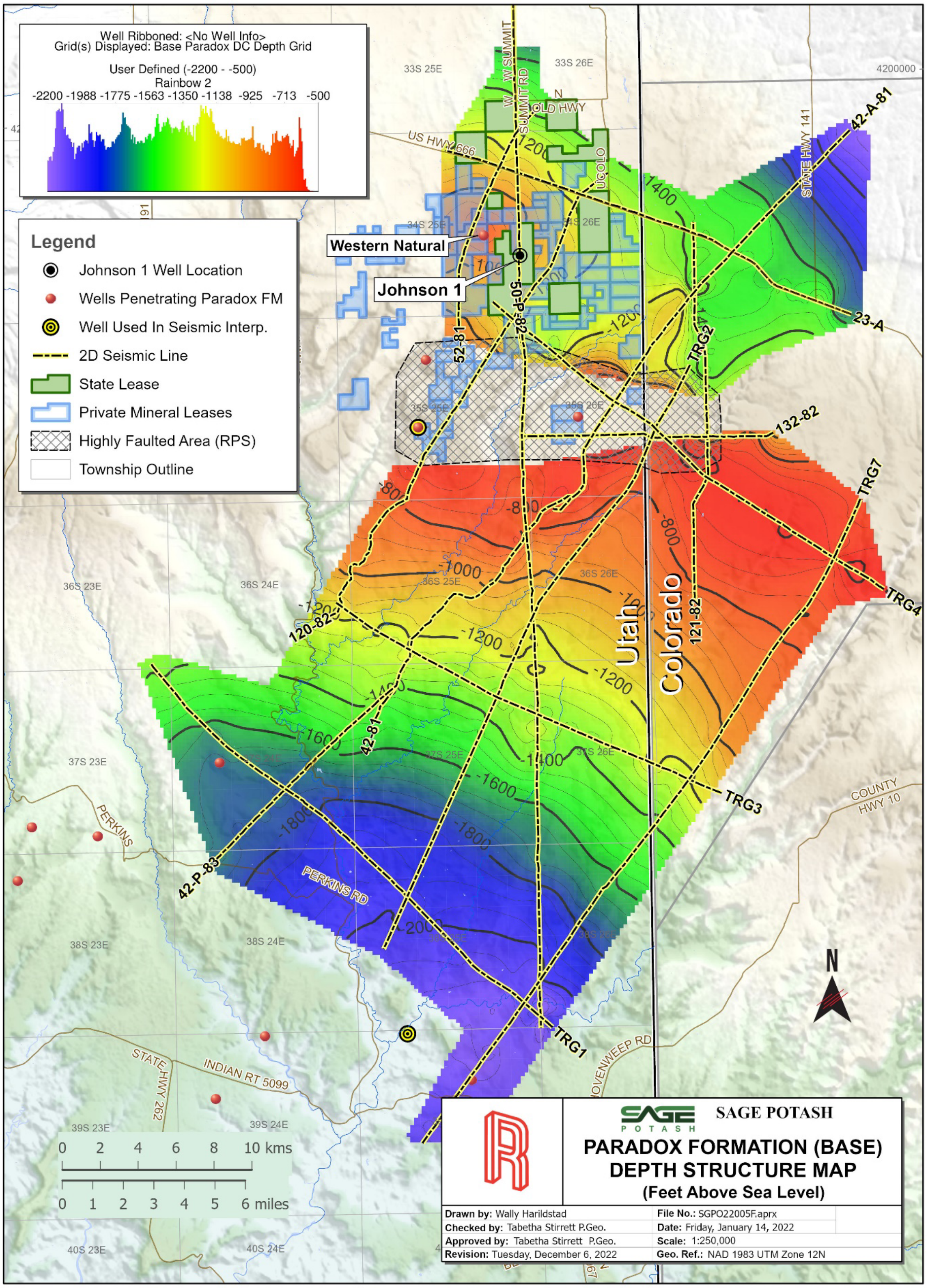

Figure 7-7 Base of the Paradox Formation Depth Structure Map (modified from Flynn, 2013)

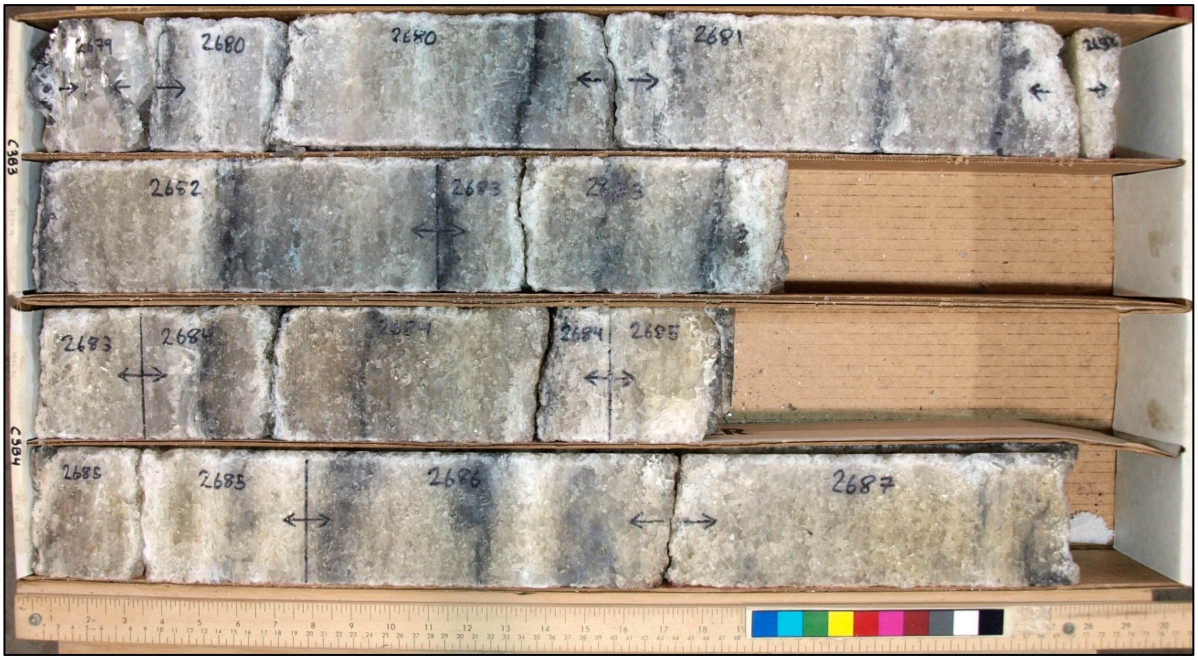

Figure 7-8. Drill Core Photograph of the Upper Cycle 18 Potash Horizon (Core 3, Boxes 3 and 4)

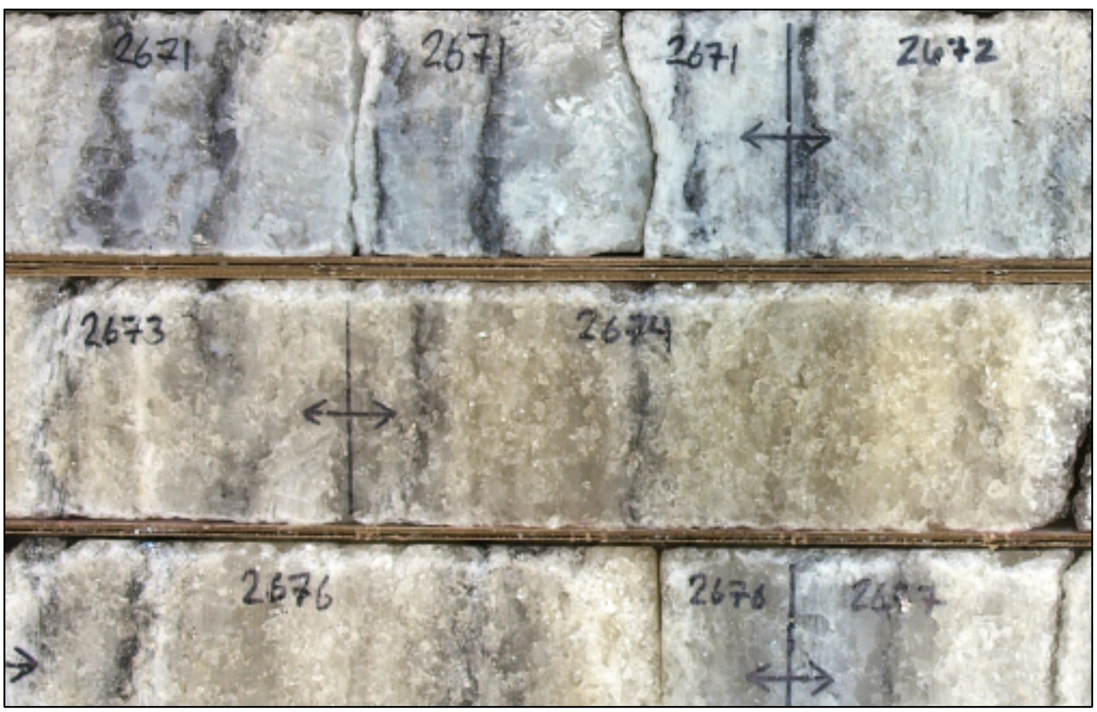

Figure 7-9 Texture of the Upper Cycle 18 Potash Horizon (Core 3, Boxes 1 and 2).

Geologic cross-section X–X', presented in Appendix D, illustrates the stratigraphic relationships of the Paradox Formation horizons from the suite of legible geological data for historical wells selected: 4303711277, 4303710430, Johnson 1, Western Natural, and 4303730572. The following points summarize the mineralogy and stratigraphy of the Cycle 18 potash horizons, as observed in drill core data, geophysical logs, seismic interpretations, assay results, and subsequent summary plots and cross sections:

- The interpreted structural geology of the Paradox Basin within the Project Area was deduced through interpolation between historical and recent drillholes and seismic data and is illustrated in Figures 7-5 through 7-7. The dip angle of the beds in the Resource Estimation Area is interpreted to be less than 1° in a south-southeast direction.
- North to northeast, the Upper Cycle 18 potash horizon thickens from less than 4 m near the (seismically interpreted) highly faulted area to approximately 7.3 m at the Johnson 1 exploration drillhole, as shown in Figure 7-10.
- The depth to the Upper Cycle 18 economic potash horizons averages 2,113 m.
- The economic potash horizons are separated by and are over and underlain by barren zones consisting largely of halite and local insolubles.
- The Johnson 1 well is characterized by the following:
  - Upper Cycle 18 potash horizon:
  - Weighted average grade of 26.96 percent K_2O over 7.26 m.
  - Sylvite occurs as white to gray/colorless cloudy crystals that are very fine to fine crystalline to locally very coarse crystalline in texture. The average crystal size ranges from 2 to 15 mm in diameter.
  - Halite occurs as gray to white/colorless, very fine to fine crystalline with local coarse crystalline texture. The average crystal size ranges from 2 to 35 mm in diameter.
  - Very low carnallite (0.01 percent MgO) and insoluble (0.62 percent) content.
  - Thin, dark horizontal banding of similar mineralogy of adjacent areas, as I dentified by XRD.
  - Lower Cycle 18 potash horizon:
  - Average grade of 22.6 percent K2O over 5.48 m.
  - Very low carnallite and insoluble content, as compared with the Upper Cycle 18 potash horizon interpreted from geophysical well logs.
  - The interbed salt between the Upper and Lower Cycle 18 potash horizons is 12.5 m.

The Paradox Basin Cycle 18 potash horizons are at a favorable depth for solution mining. Bottom-hole temperatures of 68°C were recorded at a depth of 2,169 m in the Johnson 1 well. These parameters, as well as the generally flat-lying nature of the deposit, further contribute to the potential economic viability of solution mining.

7.6 GEOLOGICAL ANOMALIES

A disturbance that affects the normal characteristics of the potash-bearing beds of the Paradox Formation is considered to be an anomaly and thereby represents an area that is generally unfavorable for mining. Potash zones can generally be affected by various categories of geological anomalies such as dissolution or collapse, leach, or washout anomalies.
The dissolution and/or collapse anomaly describes an area where the salts have been removed by the salt dissolution, and the resulting void has been filled by materials caved from above. This type of disturbance may be local (i.e., less than a square kilometer) or regional (i.e., extending over a number of square kilometers) and may affect part of or the entire salt sequence.

The leach anomaly occurs where the sylvinite bed has been altered such that the sylvite mineral has been removed and the bedding is proportionately thinned. Often surrounded by enriched halos, leach anomalies are also termed salt horsts or salt horses. If the altered zone crosses any stratigraphic boundaries, such as clay markers, these boundaries are commonly unaffected. Workers in the field interpret this type of disturbance as post-depositional. This anomaly can occur as partial or complete absence of sylvite in what is otherwise considered a continuous stratigraphic sequence.

The washout anomaly occurs where the sylvinite bed has been replaced by a halite mass. This type of disturbance is interpreted as a penecontemporaneous occurrence (i.e., taking place at the same time as deposition of the primary sylvinite or shortly thereafter) that takes place from the top-down, and thus, is local in nature.

Anomalous areas can impact mining operations because the grade of the potash ore sent to the mill decreases as anomalous ground is encountered or because a portion of the potash ore is not mined. A combination of 2D and three-dimensional (3D) surface reflection seismic studies and carefully examining drillholes is generally sufficient to identify potentially problematic ground.

An important aspect of estimating the potash potential of an area is to identify portions of the subsurface that may contain disturbances affecting the Paradox Formation. If a drillhole penetrates a disturbance, the drillhole may offer a vertical profile of an anomaly but will not provide information as to its lateral extent. Reflection seismic surveys offer the possibility to map the lateral extent of anomalies related to a large-scale alteration of the Paradox Formation. The dissolution of the main mass of the Paradox Formation with the subsequent collapse of the overlying beds into the dissolution cavern may be captured in seismic interpretations; however, seismic surveys may not necessarily define the lateral extent of more subtle anomalies such as washout or leach anomalies. Anomalies of various sizes can be detected to a minimum of 15 m on 2D surveys and 20 m on 3D surveys and may not accurately depict anomalies below that cut-off.

No anomalous areas were evident on the Property in the 2D seismic interpretation completed. However, a highly faulted area south of the current land holdings was identified, as interpreted from seismic data and indicated in Figures 7-5 through 7-7. The Mineral Resource estimate was discounted to allow for the potential presence of currently undetected anomalies over the Property, such as collapsing, steep bedding dip, high carnallite concentrations, or low-grade beds (see Section 14.0).

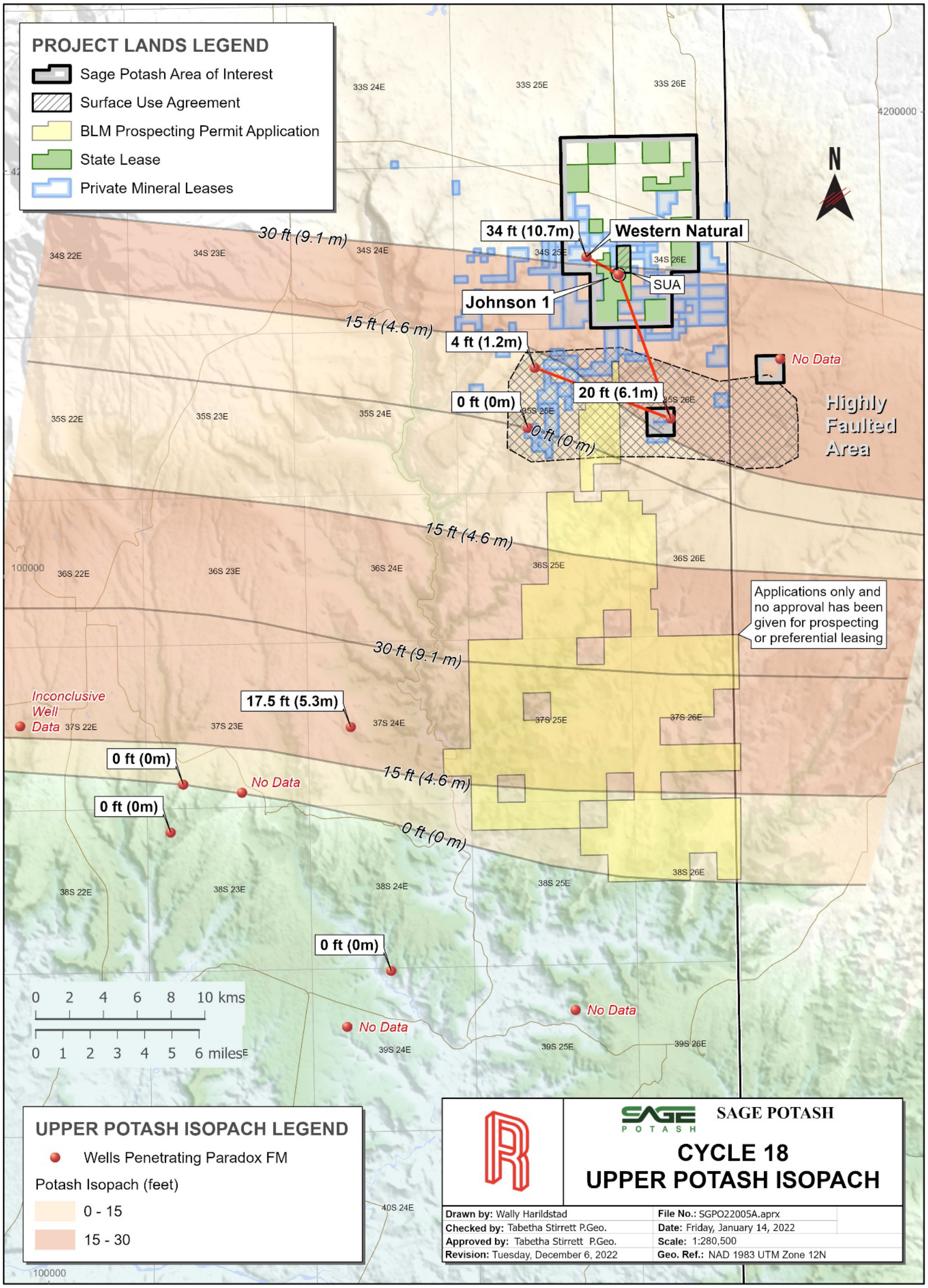

Figure 7-10 Cycle 18 Upper Potash Isopach.

8.0 DEPOSIT TYPE

The word "potash" is a contraction of the term muriate of potash, which is widely applied to naturally occurring, potassium-bearing salts and their manufactured products and is often expressed by the chemical formula KCl (potassium chloride). While several salt species are classified as potash minerals, sylvite (KCl) is the natural form of the principal ore mineral. The term "sylvinite" (a lithology dominantly composed of sylvite) is applied to most sylvite-dominated potash beds. One tonne of chemically pure KCl contains an equivalent of 0.63 tonne of K_2O (potassium oxide). This chemical conversion is typically used to compare the nutrient levels in potash deposits of various mineralogical compositions as well as various potash products. Reporting potash content as K_2O is commonly considered the industry standard.

Potash has historically been used in manufacturing many industrial and commercial materials, including soaps, glass, and textiles. However, potash is most commonly used as a primary ingredient in the production of crop fertilizers.

Potash deposits are a type of industrial mineral deposit that occurs primarily within sequences of salt-bearing evaporite sediments. The potash mineral accumulations are hosted within the bedded halite layers of these evaporitic sequences. The extreme solubility of potash salts results from their formation in only highly restricted settings (e.g., barred intracratonic seas, or evaporative lakes) where they precipitate from solution only toward the end of the evaporite depositional series (Warren, 2006). These extremely soluble salts are commonly referred to as the bittern series. The potash salts are precipitated from these concentrated evaporating potassic brines as chemical sediments that are deposited at, or very near, the depositional surface as the basin approaches desiccation. The geologic provenance of the chemical sediments, therefore, dictates confinement of the potash salts to relatively narrow stratiform intervals and, excluding deformation, erosion, and other post-depositional destructive processes, nearly all potash deposits will exhibit some degree of lateral continuity.

Most of the world's salt and potash resources are extracted from these types of deposits. In situations where the deposit cannot be conventionally mined, solution mining may be used. Solution mining for potash is performed by injecting near-saturated salt brine into the deposit to more favorably dissolve only potash minerals. After some time, the potash-bearing liquor is recovered from the mine cavern and subsequently crystallized on the surface into potassium salts that are then refined into the preferred end-product. Because of the immense size of many potash deposits worldwide, a potash-processing facility may exploit a single deposit for decades.

Potash deposits can be of either a simple or complex mineralogical character. For the purposes of this report, simple potash is considered to be any deposit characterized by a sylvinite-dominated potash type with variable concentrations of impurities, including halite, carnallite [$KMgCl_3 \cdot 6H_2O$] and clay. The potash deposits of the Paradox Basin can be considered a mineralogically simple potash deposit. Other deposits worldwide, such as several of the European salt deposits, may bear a more variegated bittern salt mixture and other exotic contaminant species; these deposits are considered to be of a complex mineralogical nature.

According to Williams-Stroud (1994) the evaporite minerals present within the Paradox Basin are a result of deposition in a closed evaporite basin where the volume of continental-derived inflow waters exceeds marine-derived inflow waters 2:1. The depositional environment discussed in Williams-Stroud (1994) lists a "…marine-influenced, penecontinental perennial saline lake which existed for thousands of years." Thus, the basin is proposed to have a mixed marine-continental origin. Figure 8-1 is a schematic of the stages of the depositional environment of the Paradox Basin: (A) open communication with the ocean; (B) regressive phase; (C) subsequent evaporative drawdown; (D) closed basin, saline lake stage; (E) transgressive phase, and (F) open ocean (Williams-Stroud, 1994).

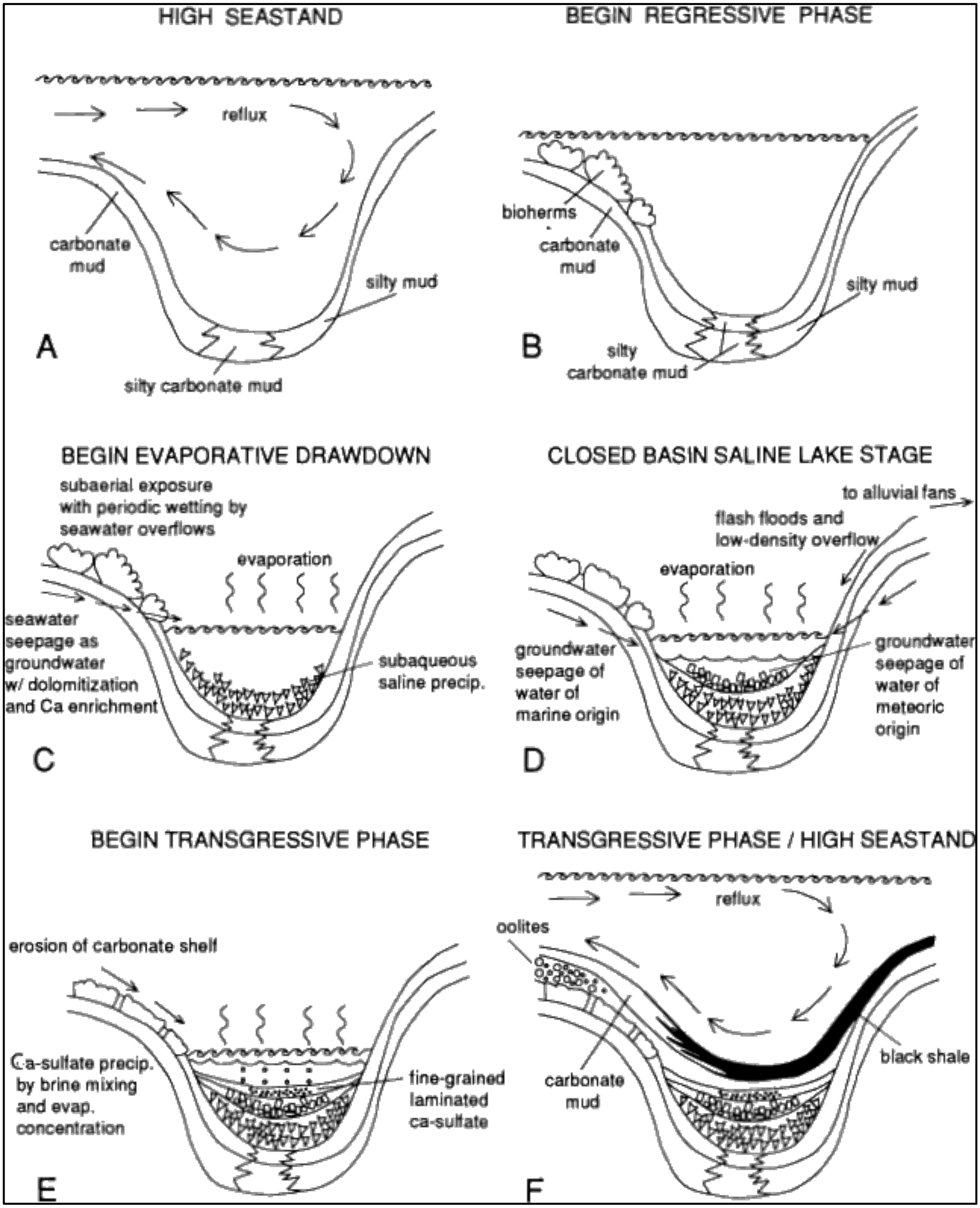

Figure 8-1. Stages of the Depositional Environment of the Paradox Basin (Williams-Stroud, 1994).

9.0 EXPLORATION

There has been no recent exploration by Sage Potash. Sennen purchased and had evaluated, 2D seismic of the area in support of a drilling program.

9.1 SENNEN HISTORICAL EXPLORATION ON THE SAGE PLAIN PROPERTY

In 2013, approximately 275 linear km from 13 individual, 2D seismic lines covering the Project Area were purchased by Sennen and interpreted by RPS on behalf of Sennen (see Figure 9-1 for the locations of the historical seismic lines used in the seismic interpretation). The 2D seismic data were tied to existing historical drillholes to correlate seismic horizons with the local Project Area stratigraphy. Seismic surveys are highly effective subsurface analytical tools for potash exploration and are used in identifying and estimating the total salt thickness, degree of salt loss, salt dissolution-induced collapse structures, as well as identifying other geological elements such as faulting. The results of the 2D surveys, along with regional and local geologic cross sections, were used in placement of the Johnson 1 exploration well to avoid potential anomalous ground.

9.2 SENNEN EXPLORATION

In 2013, North Rim (now RESPC) provided a report to Sennen that recommended purchasing trade-seismic data encompassing the area of interest, followed by reinterpreting the seismic data, examining local historical drillhole data, and identifying potential drillhole locations. Sennen carried out this exploration strategy, which is summarized in the following sections.

9.3 SENNEN SEISMIC ANALYSIS

The seismic interpretation completed by RPS was conducted with the intention that the Project Area would be drill-tested for use in developing a potash Mineral Resource Estimate if generally consistent potash member stratigraphy and minimal anomalies were identified. In early 2013, 2D trade-seismic data were acquired and interpreted by RPS on behalf of Sennen to support a seismic study of the Project Area. Approximately 275 linear km from 13 individual, 2D seismic lines covering the Property were purchased and interpreted (see Figure 9-1). The data were acquired as a tool for evaluating the Property geology and focused on identifying anomalous geological features to assist in interpreting the potential for potash mineralization that would be sufficient to support a mining operation. The 2D seismic data were tied to historical drillholes to correlate seismic horizons with the local Property stratigraphy (see Figure 9-1 for historical wells used to tie in the seismic data).

No anomalous ground was identified in the Sage Potash Property; however, a highly faulted area in the southern part the Sage Potash Property was identified.

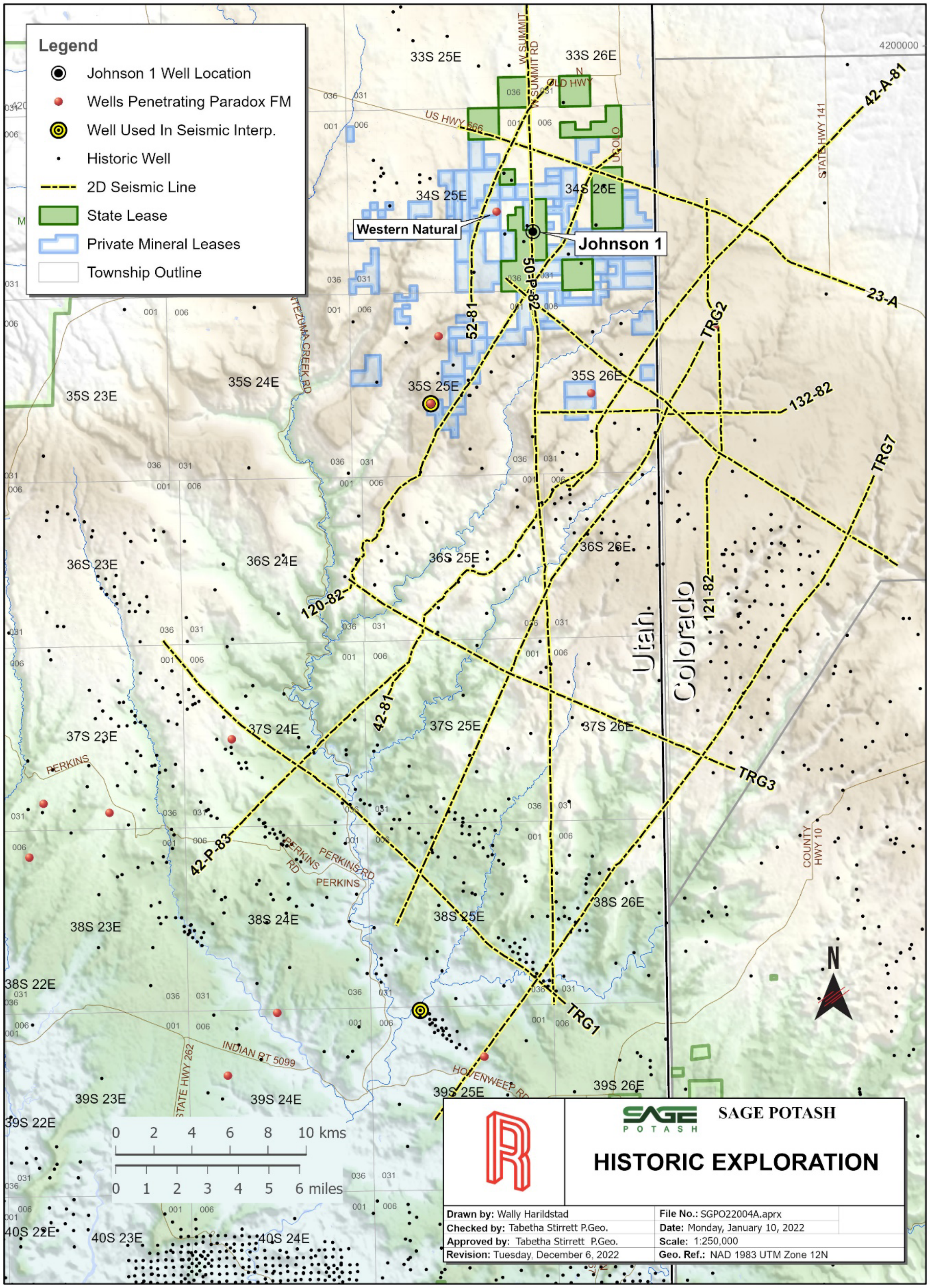

Figure 9-1. Historical Exploration Map Showing 2D Seismic Lines.

10.0 DRILLING

Sage Potash has not performed drilling on the Property. Previous drilling was completed for Sennen on the Property by North Rim (now RESPEC).

10.1 2014 SENNEN DRILLING PROGRAM

One exploration drillhole (Johnson 1) was completed by Sennen on the Property in 2014. The purpose of the drillhole was to retrieve core from Salt Cycle 18 to determine the quantity, continuity, and grade of the potash in the subsurface. This vertical exploratory well was drilled down to the Cycle 18 potash horizons, where five 3.5-inch cores were cut for a total of 33.2 m of drill core. The Johnson 1 well was drilled in San Juan County, Utah, on State Lease NW-NW, S30, T34S, R26E (see Figure 9-1). Geological seismic interpretations are discussed in Section 7-4 through7-6. Table 6-2 summarizes the exploration activity in and around the Property.

The drillhole was logged with geophysical wireline tools from total depth to the surface casing. The geophysical parameters measured with the wireline tools include the Gamma Ray, Resistivity, Self Potential, Neutron Porosity, Density, Caliper, and Sonic Velocity. The Gamma Ray log provides a depth-recorded dataset of the natural formation radioactivity and is displayed in American Petroleum Institute (API) units.

North Rim (RESPEC) completed the sample preparation of drill cores obtained for Sennen using suitable quality assurance/quality (QA/QC) control procedures. An example of the prepared core is illustrated in Figure 10-1. The Saskatchewan Research Council (SRC) performed the geochemical analysis. According to the SRC Geoanalytical Laboratories Customer Quality Control policy, the sample preparation and analytical procedures are of the highest quality and meet NI 43-101 standards.

The historical well Western Natural Gas 1, west of Johnson 1, was reviewed to understand the continuity of the geology in the area. The wireline logs from the well demonstrated that the Cycle 18 potash bed was present.

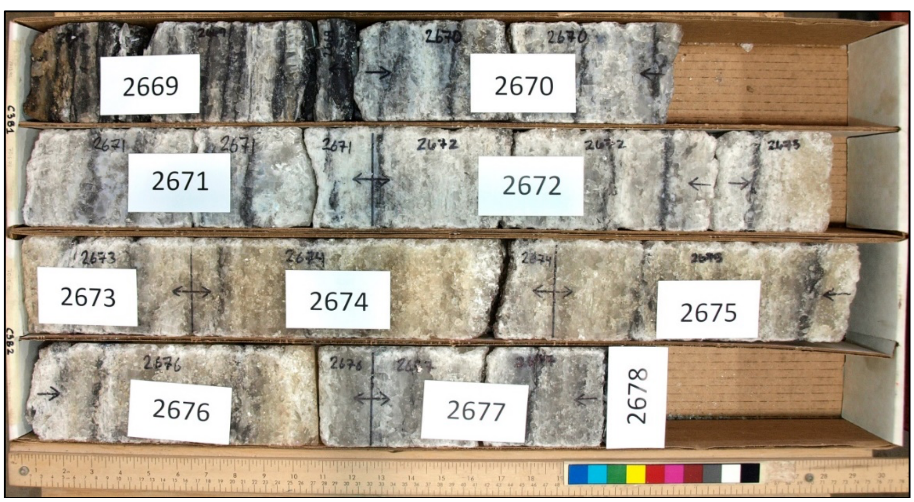

Figure 10-1. Assay Core Photograph Example from the Johnson 1 Well. Core is approximately 3.5 inches (9 cm) in diameter; numerical markers are sample numbers for approximately foot-long assay intervals.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Geochemical testing for the Johnson 1 well was conducted by North Rim (now RESPEC) for Sennen. Assay sampling was completed December 11, 2014, with results returned by December 19, 2014.

11.1 GEOCHEMICAL SAMPLING PREPARATION

All geochemical sample preparation was carried out at North Rim's Core Laboratory facility. The following steps were systematically carried out before sampling:

1. Upon arrival at the laboratory, the core tubes were unloaded from the transport vehicle and laid out in sequential order.
2. The core was removed from the aluminum tubes and placed in boxes starting from the top of the core interval to the bottom.
3. The core was depth corrected using the appropriate wireline logs and photographed before any other work commenced.

11.2 CONTROLS ON SAMPLE INTERVAL DETERMINATION

The following points summarize the steps taken by the North Rim geologists when choosing the geochemical sample intervals:

1. A continuous sample interval was selected by the North Rim geologists prior to slabbing the drill core. The first sample was selected approximately 3.4 m above the top of the potash interval and the last sample was selected approximately 3.7 m below the base of the potash interval.
2. Once the sample interval was determined, the core was then slabbed lengthwise into halves by North Rim geologists with a dry, 2-horsepower band saw equipped with a dust collection system. Once slabbed, the two core halves were placed back into their respective box in proper stratigraphic order, with both cut surfaces facing up.
3. Once the entire assay interval was slabbed, the cut surfaces were wiped down with a damp cloth to remove any rock powder generated from cutting.
4. The upper core half was divided into individual samples by drawing straight lines across the core diameter in permanent black marker, utilizing natural core breaks where applicable. The determination of individual samples is based on stratigraphy and mineralogy changes. As the samples were chosen, they were labeled with a continuous numbering scheme as seen in Figure 10-1.
5. The sample number was written on the top piece of the upper core half in permanent black marker. A sample tag bearing this number was prepared to be used for identification in the core photo.

6. Once the samples were reviewed by the North Rim QP (Qualified Person), the core was photographed with a high-resolution digital camera.
7. Each sample within the assay interval was then measured to the nearest 0.5 inch and the sample length recorded into the appropriate assay and logging spreadsheets. The sample intervals and ID's were then transposed onto the cut surface of the underlying second half of the core in the box.
8. The upper core half was then crosscut into the designated sample intervals with the band saw by a North Rim geologist. Each sample and its corresponding sample tag were placed into a waterproof, plastic sample bag and stapled to enclose the sample within the bag. The sample ID was written on the sample bag in permanent black marker.
9. Samples were placed in rice bags where the sample numbers, and bag number were labeled. Shipping sheets that included well information, bag numbers, sample numbers, and contact information accompanied the samples to the SRC Laboratory in Saskatoon.

The core recovery was excellent for Johnson 1 well and the cutting and slabbing of the drill core did not result in any notable material loss. The accuracy and reliability of the assay samples was not compromised during the sampling procedure. North Rim geologists delivered the samples to SRC for analysis. There, the samples were crushed, split, and analyzed according to the parameters stated in SRC's potash analysis package. Quality assurance and quality control (QA/QC) measures were strictly adhered to by SRC, including the use of standards and duplicates throughout the analysis period. North Rim was not involved in procedures performed at SRC once the samples were delivered, nor was North Rim there to supervise the analysis process. Assay results generated are reviewed and approved by SRC before release.

The author of this report has reviewed the relevant documents concerning sample preparation, sample security, and analytical procedures, and is of the opinion that sample preparation, sample security and analytical procedures were adequate, and that the assay results reported by SRC accurately reflect the potash content of the core drilled from the Johnson 1 well.

11.3 SAMPLE METHOD AND APPROACH

The determination of individual samples within the sample interval was based on visual inspection of the core in conjunction with consultation of the respective gamma curves for Johnson 1. The following geological parameters were used for individual sample selection:

1. Changes in lithology, mineralogy, K_2O grade, crystal size, or insoluble content warranted a new sample. Densely banded intervals were broken out as individual samples.
2. Samples were limited to 30 cm for the entire sampling interval.

11.4 SAMPLE SECURITY AND GEOANALYTICAL LABORATORY PROCEDURES

The following procedures were closely followed to ensure that the core was under the supervision of qualified personnel at all times:

1. From the retrieval of the core at the drill site to receiving the core at the North Rim Core Facility, the core was under the care and supervision of North Rim's onsite geologist, well site supervisor, or North Rim Core Facility geologists. While the core was in transport, the tubes were taped shut and wrapped securely on the pallets. When the core was received in Saskatoon, there was no evidence that the shipment had been tampered with.
2. Following the core retrieval, the core was placed in aluminum tubes, capped, taped, and secured on pallets by North Rim's Project Geologist and well site supervisor. The core was picked up from site by FedEx and delivered to the North Rim Core Facility within days.
3. As soon as the core arrived at the core laboratory, North Rim's lab staff inspected the shipment, signed the Core Packing Slip, and unloaded the core. From this point forward, North Rim Geologists were responsible for the supervision of the core. The North Rim Core Lab is equipped with an alarm system to ensure the security and integrity of the core when the lab is not under direct surveillance. North Rim's Core Lab is temperature and humidity controlled to prevent deterioration of the core.
4. Samples collected for geochemical assay sampling were secured in plastic bags to ensure they were not exposed to moisture. To preserve sample identification, the sample number was written on the sample in permanent ink, on a sample tag placed inside the bag, and on the bag the core was placed in. The sample bags were sealed, packed into labeled rice bags, and remained sealed until they were opened for processing at the SRC Laboratory.
5. Samples were delivered by North Rim staff to the SRC Laboratory. SRC is an International Organization for Standardization (ISO) accredited to 17025. Information sent along with the sample shipment included the client name, distribution email list, type of geochemical analyses required, and a sample list clearly explaining which samples were stored in each bag.
6. When SRC received the core samples at the lab, they signed, dated, and returned the North Rim Packing Slip to the North Rim employee. After confirming that the sample list matched the samples delivered, a Sample Receipt Report was emailed to the pre-determined distribution list.

The following sample preparation procedures were carried out by SRC employees (modified from the SRC Geoanalytical Laboratories Sample Report outlining work carried out on samples submitted by North Rim):

1. Prepared an in-house sample list and group number for the shipment.
2. Labeled sample vials with the appropriate sample numbers.
3. Individually crushed all samples in the group.

4. Evenly distributed each sample in the splitter to avoid sample bias. Cleaned the crusher and splitter equipment between each sample using compressed air.
5. Split the crushed sample and inserted one portion into the appropriate sample vial.
6. All material that did not get analyzed (“reject”) was resealed in original labeled plastic bags and stored in plastic pails with appropriate group number marked on the pail.
7. Prepared vials of material for grinding. The material was placed in a pot, ground for 1 minute, then returned to the vial. Vials were visually inspected to ensure fineness of material. Grinding pots were cleaned with compressed air between each sample and cleaned with silica sand and rinsed with water between each group.
8. The pulverized samples were placed in a tray and sample paperwork was submitted to the Main Office. Worksheets were created detailing the samples to be analyzed, the type of analyses requested as well as the standards, blanks, and split replicates to be completed.
9. The samples and paperwork were sent to the Geochemical Laboratory and samples were analyzed using SRC’s Basic Potash Package (Soluble Inductively Coupled Plasma [ICP], % Insolubles and % Moisture).

Upon completion of the assays and QA/QC procedures outlined in Section 11.5, the geochemical results were e-mailed to the client contact list.

11.5 QUALITY CONTROL PROCEDURES

Quality control was an integral part of the sampling process at the North Rim Core Laboratory and the SRC Laboratory. At the North Rim Laboratory, assay samples were chosen by a North Rim Geologist, peer reviewed, and approved by the QP before the sample intervals were finalized. Once finalized, the samples were measured and recorded in the assay spreadsheet. Before being bagged and delivered to SRC, the samples were re-measured, and the sample intervals were confirmed.

When the samples arrived at SRC, the number of sample bags and samples within each bag were confirmed with the sample list provided by North Rim. During the sampling process, standards and replicate samples were inserted as proper QA/QC practice. After processing the entire group of samples, a split sample replicate was completed. The splitter and crusher were cleaned between each sample to prevent contamination. Once the results were complete, a password-protected zip file was then emailed to the distribution list found on the information sheet provided by North Rim. According to the SRC Geoanalytical Laboratories Customer Quality Control Policy, the sample preparation and analytical procedures are of the highest quality and met NI 43-101 standards.

12.0 DATA VERIFICATION

All geological data on which this TR (effective date, November 21, 2022) is based has been reviewed and verified by the author as being accurate and sufficient to support the conclusions and recommendations of this TR.

Sage Potash supplied the author of this TR a set of data files on the Sennen exploration program, the drilling of the Johnson 1 well in 2014, and the handling and analysis of the drill core, on which an earlier Technical Report (Stirrett and Shewfelt, 2015) was based. In this data set the author reviewed the drilling reports for the Johnson 1well, including the dates and times spent coring Cycle 18 Potash, the wire line logs of the Johnson 1 well, and the core photographs from the cored interval. Further, the author of this TR reviewed the well logs of additional wells, including the Western Natural Gas well, on which the Resource Estimation and the Geological Cross Section in Appendix D is based. The assays of K_2O content (K_2O %) in the Johnson 1 well were checked using a comparative assay-to-gamma ray correlation study that was completed for the Johnson 1 well. The purpose of this exercise was to ensure that the depth corrections were completed correctly and that the core interval K_2O content values (K_2O %) correlated with the Gamma Ray signature. The summary of the Johnson 1 well in the cored interval, including the correlation of (K_2O %) with the Gamma Ray signature, is included in Section 12.1, and in the Geological Summary in Appendix D.

The Sennen data was archived in a secure location and the author of this TR has verified that the data has been accurately transcribed from the original source.

Sample preparation and security for the cores from the Johnson 1 well have been described in Stirrett and Shewfelt (2015). The author of this TR reviewed the descriptions made by the authors of the prior Technical Report, and found them sufficiently detailed and adequate to support the prior Technical Report. In the opinion of the author of this TR, the data described herein is adequate to support this Technical Report.

12.1 COMPARISON OF GAMMA-RAY EQUIVALENT CALCULATION (GREC) METHOD TO ASSAY DATA

A comparative assay-to-gamma ray correlation study was completed for Johnson 1 well. The purpose of this exercise was to ensure that the depth corrections were completed correctly and that the % K2O values correlated with the gamma ray signature. The spectral gamma ray tool was used for the bottom section of the Johnson 1 well as it measures the three most common components of naturally occurring radiation; potassium (K), uranium (U), and thorium (Th).

Figure 12-1 shows the correlation of the API values for the total gamma ray (GR) and the potassium values (KAPI), the Bannatyne (1983) GREC K2O equivalent, and the actual assay results for Johnson 1 well. The plot shows both the KAPI and % K2O trending, similarly, indicating that the geochemical assays and K gamma ray curve correlate quite well and that the depth correction and assay values appear to be correct. The differences in the curve signatures are most likely due to other radioactive elements that the gamma ray tool has sensed. Note that there is a missing section on the % K2O curve as there was 152.4 mm (6 inches) of missing core between core runs.

The plot in Figure 12-1 also illustrates that the salts in Cycle 18 are slightly more radioactive, displaying a higher total gamma ray signature, GR(API), than the potassium gamma ray KAPI. This is significant when doing GREC calculations as the total API GR should not be used as an input into the K2O calculation. Doing so would result in overstated K2O estimate.

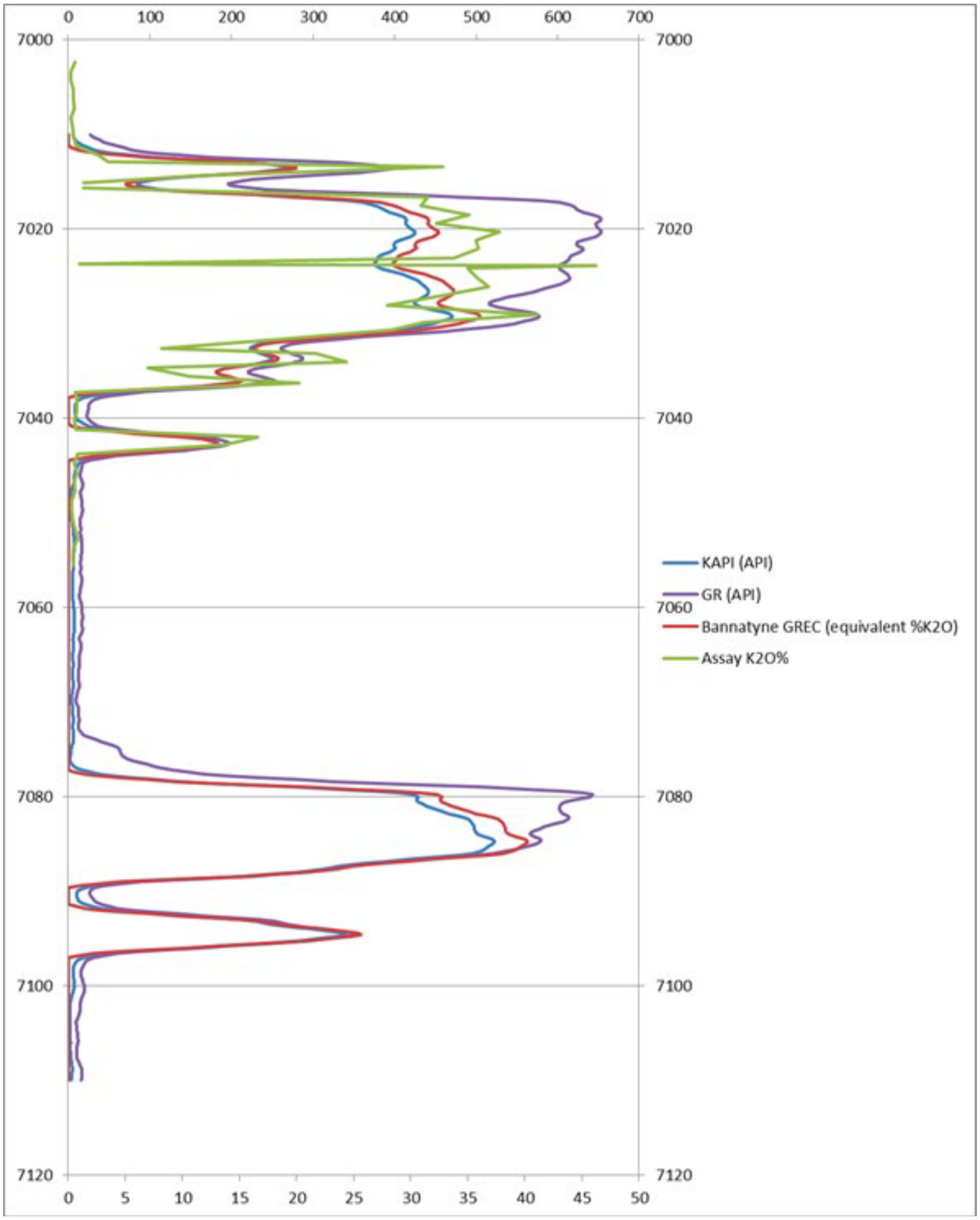

Figure 12-1. Comparison of Gamma Ray Equivalent Calculation (GREC) to Assay Data.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 DISSOLUTION TESTING

On the Company's behalf, RESPEC's Materials Testing Laboratory in Rapid City, South Dakota, conducted testing on core recovered from the Johnson 1 well in early 2022 to determine the selective dissolution rate of sylvite. XRD mineralogical tests were also performed on each dissolution test specimen.

The dissolution test specimens were prepared by cutting a 5-cm-thick disk (or half-disk in the case of slabbed core) from the field core. After 90° pie-cuts through the disk were made, the cut vertical sides of each specimen were sanded smooth. The samples were measured, photographed, and weighed, and the top and bottom of the samples were coated with epoxy.

The dissolution test method is essentially submerging the dissolution specimen in a salt-saturated, prepared brine solution at the experimental temperature followed by drying and weighing to the nearest –0.0001 gram. The dissolution factor for each specimen was calculated via:

$$k = \frac{\left(m_b = m_a\right)}{A\Delta t}$$

where:

k = dissolution factor (grams per square centimeter per second [g/cm^2/s])

m_b = mass of specimen before testing (gram)

m_a = mass of specimen after testing (gram)

A = vertical dissolution surface area of specimen (centimeter squared [cm^2])

Δt = dissolution time (second).

After the dissolution tests were completed, the epoxy was cut off and the test specimens were prepared for XRD tests. The samples were crushed and pulverized to a 3-mm particle size and riffle split. A 90-gram portion of the crushed sample was pulverized. The pulverized sample had a final grain size of less than 200 mesh (74 microns), which is ideal for XRD tests. The results from the dissolution and XRD tests are included in Table 13-1 and shown graphically in Figure 13-1.

The dissolution testing performed is currently being used to support advanced engineering studies for cavern growth and performance that will contribute toward mine planning and processing optimization for the proposed wellfield.

Table 13-1. Dissolution Testing Results

Specimen I.D.	Mass Before (g)	Mass After (g)	Surface Area (cm^2)	Solute Concentration (g KCl/L)	Molarity Solute Solution	XRD Specimen Assay (KCl mass %)	Dissolution Factor ($g/cm^2/s$)
Sage/Potash/2138.87/2674/1	147.4561	145.9421	75.9137	100.0	1.34	59.63	6.6×10^{-5}
Sage/Potash/2144.20/2692/1	140.9934	140.0426	75.4668	100.0	1.34	55.34	4.2×10^{-5}
Sage/Potash/2142.47/2685/1	146.2737	144.9426	76.5459	100.0	1.34	49.96	5.8×10^{-5}
Sage/Potash/2142.22/2684/1	80.0446	79.4742	42.2597	100.0	1.34	48.64	4.5×10^{-5}
Sage/Potash/2143.28/2688/1	134.8181	134.1382	75.1773	100.0	1.34	44.55	3.0×10^{-5}
Sage/Potash/2138.87/2674/2	148.8184	146.0239	75.5678	120.0	1.61	63.76	1.2×10^{-4}
Sage/Potash/2142.26/2684/2	140.1875	137.5124	74.8660	120.0	1.61	56.37	1.2×10^{-4}
Sage/Potash/2142.47/2685/2	145.9645	143.6825	75.8773	120.0	1.61	54.97	1.0×10^{-4}
Sage/Potash/2143.38/2688/2	149.4639	148.2421	78.0065	120.0	1.61	21.66	5.2×10^{-5}
Sage/Potash/2144.31/2692/2	154.7732	154.3726	76.6058	120.0	1.61	1.22	1.7×10^{-5}
Sage/Potash/2142.55/2685/3	136.0408	134.1135	73.4472	140.0	1.88	67.41	8.7×10^{-5}
Sage/Potash/2142.35/2684/3	139.9864	138.4168	76.8487	140.0	1.88	52.70	6.8×10^{-5}
Sage/Potash/2139.92/2674/3	149.7086	148.5221	75.0206	140.0	1.88	47.21	5.3×10^{-5}
Sage/Potash/2143.38/2688/3	140.7691	139.6788	75.6021	140.0	1.88	17.60	4.8×10^{-5}
Sage/Potash/2144.31/2692/3	155.1225	154.9512	75.7690	140.0	1.88	1.80	7.5×10^{-6}
Sage/Potash/2142.55/2685/4	130.4499	129.0642	71.9762	160.0	2.14	66.71	6.4×10^{-5}
Sage/Potash/2142.35/2684/4	157.5579	156.2213	81.7902	160.0	2.14	53.79	5.4×10^{-5}
Sage/Potash/2139.97/2674/4	138.0630	137.7706	72.2339	160.0	2.14	46.83	1.3×10^{-5}
Sage/Potash/2144.40/2692/4	155.9105	155.4247	79.7766	160.0	2.14	17.32	2.0×10^{-5}
Sage/Potash/2143.43/2688/4	138.4564	137.9578	74.6138	160.0	2.14	8.82	2.2×10^{-5}

Sage/Potash/2142.60/ 2685/5	132.5523	132.3827	70.7965	180.0	2.41	51.41	8.0×10^{-6}
Sage/Potash/2139.97/ 2674/5	144.4902	144.0661	76.4465	180.0	2.41	47.90	1.8×10^{-5}
Sage/Potash/2142.22/ 2684/5	86.1865	86.2663	43.5514	180.0	2.41	38.55	-6.1×10^{-6}
Sage/Potash/2143.43/ 2688/5	147.0218	147.4664	76.0953	180.0	2.41	25.09	-1.9×10^{-5}
Sage/Potash/2144.40/ 2692/5	158.5290	158.6047	78.8531	180.0	2.41	5.09	-3.2×10^{-6}

g KCl/L = grams of potassium chloride per liter.

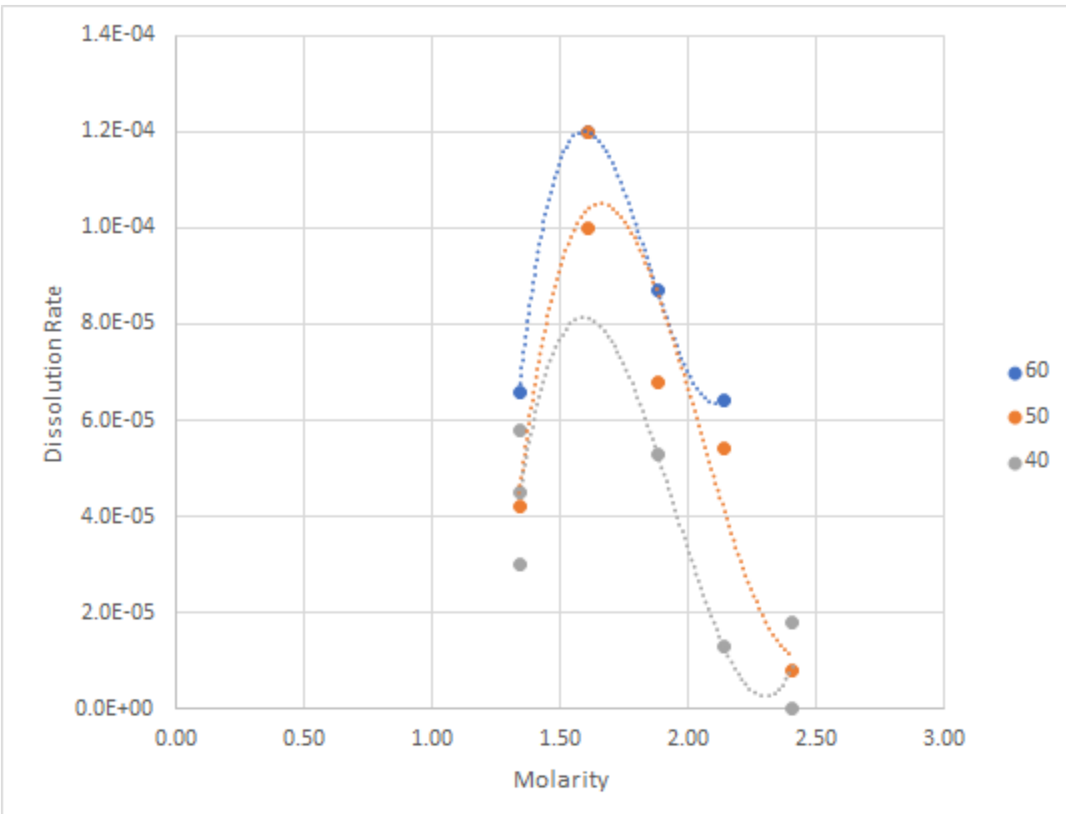

Figure 13-1. Dissolution Rate by Molarity; horizontal axis is Molarity of KCl in solution dissolved from test samples. Curves labeled “60”, “50” and “40” represent the interpreted Dissolution Rate and solution Molarity for samples of 60%, 50% and 40% sylvite.

14.0 MINERAL RESOURCE ESTIMATES

For the purpose of this report, the Mineral Resource estimate assumes that potash will be recovered using solution-mining methods.

The Mineral Resources were estimated by Susan B. Patton, P.E. and reviewed by Tabetha Stirrett, P.Geo. The author of this Technical Report, Dr. Jon P. Thorson, PhD, has reviewed and approved the Mineral Resource estimate. At this time, Inferred Resources are reported for the Upper and Lower Cycle 18 potash horizons for the Johnson 1 well, and a Potential Quantity tonnage is reported for the Upper Cycle 18 potash horizon for the Western Natural Gas 1 and Johnson 1 wells. The main parameters and deductions included in the Resource estimate are listed as footnotes to the Resource summary in Table 14-1 and discussed in more detail in this section. Areas used in the Resource estimation reported in Table 14-1 are illustrated in Figure 14-1.

14.1 MINERAL RESOURCES

The Property currently defines a Mineral Resource as follows:

- **Inferred Resource for Upper Potash Bed, Cycle 18:** 42.9 million metric tonnes (MMT), grading 26.96 percent K_2O with 0.01 percent carnallite and 0.62 percent insolubles.
- **Inferred Resource for Lower Potash Bed, Cycle 18:** 27.2 MMT, grading 22.60 percent K_2O.

Potential Quantity tonnage for the Johnson 1 and Western Natural Gas 1 wells was calculated as follows:

- **Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Johnson 1 well:** 138.8 – 147.3 MMT, grading 27.0–29.3 percent K_2O with 0.01 percent carnallite and 0.60–0.62 percent insolubles.
- **Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Western Natural Gas 1 well**: 2.5 – 14.3 MMT, grading between 5.0–17.0 percent K_2O.

Note: The reader is cautioned that the Potential Quantity tonnage and grade are conceptual in nature and exploration is insufficient to classify the potash beds as a Mineral Resource at this time. It is uncertain at this time if additional exploration work will result in the Potential Quantity tonnage and grade being further delineated as a Mineral Resource.

CIM recognizes that a cut-off may be a stratigraphic cut-off rather than a grade cut-off with the contacts between rock types defining the mining limits. This type of cut-off is particularly true of conventional potash mines where rock mechanics and safety constraints contribute to the portion of a mineralized section being mined. Solution-mining operations are less constrained by the occurrence of mud seams or limited by mining machine dimensions to zones of highest grade and stability. Insoluble material will largely be left behind as they settle out in the cavern, and the KCl concentration in the return brines will depend on operation practices such as the introduced brine temperatures and flow rate. Published data on mining methods, room-and-pillar sizes, and extraction rates for conventional mines that have had a long, successful operating life can be referenced when suggesting a conventional mining operation. Although a number of technical reports are available that describe mining methods, cavern sizes, and extraction rates based on rock-mechanics modeling, uncertainty remains as to whether or not such designs are appropriate for this project. The reader is cautioned that the Mineral Resource tonnage (not considering the addition of any new geological data) may decrease as the project progresses. For example, mining parameters such as the extraction ratio and refined economic grade cut-off (modifying factors) are expected outputs from future engineering studies, at which time an updated Resource estimate will be completed. No modifying factors have currently been applied to the Resource estimate.

The Lower Cycle 18 potash horizon was only present in the Johnson 1 well, and the Upper Cycle 18 potash horizon was found in both wells. Inferred Resources are reported for the Upper and Lower Cycle 18 potash horizons for the Johnson 1 well, and a Potential Quantity tonnage is reported for the Upper Cycle 18 potash horizon for the Western Natural Gas 1 and Johnson 1 wells. Additional drilling will be required to determine the continuity of these beds within the Project Area. The Upper Cycle 18 potash horizon currently appears to be present across the Property. No engineering studies were completed at the time of this report; therefore, the Resource of the Upper Cycle 18 potash horizon in the Johnson 1 well was constrained to the Inferred category. Areas used in the Resource estimated in Table 14-1 are shown in Figure 14-1.

All cut-off parameters are applied to distinct potash beds. The two potash beds are evaluated as a single unit for each drillhole location. The parameters used are summarized as follows:

- For estimating the Mineral Resource and Potential Quantity, the areal extent surrounding a drillhole for which it is reasonable to infer geological continuity is termed the “radius of influence” (ROI). For the Johnson 1 well, an ROI of 0 to 2,400 m was used to bound the Inferred tonnage, and an ROI of 2,400 to 5,000 m was used for the Potential Quantity tonnage. Inferred tonnage was not assigned to Western Natural Gas 1 well. An ROI of 0 to 5,000 m was used for the Potential Quantity tonnage. A 25 percent deduction was applied for undetectable seismic anomalies. ROIs and deductions for unknown geologic anomalies were determined by the QP based on his experience and confidence in the geological continuity of the mineralized horizon.
- A geological interval was defined based on reviewing the core to identify the top and bottom of the mineralized contacts and was further refined after the assay results were returned. A 5 percent K_2O grade cut-off was used to delineate the geological boundaries (top and base) of the mineralized section of the potash bed.

- The Potential Quantity tonnage is defined using a 5 percent K_2O grade cut-off and a thickness range between 7.0 and 10.5 m to delineate the geological boundaries. The grade cut-off range in the Western Natural Gas 1 well is 5 percent K_2O, which is calculated with Gamma Ray GREC. The percent of K_2O was determined by GREC and is described further in Section 12.1.
- Carnallite and insolubles present in the Johnson 1 well are very low, and similar values are expected at the Western Natural Gas 1 well.

Table 14-1 Resource Estimation Summary (Effective Date November 21, 2022)

Cycle 18 Member	Area With Exclusions (km^2)	Thickness (m)	Weighted Average K_2O Grade (%)	Weighted Average KCl Grade (%)	Weighted Average Carnallite Content (%)	Weighted Average Insoluble Content (%)	In-Place Sylvinite Tonnage (MMT)[a, b, c, d]	Gross K_2O Tonnage (MMT)[a, b, c, d]
Inferred Mineral Resources								
Upper Potash Bed[e]	10.55	7.26	26.96	42.67	0.01	0.62	159.3	42.9
Inferred Mineral Resources [f]								
Lower Potash Bed	10.55	5.48	22.60	35.77	N/A	N/A	120.2	27.2
Potential Quantities [g]								
Upper Potash Bed (Johnson 1)	36.19	6.3–7.3	27.0–29.3	42.6–46.3	0.01	0.60–0.62	474.2–546.5	138.8–147.3
Upper Potash Bed (Western Natural Gas 1)[e, h]	3.85	6.3–10.5	5.0–17.0	7.9–26.9	N/A	N/A	50.4–84.1	2.5–14.3

Notes: Deductions for unknown seismic anomalies are 25 percent as no 3D seismic has been completed.

The following deductions are anticipated but not yet applied: (a) mining parameter deductions for extraction ratio and cavern or plant loss and (b) economic grade cut-offs from a project-specific economic analysis. The appropriate deduction values are anticipated as outputs from further studies.

km^2 = square kilometers.

N/A = Not Applicable.

GREC = Gamma Ray Equivalent Calculation of K^2O from wireline logs.

(a) MMT = Million Metric Tonnes.

(b) Density of sylvinite = 2.08 tonnes per cubic meter (m^3).

(c) In-Place sylvinite is calculated based on area × thickness × density.

(d) Gross Resource based on 100 percent extraction ratio and 0 percent plant loss.

(e) Upper Potash Bed Inferred Resource uses a 5 percent K_2O grade cut-off to define the upper and lower contacts and is further described in Section 14.0 of this report.

(f) Inferred Resource ROI is 0–2,400 m.

(g) Potential Quantity ROI is 0–5,000 m for the Western Natural Gas 1 well and 2,400–5,000 m for the Johnson 1 well.

(h) Potential quantities for the Upper Potash Bed (Western Natural Gas 1 well) were estimated from GREC using a range between the minimum thickness in the Johnson 1 well and the maximum thickness observed in the Western Natural Gas 1 well, as described in Section 14.0 of this report.

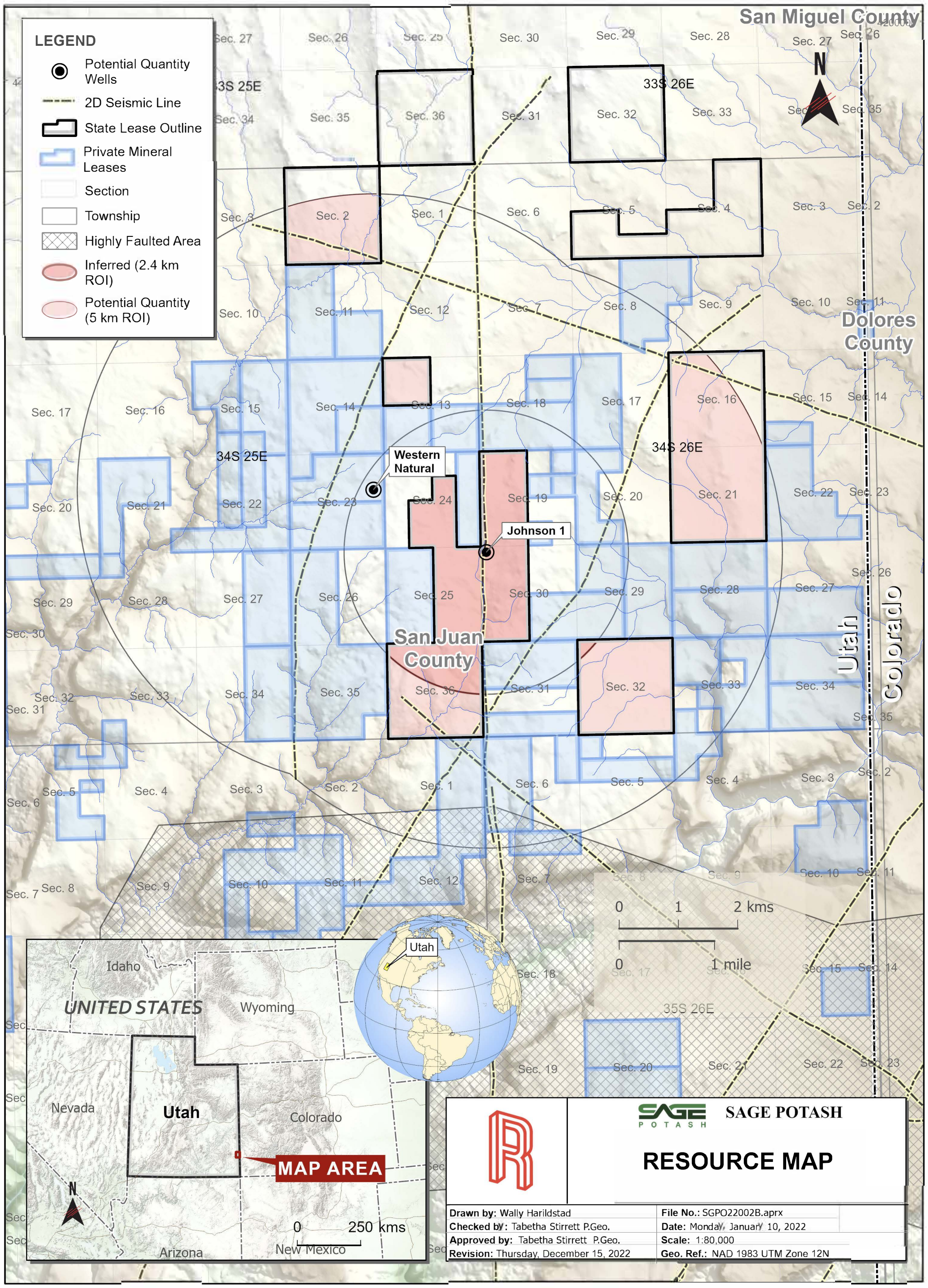

Figure 14-1. Resource and Potential Quantity Estimation Area. An Inferred Resource has been calculated with the 2.4 km Radius of Influence (ROI) for the Upper and Lower Cycle 18 Potash bed in the Johnson well No 1 (aka Johnson 1 well); a Potential Quantity has been estimated for the Upper Cycle 18 Potash bed within the area between the 2.4 km and 5 km ROI for the Johnson well 1 and Western Natural Gas well.

14.2 MINERAL RESOURCES DISCUSSION

Previous sections have dealt with the reliability of drillhole data for the Project Area. The data collected from the Johnson 1 well is of acceptable quality and reliance for use in a Mineral Resource estimation. The author has confidence in the resource classification using one recent well and one historical well because the Paradox Basin is very well explored with published maps of the high-grade potash beds and the 2D seismic showed bedding continuity. There may, however, be local disruptions of the deposit, either structural or mineralogical, which have been accounted for in the 25percent reduction in the estimate of the area.

Data from the Western Natural Gas 1 well are not of sufficient quality to be used in the Mineral Resource estimation; therefore, a Potential Quantity tonnage has been assigned to that well. Furthermore, the drillhole density in the Project Area is sparse and limits geologic continuity confidence in the area. Future drillhole planning should consider sufficient overlap of the Resource ROI. Because this area is structurally complex, additional seismic surveys will be necessary to increase the confidence of the geological continuity interpretation.

14.2.1 UPPER CYCLE 18 POTASH HORIZON

The Upper Cycle 18 potash horizon in the Project Area appears to be continuous. As shown in the cross section across the Project Area, the Upper Cycle 18 potash horizon can be traced from the Coal Bed Canyon well in the southeast to the Western Natural Gas 1 well in the northwest. Appendix D contains the cross sections through the Project Area showing the locations of the wells previously mentioned.

After reviewing the results from the individual drillholes, the Upper Cycle 18 potash horizon in the Johnson 1 well was determined to have sufficient evidence for continuity of thickness and grade to be classified as an Inferred Resource with an ROI from the drillhole center to a radius of 2,400 m. The cored section assays within the Upper Cycle 18 potash horizon reveal the absence of carnallite and insoluble, which is advantageous when planning a potash project.

14.2.2 LOWER CYCLE 18 POTASH HORIZON

The continuity of the Lower Cycle 18 potash horizon in the Project Area needs further investigation with additional drillholes. The Lower Cycle 18 potash horizon was present in the Johnson 1 well but is not seen in the Western Natural Gas well approximately 2 km away. This bed has currently been classified as an Inferred Resource with an ROI from the drillhole center to a radius of 2,400 m.

14.2.3 WESTERN NATURAL GAS 1 WELL DISCUSSION

The Western Natural Gas 1 well was drilled in 1948 and is the only historical well within the project area with publicly available data. The wireline logs are of poor quality and do not have useful scales.

For the author to have confidence in using this well in the Resource Estimation as a Potential Quantity tonnage, the wireline Gamma signature from this well was compared to several other wells of the same vintage in the surrounding area. From this review, the author determined that the scale for the Gamma-Ray was likely 0–10 microgram equivalent weights of radium per ton (μRa-eq/ton). Based on this assumption, a percent of K_2O was calculated based on the conversion used by Chapman [1983]. When the Gamma Ray log was presented in micrograms Ra-eq/ton, the Gamma Ray log was converted to API units by multiplying the value by 16.5. The API units were then converted to a percent of K_2O by multiplying the API values by 0.0955, as used by Hite [1978].

The reader is cautioned that this method is not precise and should not be considered a definitive estimation of the K_2O content.

14.3 ASSUMPTIONS AND METHODOLOGY

A Mineral Resource estimate is derived from a volume of rock at a specific grade. The volume (tonnage) calculation uses the density of the rock, thickness, and area. Density used for this project is the density of sylvinite (2.080 tonnes per cubic meter). The thickness is determined from the geologic model, and areas are determined in a phased deduction process. The assumptions and methodologies used to estimate the thickness and area of the Mineral Resource estimate are summarized in the following sections. The Polygon Method of Resource estimation was used.

14.3.1 STEP 1: DEFINE BEDS

The following data were used to compile the geological model and its uses:

- Data for bed thickness and orientation:
    - Drillhole collar locations.
    - Downhole geophysical surveys (directional surveys) to confirm a vertical borehole.
    - Detailed geological interpretations for defining bed boundaries (core descriptions were already corrected to wireline log depths and confirmed with assay results) used in the geological model.
- Data for Mineralization:
    - Drillhole assay data are the source of all grade values stated in the Resource estimate.

14.3.2 STEP 2: DETERMINE AREA USED IN THE RESOURCE ESTIMATE

The area used in the Resource estimate is developed in the following manner (see Figure 14-1):

- Draw an ROI around each drillhole:

    - Inferred Resource: 0 to 2,400 m for both the Upper and Lower Potash beds in the Johnson 1 well.
    - Potential Quantity: 0 to 5,000 m for the Upper Potash Bed in the Western Natural Gas 1 well; 2,400 to 5,000 m for the Upper Potash Bed in the Johnson 1 well.
- Deduct lands not part of the Property:
    - Deduct all private lands.
    - Trim to property boundaries.
- Deduct all known seismic collapse or structural anomalies:
    - Provided by RPS as shapefiles.
    - No anomalies or structures were defined in the Project Area.
    - The available seismic survey data are from historical 2D lines and do not have the resolution or coverage needed to have full confidence in the structure of the area. The 3D seismic survey data will provide this coverage and should be completed if the project advances.

After the above steps were completed, the areas for both wells had a 25 percent deduction applied for unknown seismic anomalies. The areas used for the evaluation are shown in Figure 14-1 and Table 14-1.

14.3.3 STEP 3: RESULTS OF THE RESOURCE VERIFICATION

No Resource verification has been completed for the project at this time other than the Polygonal Method applied and a vigorous QA/QC process. However, a comprehensive Vulcan grid model could be considered for the Mineral Resource estimate instead of the Polygonal Method as the project advances and more land is acquired.

14.4 POTENTIAL RISKS OR MATERIAL CHANGES TO THE MINERAL RESOURCE

14.4.1 MINE PARAMETERS AND ECONOMIC GRADE CUT-OFFS

As noted previously, mining parameters have not yet been applied to the Mineral Resources because they have not yet been defined. When these parameters are defined, they will likely result in a decrease in the reported Mineral Resource tonnage. Items of interest that the author notes could affect mine parameters and potentially negatively affect the Mineral Resources are summarized in the following text and are not intended to be an exhaustive list at this time:

- Extensive rock-mechanics property testing is required to determine to what extent the depth of the deposit may or may not limit the cavern design.
- Dipping beds are not preferable for solution mining because the cavern size is limited. The Project Area appears to be relatively flat laying, but complex structures occur to the south. The dip of the beds will have to be considered when reviewing solution-mining scenarios.

The above design considerations may negatively affect the Mineral Resources. The items above, as well as potential other challenges, will be the topic of future engineering studies. Mine parameter deductions for extraction ratios and cavern loss will be provided as outputs from a scoping study for use in future Resource calculations. These factors may also negatively affect the Mineral Resource calculation. Economic grade cut-offs for all potash beds are provided as an important output of the economic evaluation of a scoping study, and these factors will directly affect future Mineral Resource calculations.

14.4.2 OTHER RISKS

The following factors could influence the Mineral Resources:

- Fluctuations in price or market conditions for potash would change economic grade cut-offs.
- Heritage or environmental issues: surface restrictions imposed for wildlife will not have a material effect on the Mineral Resource because these restrictions can generally be overcome in time. However, if unresolved, surface restrictions that prevent drilling pad construction could reduce Reserves.
- Further exploration efforts, such as drilling or seismic activities, will add confidence to the geologic model and may expand or reduce the Mineral Resources.

15.0 MINERAL RESERVE ESTIMATES

This section is not applicable at this time.

16.0 MINING METHODS

This section is not applicable at this time.

17.0 RECOVERY METHOD

This section is not applicable at this time.

18.0 PROJECT INFRASTRUCTURE

This section is not applicable at this time.

19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable at this time.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable at this time.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable at this time.

22.0 ECONOMIC ANALYSIS

This section is not applicable at this time.

23.0 ADJACENT PROPERTIES

This section is not applicable at this time.

24.0 OTHER RELEVANT DATA AND INFORMATION

This section is not applicable at this time.

25.0 INTERPRETATIONS AND CONCLUSIONS

The following conclusions are made by the QP.

25.1 INFRASTRUCTURE

Access to the Property is good overall and is provided by several paved highways and gravel roads.

25.2 DATA QUALITY AND DISTRIBUTION

All geological data has been reviewed and verified by the author as being accurate. The relevant data on the cores from the Johnson 1 well have been examined to confirm the depths and mineralization with the geophysical logs and core assays. The cores were stored in the Saskatoon laboratory from 2015 to 2020 and then were sent to secured storage in Ontario. In 2021, the cores were shipped to RESPEC's lab for dissolution testing. At that time, it was deemed that the core was still intact and there have been no material changes which would affect the data. Additional drilling is required to increase the confidence in the Property geological interpretation.

25.3 GEOLOGY

The following statements summarize the key geological features in the Project Area:

- Potash mineralization showing economic potential was identified from drillhole data within the Project Area and consisted of two primary zones: Cycle 18 Upper and Cycle 18 Lower potash beds.
- The Upper Cycle 18 potash bed appears to be present and of sufficient grade (26.96 percent K_2O in the Johnson 1 well) over the Property.
- The Lower Cycle 18 potash distribution requires additional drilling to fully define the bed distribution.
- Carnallite (0.01percent) and insoluble (0.62 percent) contents are low in the Johnson 1 well.
- The Property contours show that the mapped horizons are all relatively flat units that gently dip in a south-southwest direction at an angle of less than 1°. Major structural

irregularities and geological anomalies were not identified in reviewing the 2D trade-seismic data.

- The estimated bottom-hole temperature from the wireline tools is 68°C, which is favorable for solution mining.

25.4 MINERAL RESOURCE RESULTS

The Property currently defines a Mineral Resource as follows:

- **Inferred Resource for Upper Potash Bed, Cycle 18:** 42.9 MMT, grading 26.96 percent K_2O with 0.01 percent carnallite and 0.62 percent insolubles.
- **Inferred Resource for Lower Potash Bed, Cycle 18:** 27.2 MMT, grading 22.60 percent K_2O.

Potential Quantity tonnage for the Johnson 1 and Western Natural Gas 1 wells was calculated as follows:

- **Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Johnson 1 well:** 138.8 – 147.3 MMT, grading 27.0–29.3 percent K_2O with 0.01 percent carnallite and 0.60–0.62 percent insolubles.
- **Potential Quantity Tonnage for Upper Potash Bed, Cycle 18 defined by the Western Natural Gas 1 well:** 2.5 – 14.3 MMT, grading between 5.0–17.0 percent K_2O.

Note: The reader is cautioned that the Potential Quantity tonnage and grade are conceptual in nature and exploration is insufficient to classify the potash beds as a Mineral Resource at this time. It is uncertain at this time if additional exploration work will result in the Potential Quantity tonnage and grade being further delineated as a Mineral Resource.

25.5 POTENTIAL RISKS AND UNCERTAINTIES REQUIRING FURTHER INVESTIGATION

The QP notes the following items could affect mine parameters and potentially negatively affect the Potential Quantity tonnage and Mineral Resources:

- Mine parameter deductions for extraction ratios and cavern loss are expected outputs from future geological and engineering studies.
- Project-specific, economic grade cut-offs for all potash members are also expected outputs of an economic evaluation of the Project Area and will directly impact future Resource calculations.

- Dipping beds are not preferable for solution mining because the cavern size is limited. The Project Area is surrounded by complex structures that will need to be better delineated in subsequent exploration programs.
- Fluctuations in price or market conditions for potash would change economic grade cut-offs.
- Heritage or environmental issues: Surface restrictions imposed by wildlife or landowner negotiations are not expected to have a material effect on the Mineral Resource because these restrictions can generally be overcome in time. However, if unresolved, surface restrictions that prevent drilling pad construction could reduce Reserves.
- Further exploration efforts, such as drilling or seismic activities, will add confidence to the geologic model and may expand or reduce the Mineral Resources.
- Water supply must be resolved.

26.0 RECOMMENDATIONS

The author's recommendations are outlined in Table 1-2. The initial part of Phase 1, a scoping study and/or preliminary economic assessment, is recommended to determine if the Project should progress to Phase 2, drilling another well on the Sage Plain Project. A positive result from the scoping study/ preliminary economic assessment is recommended as necessary before progressing to Phase 2. The remining tasks in Phase 1 are preparatory planning for Phase 2, but are unlikely to be required if the preliminary economic assessment is unfavorable.

During Phase 2, the drilling of another well on the Sage Plain Project, the author of the TR recommends that Sage Potash make every attempt reasonable to complete coring, core recovery, and assaying of potassium content (K_2O %) of both the Upper Cycle 18 potash horizon and the Lower Cycle 18 potash horizon. Data on potassium content of the Lower Cycle 18 potash horizon will allow greater accuracy of a future update to the resource estimation.

Table 26-1. Recommendation Summary

<table>
<tr><th>Recommendation</th><th>Estimated Cost (CAD)</th></tr>
<tr><td colspan="2">Phase 1</td></tr>
<tr><td>Completion of a scoping study/preliminary economic assessment with ongoing supporting engineering studies</td><td>$250,000</td></tr>
<tr><td>Predrilling planning and permitting</td><td rowspan="2">$400,000</td></tr>
<tr><td>Vendor coordination, evaluation, and selection</td></tr>
<tr><td colspan="2">Phase 2</td></tr>
<tr><td>Completion of one stratigraphic well to be used to assess the full potential of the Upper and Lower Cycle 18 horizon including coring of both Cycle 18 potash horizons.
If positive results are returned, this well could be converted to a pilot test well.</td><td rowspan="2">$4.5M</td></tr>
<tr><td>Assaying, dissolution, and rock-mechanics testing are recommended during the stratigraphic well drilling program to assist with future mining studies.</td></tr>
</table>

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APPENDIX A

UTAH STATE MINERAL POTASH LEASE AND LEASE TRANSFER AGREEMENT

Trust Lands Administration
State of Utah School and Institutional Trust Lands Administration

Contract Serial Register Page
ML53646OBA

Contract Details

Lease:	ML53646OBA	Lease Type:	POTASH	Acres:	6537.51
Date Approved:	10/30/2017	Start Date:	11/01/2017	Royalty Rate:	
Date Cancelled:		End Date:	10/31/2027	Term:	10
Lessee:	SAGE POTASH (USA) CORP.			Status:	Active
Address:	881 BAXTER DRIVE, SUITE 100				
	SOUTH JORDAN, UT 84095				

Parcel Legal Description

TRS	County	Bene	Type	Layer	Acres
T33.0S R25.0E S36 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					
T33.0S R26.0E S32 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					
T34.0S R25.0E S2 SL	SANJ	SCH	Use	OthM	651.96
Legal Description: LOTS 1(43.06), 2(43.01), 3(42.97), 4(42.92), S2N2, S2 [ALL]					
T34.0S R25.0E S13 SL	SANJ	SCH	Use	OthM	160.00
Legal Description: NW4					
T34.0S R25.0E S24 SL	SANJ	NS	Use	OthM	200.00
Legal Description: SW4NE4, E2SW4, W2SE4					
T34.0S R25.0E S25 SL	SANJ	SCH	Use	OthM	320.00
Legal Description: E2					

Parcel Legal Description

T34.0S R25.0E S36 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					
T34.0S R26.0E S4 SL	SANJ	USH	Use	OthM	160.00
Legal Description: SW4					
T34.0S R26.0E S4 SL	SANJ	SCH	Use	OthM	325.55
Legal Description: LOTS 1(42.79), 2(42.76), S2NE4, SE4 [LOTS AKA N2NE4]					
T34.0S R26.0E S5 SL	SANJ	SCH	Use	OthM	240.00
Legal Description: SW4, S2SE4					
T34.0S R26.0E S16 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					
T34.0S R26.0E S19 SL	SANJ	NS	Use	OthM	320.00
Legal Description: W2					
T34.0S R26.0E S30 SL	SANJ	NS	Use	OthM	320.00
Legal Description: W2					
T34.0S R26.0E S32 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					
T34.0S R26.0E S21 SL	SANJ	SCH	Use	OthM	640.00
Legal Description: ALL					

Total Acres: 6537.51

Interests in Contract

Interest Type: 1 Record Title RECORD TITLE

COMPANY ID: 104314 SAGE POTASH (USA) CORP. Percent Interest: 100.000000

Address ID: 10006506 881 BAXTER DRIVE, SUITE 100 SOUTH JORDAN, UT, 84095

Total Interest for Type:1 100.00

Comments

10/30/2017 650

APPROVAL OF ML 53646 OBA - POTASH
On October 19, 2017 the Utah School & Institutional Trust Lands Administration Board of Directors approved this "Other Business Arrangement" Potash Mineral Lease. The lease term is 10 years with an annual rental of $2.00 per acre or $7,760.00. The royalty is 5% of the gross value of the leased substances. A bonus payment of $19,400.00 was received that includes the first-year's rental.

02/22/2022 7770

ASSIGNMENT APPROVAL - ML 53646 OBA - POTASH
A Record Title assignment is approved for 100% interest in this lease to Sage Potash (USA) Corp., 881 Baxter Drive, Suite 100, South Jordan, UT 84095, by O. Jay Gatten. No override reserved.

06/21/2022 8134

AMENDMENT - ML 53646 OBA - POTASH
On April 21, 2022, the Board of Trustees approved an amendment to add an additional 2,657.51 acreage to ML 53646 OBA. A one-time bonus payment of $3.00 per additional acre along with a rental payment for the additional lands at $2.00 per acre will be paid by lessee. The lease terms remain the same.

Payment History

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
06/22/2022	Convenience Fee			12/2022	EP002130	0.26

Record Type: Fee Payment (Never billed) Description: Payor Name: SAGE POTASH (USA) CORP.

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
06/22/2022	Minerals, Other Rental			12/2022	EP002130	8.55

Record Type: Fee Payment (Never billed) Description: Payor Name: SAGE POTASH (USA) CORP.

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
05/25/2022	Minerals, Other Rental		11/01/2022	11/2022	SL124224	13279.00

Record Type: Payment (Billed) Description: 10312023 Payor Name: SAGE POTASH (USA) CORP.

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
01/20/2022	Minerals, Assignment Fee			7 /2022	SL123161	75.00
Record Type: Fee Payment (Never billed)		Description:			Payor Name: O. JAY GATTEN	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
09/30/2021	Minerals, Other Rental	11/01/2021	10/31/2022	3 /2022	SL122157	7760.00
Record Type: Payment (Billed)		Description:			Payor Name: O. JAY GATTEN	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
09/21/2021	Minerals, Other Rental	11/01/2021	10/31/2022	0 /0		7760.00
Record Type: Billing		Description: Minerals, Other Rental			Payor Name:	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
10/05/2020	Minerals, Other Rental	11/01/2020	10/31/2021	4 /2021	SL118417	7760.00
Record Type: Payment (Billed)		Description:			Payor Name: O. JAY GATTEN	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
09/25/2020	Minerals, Other Rental	11/01/2020	10/31/2021	0 /0		7760.00
Record Type: Billing		Description: Minerals, Other Rental			Payor Name:	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
10/31/2019	Minerals, Other Rental	11/01/2019	10/31/2020	4 /2020	SL114923	7760.00
Record Type: Payment (Billed)		Description:			Payor Name: O. JAY GATTEN	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
09/19/2019	Minerals, Other Rental	11/01/2019	10/31/2020	0 /0		7760.00
Record Type: Billing		Description: Minerals, Other Rental			Payor Name:	
Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
10/04/2018	Minerals, Other Rental	11/01/2018	10/31/2019	4 /2019	SL110737	7760.00
Record Type: Payment (Billed)		Description:			Payor Name: O. JAY GATTEN	

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
09/25/2018	Minerals, Other Rental	11/01/2018	10/31/2019	0 /0		7760.00

Record Type: Billing   Description: Minerals, Other Rental   Payor Name:

Doc Date	Revenue Type	Start Date	End Date	Acct Period	Receipt Number	Payment Amount
10/31/2017	Minerals, Other Rental			4 /2018	SL106778	7760.00

Record Type: Fee Payment (Never billed)   Description: Payor Name: O. JAY GATTEN

APPENDIX B
PRIVATE MINERAL LEASES WITHIN 5 KM ROI

Agreement Number	Acres	Parties	Start Date	End Date
PML-0722-01	600.00	Howard Minerals, LLC	June 18, 2022	June 18, 2025
PML-0722-02	133.34	Tamara Redd Knubel	June 18, 2022	June 18, 2025
PML-0722-03	319.45	Purple Sage & Pinon, LLC	June 18, 2022	June 18, 2025
PML-0722-04	133.34	Purple Sage & Pinon	June 18, 2022	June 18, 2025
PML-0722-05	519.55	Pearl Maxine Johnson Family Living Trust	June 18, 2022	June 18, 2025
PML-0722-06	253.12	Russell Todd Calvert	June 18, 2022	June 18, 2025
PML-0722-07	253.12	Shelley Dawn Calvert	June 18, 2022	June 18, 2025
PML-0722-08	56.25	Cory Cosslett	June 18, 2022	June 18, 2025
PML-0722-09	186.24	Joan V. Frizell	June 18, 2022	June 18, 2025
PML-0722-10	260.00	The Reich Family Trust	June 18, 2022	June 18, 2025
PML-0722-11	160.00	LaJuan J. Shoemaker	June 18, 2022	June 18, 2025
PML-0722-12	320.00	Barton K. Johnson, Valerie Johnson	June 18, 2022	June 18, 2025
PML-0722-13	290.48	David L. Gruver, Marie J. Gruver	June 18, 2022	June 18, 2025
PML-0722-14	320.00	Pierce Family Trust	June 18, 2022	June 18, 2025
PML-0722-15	272.00	Dorothy J. Whiting	June 18, 2022	June 18, 2025
PML-0722-16	140.00	Joyce Elaine Crowl	June 18, 2022	June 18, 2025
PML-0722-17	20.00	John D. Lewis Family Revocable Trust	June 18, 2022	June 18, 2025
PML-0722-18	440.48	Max Keele Johnson Jr	June 18, 2022	June 18, 2025
PML-0722-19	795.43	Frost Minerals Company	June 18, 2022	June 18, 2025
PML-0722-20	160.00	Paradox Group, Inc.	June 18, 2022	June 18, 2025
PML-0722-22	13.32	Coleen G. Dalton	June 18, 2022	June 18, 2025
PML-0722-23	53.27	B.A. LLC	June 18, 2022	June 18, 2025
PML-0722-24	13.32	David F. and Janet L. Gage	June 18, 2022	June 18, 2025
PML-0722-25	53.27	Marva J. Butler	June 18, 2022	June 18, 2025
PML-0722-26	63.93	Kay R. and Michelle M. Johnson	June 18, 2022	June 18, 2025
PML-0722-27	13.32	Diane M. Gage	June 18, 2022	June 18, 2025
PML-0722-28	53.27	CAJ Heritage, LLC	June 18, 2022	June 18, 2025
PML-0722-29	53.27	Joseph R. Barton and Carol Lynn Barton Family Revocable Trust	June 18, 2022	June 18, 2025
PML-0722-30	114.80	Dalton Family Trust	June 18, 2022	June 18, 2025
PML-0722-31	186.67	Lemuel Hardison Redd IV	June 18, 2022	June 18, 2025
PML-0722-32	22.22	Lemuel Hardison Redd IV	June 18, 2022	June 18, 2025
PML-0722-35	186.67	Merlene R. Lovejoy	June 18, 2022	June 18, 2025
PML-0722-37	280.00	Marva J. Butler	June 18, 2022	June 18, 2025
PML-0722-38	315.00	Doyle Farm, LLC	June 18, 2022	June 18, 2025
PML-0722-39	129.94	Barbara J. Bartell	June 18, 2022	June 18, 2025
PML-0722-40	129.94	F. Cooper Jones	June 18, 2022	June 18, 2025
PML-0722-42	238.00	Gold Standard Trust	June 18, 2022	June 18, 2025
PML-0722-43	184.00	Diane Johnson Tracy	June 18, 2022	June 18, 2025
PML-0722-45	20.00	John H. and Mary A. Huffman	June 18, 2022	June 18, 2025
PML-0722-46	40.00	Carmen Miller	June 18, 2022	June 18, 2025
PML-0722-47	20.00	Constance Huffman	June 18, 2022	June 18, 2025
PML-0722-48	64.00	Joseph Mark Nielson	June 18, 2022	June 18, 2025
PML-0722-49	64.00	Beth N. Sorenson	June 18, 2022	June 18, 2025
PML-0722-50	64.00	Elaine N. Coleman	June 18, 2022	June 18, 2025
PML-0722-51	64.00	Barbara Loi N. Walker	June 18, 2022	June 18, 2025
PML-0722-52	64.00	Ann N. and Thomas H. Gibbons	June 18, 2022	June 18, 2025
PML-0722-54	160.00	Jarvis Family Trust	June 18, 2022	June 18, 2025
PML-0722-56	101.60	Ronnie Sorenson, Stacy Mason, Stephanie Langford	June 18, 2022	June 18, 2025
PML-0722-57	101.60	Vickie Byars	June 18, 2022	June 18, 2025
PML-0722-58	101.60	Jane Manchester	June 18, 2022	June 18, 2025

Agreement Number	Acres	Parties	Start Date	End Date
PML-0722-59	99.08	The Suzanne A. Halliday Family Living Trust	June 18, 2022	June 18, 2025
PML-0722-60	85.91	The Suzanne A. Halliday Family Living Trust	June 18, 2022	June 18, 2025
PML-0722-63	66.67	White Land Co.	June 18, 2022	June 18, 2025
PML-0722-64	66.67	Jameson Family, LLC	June 18, 2022	June 18, 2025
PML-0722-65	66.67	Spring Creek Ranch, LLC	June 18, 2022	June 18, 2025
PML-0722-66	66.67	The Barbara Hammett Living Trust	June 18, 2022	June 18, 2025
PML-0722-67	68.94	Sandy Lewis Johnson	June 18, 2022	June 18, 2025
PML-0722-68	20.00	Karl R. and Edith K. Lyman Revocable Trust	June 18, 2022	June 18, 2025
PML-0822-33	186.67	JoAnne R. Peterson	June 18, 2022	June 18, 2025
PML-0822-34	22.22	JoAnne R. Peterson	June 18, 2022	June 18, 2025
PML-0822-71	40.00	Daisy M. Black	June 18, 2022	June 18, 2025
PML-0822-78	76.00	Susan Law	August 30, 2022	August 30, 2025
PML-0822-80	40.00	Jane Schaffner	August 31, 2022	August 31, 2025
PML-0922-77	16.66	Michele Williams	September 16, 2022	September 16, 2025
PML-0922-85	80.00	Samuel Hankins	September 8, 2022	September 8, 2025
PML-1022-89	140.00	Lisa Joy Sadler	October 11, 2022	October 11, 2025
PML-1022-91	17.78	Kathleen Armbruster	November 1, 2022	November 1, 2025
PML-1022-XX	17.78	Pamela Hammond	November 1, 2022	November 1, 2025

PRIVAE LEASES IN THE RESOURCE ESTIMATION

Net Minerals by Section Within Johnson Well No.1 2.4km Radius & Western Natural + Johnson No. 1 5.0km Radius

	Net Mineral Acres	Surface Acres	Percent Leased
2,400m Radius	2,805.61	4,266.28	65.76%
5,000m Radius	11,700.62	24,936.16	46.92%

T34S R25E

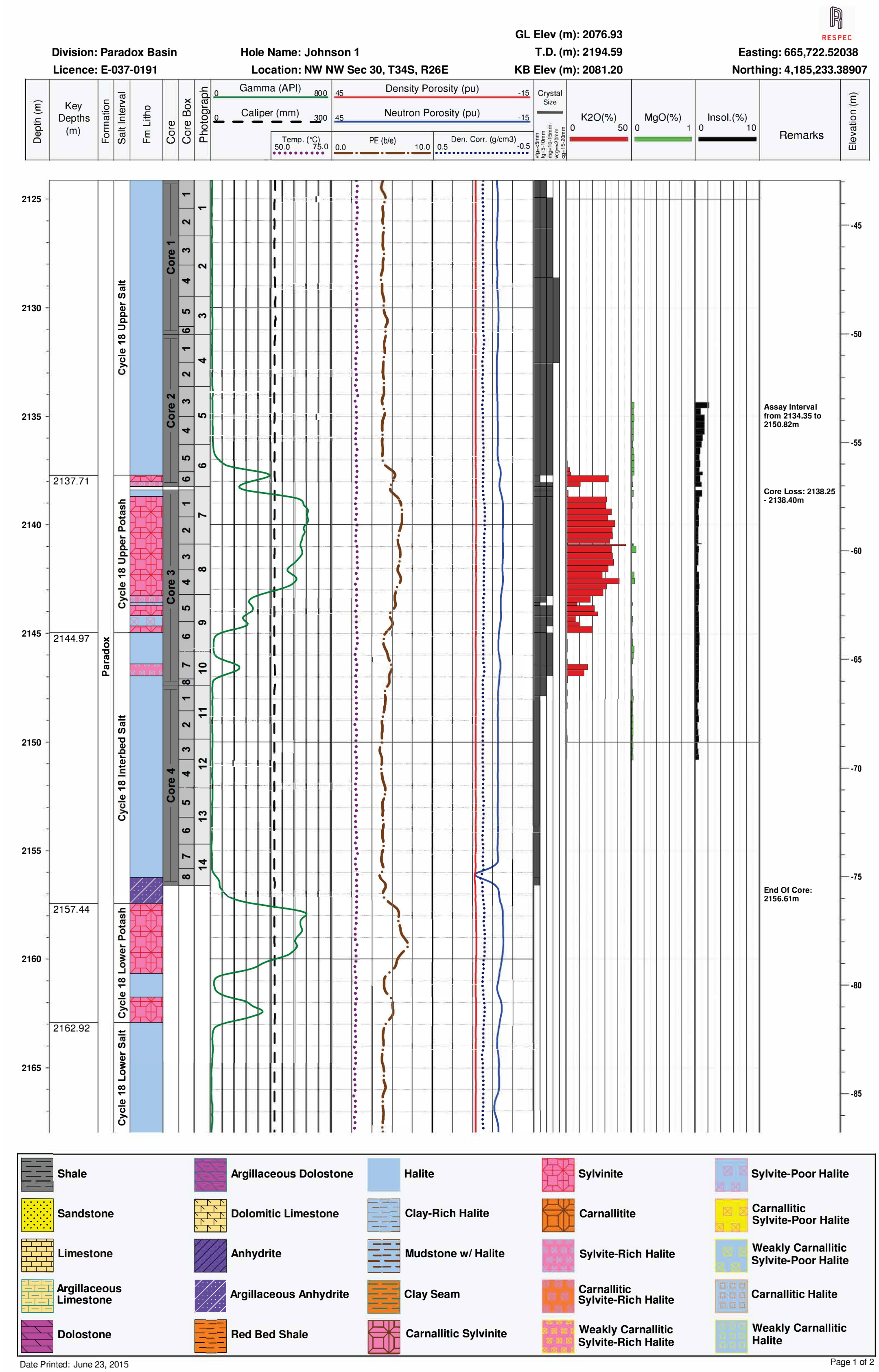
SECTION	Net Mineral Acres in 2,400m Radius	Surface Acres in 2,400m Radius	Percentage of Mineral Acres in 2,400m Radius	Net Mineral Acres in 5,000m Radius	Surface Acres in 5,000m Radius	Percentage of Mineral Acres in 5,000m Radius	Private and State Mineral Leases in Section
1				0	417.8	0%	
2				445.7	445.7	100%	S.I.T.L.A
3				0	251.8	0%	
4				0	4.4	0%	
9				0	368.5	0%	
10				80	640	13%	114
11				390.26	403.54	97%	139, 140a, 140b & 142
12				0	640	0%	
13	96.69	195.08	50%	159.04	640	25%	137, 140A, 140B, Samuel Hankins, S.I.T.L.A.
14	0.5	0.5	100%	640	640	100%	101, 103A, 103B, 103C & 103D
15				520	640	81%	104A, 114, 120A, 120B, 120C, 137 & 138
16				0	634	0%	
17				0	62.7	0%	
20				0	135.8	0%	
21				226.8	640	35%	120A, 120B & 120C
22				433.1	640	68%	104A, 129 & 137
23	190.55	190.55	100%	640	640	100%	102A, 102B, 102C, 102D, 102E, 102F, 102G, 102H. 102I & Kathleen Armbruster
24	240	640	38%	240	640	38%	S.I.T.L.A, 124 & 124C
25	600	640	94%	600	640	94%	S.I.T.L.A, 108A & 108B
26				221.76	640	35%	105A, 105B, 105C & 105D
27				40	628	6%	128
28				42.8	607.2	7%	120A, 120B, 120C & 135
29				7.8	31.4	25%	135
33				0	234.8	0%	
34				320	629.1	51%	121
35	1.80	2.6	69%	415.8	640	65%	105A, 105B, 105C & 105D
36	249.7	249.7	100%	640	640	100%	S.I.T.L.A.

SECTION	Net Mineral Acres in 2,400m Radius	Surface Acres in 2,400m Radius	Percentage of Mineral Acres in 2,400m Radius	Net Mineral Acres in 5,000m Radius	Surface Acres in 5,000m Radius	Percentage of Mineral Acres in 5,000m Radius	Private and State Mineral Leases in Section
T34S R26 E							
6				101	163.2	62%	114
7				0	631.48	0%	
8				164.16	436.6	38%	123A & 123B
9				463.55	463.55	100%	123A & 123B
16				467.8	467.8	100%	S.I.T.L.A.
17	0.9	4.1	22%	63.91	640	10%	143, Jane Schaffner & Michele Williams
18	64.23	219.95	29%	186.9	640	29%	135, Jane Schaffner & Michele Williams
19	409.54	640	64%	409.54	640	64%	107A, 107B, 107C, 107D, 107E, 134A, 134B, 134C & 143
20	195.35	260.48	75%	240	640	38%	107E
21				639.65	639.65	100%	S.I.T.L.A.
22				32.35	64.39	50%	106
27				9.07	77.2	12%	127
28				205.71	640	32%	109 & 133
29	198.06	286.8	69%	396	640	62%	110A, 110B, 111A, 111B, 122 & Susan Law
30	480	640	75%	480	640	75%	110A, 110B, 111A, 111B & S.I.T.L.A.
31	63.35	281.58	22%	77.54	640	12%	130, 134A, 134B & 134C
32	14.94	14.94	100%	640	640	100%	S.I.T.L.A.
33				163.71	508.43	32%	115, 116, 123A, 123B, 127 & 141
34				0.44	0.44	100%	112

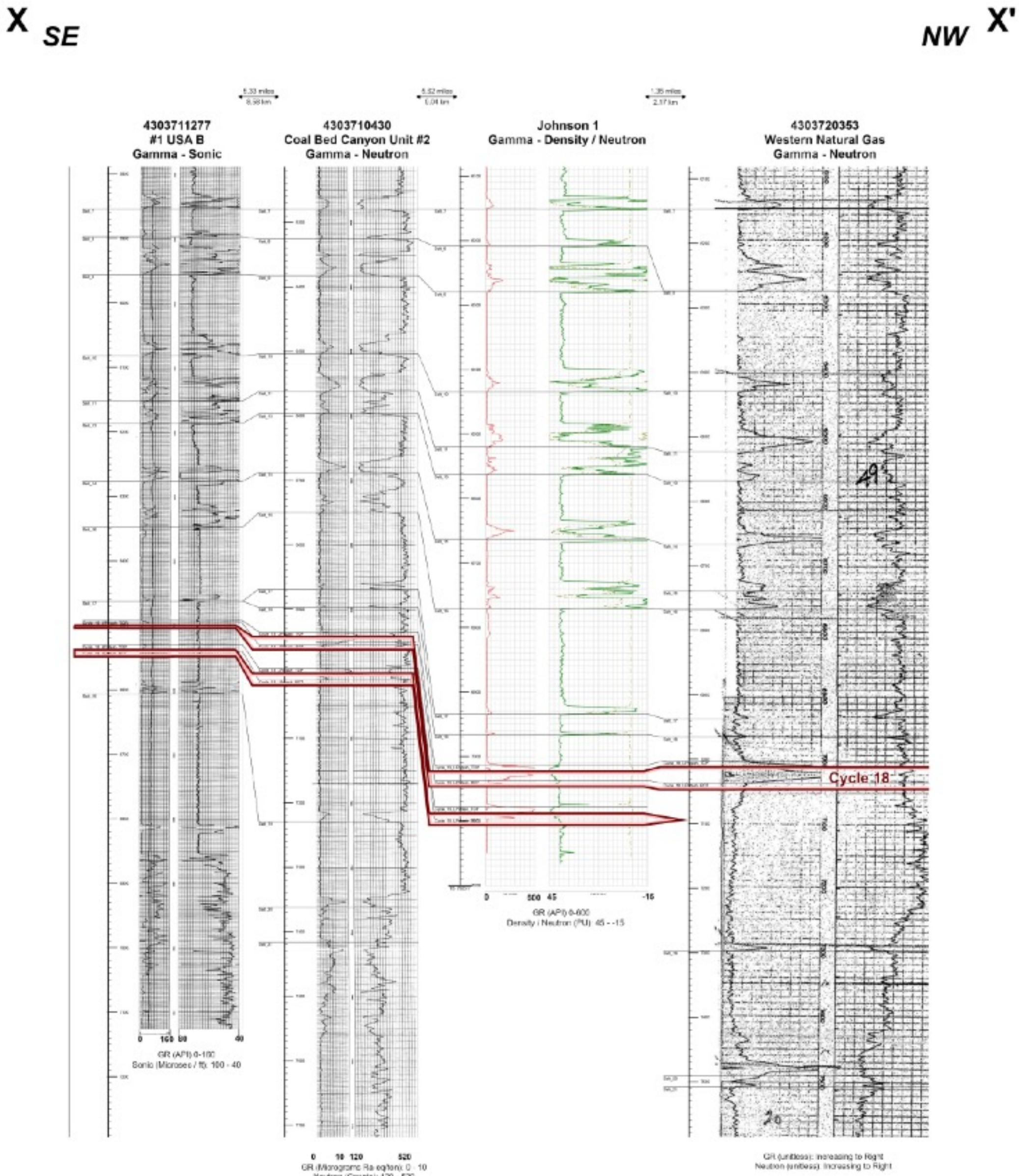
SECTION	Net Mineral Acres in 2,400m Radius	Surface Acres in 2,400m Radius	Percentage of Mineral Acres in 2,400m Radius	Net Mineral Acres in 5,000m Radius	Surface Acres in 5,000m Radius	Percentage of Mineral Acres in 5,000m Radius	Private and State Mineral Leases in Section
T35S R25 E							
1				316.97	638.85	50%	117A, 117B, 117C, 117D, 117E, 117F, 117G & 117H
2				0	453.8	0%	
3				0	102	0%	
12				0	58.74	0%	

SECTION	Net Mineral Acres in 2,400m Radius	Surface Acres in 2,400m Radius	Percentage of Mineral Acres in 2,400m Radius	Net Mineral Acres in 5,000m Radius	Surface Acres in 5,000m Radius	Percentage of Mineral Acres in 5,000m Radius	Private and State Mineral Leases in Section
T35S R26E							
4				70.76	80.87	88%	141
5				106.67	502.66	21%	135
6				390.99	640	61%	113, 134A, 134B, 134C & 135
7				10.85	71.76	15%	134A, 134B & 134C

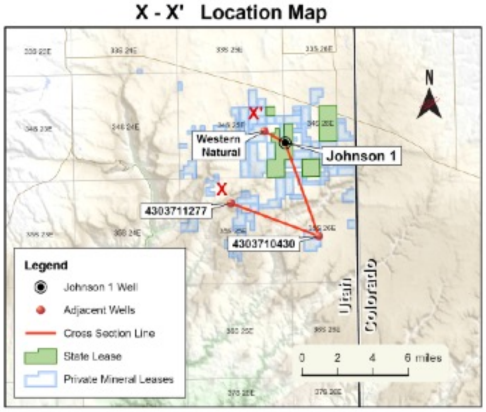
APPENDIX C
GEOLOGICAL SUMMARY


RESPEC
Division: Paradox Basin
Licence: E-037-0191
Hole Name: Johnson 1
Location: NW NW Sec 30, T34S, R26E
GL Elev (m): 2076.93
T.D. (m): 2194.59
KB Elev (m): 2081.20
Easting: 665,722.52038
Northing: 4,185,233.38907
Depth (m)
Key Depths (m)
Formation
Salt Interval
Fm Litho
Core
Core Box
Photograph
Gamma (API) 0 800
Caliper (mm) 0 300
Temp. (°C) 50.0 75.0
Density Porosity (pu) 45 -15
Neutron Porosity (pu) 45 -15
PE (b/e) 0.0 10.0
Den. Corr. (g/cm3) 0.5 -0.5
Crystal Size
K2O(%) 0 50
MgO(%) 0 1
Insol.(%) 0 10
Remarks
Elevation (m)
2137.71
2144.97
2157.44
2162.92
Paradox
Cycle 18 Upper Salt
Cycle 18 Upper Potash
Cycle 18 Interbed Salt
Cycle 18 Lower Potash
Cycle 18 Lower Salt
Core 1
Core 2
Core 3
Core 4
Assay Interval from 2134.35 to 2150.82m
Core Loss: 2138.25 - 2138.40m
End Of Core: 2156.61m
Shale
Argillaceous Dolostone
Halite
Sylvinite
Sylvite-Poor Halite
Sandstone
Dolomitic Limestone
Clay-Rich Halite
Carnallitite
Carnallitic Sylvite-Poor Halite
Limestone
Anhydrite
Mudstone w/ Halite
Sylvite-Rich Halite
Weakly Carnallitic Sylvite-Poor Halite
Argillaceous Limestone
Argillaceous Anhydrite
Clay Seam
Carnallitic Sylvite-Rich Halite
Carnallitic Halite
Dolostone
Red Bed Shale
Carnallitic Sylvinite
Weakly Carnallitic Sylvite-Rich Halite
Weakly Carnallitic Halite
Date Printed: June 23, 2015
Page 1 of 2

APPENDIX D
CROSS SECTION



X - X' Location Map



SAGE POTASH

GEOLOGICAL CROSS SECTION X - X'

Drawn by: Welly Hartkinad	**File No.:** SGPO22005A.aprx
Checked by: Tabetha Stirrett, P. Geo.	**Date:** Monday, January 17, 2022
Approved by: Tabetha Stirrett, P. Geo.	**Scale:**
Revision: Wednesday, December 14, 2022	**Geo. Ref.:** NAD 1983 UTM Zone 12N