2024

NI-43-101 Technical Report

ESTEVAN LITHIUM DISTRICT, SOUTHEAST SASKATCHEWAN

EFFECTIVE DATE: MAY 23, 2024

AUTHORS: ALEX HALUSZKA, M. SC, P.GEO & JASON CLARKE, B.SC, P.GEO

Forward Looking Information Statement

This report contains forward-looking statements regarding E3 Lithium Ltd. ("E3 Lithium" or "the Company") and the potential of its current and future projects. Generally, forward-looking statements can be identified by the use of forward-looking language such as "plans", "expects", "budgets", "schedules", "estimates", "forecasts", "intends", "anticipates", "believes", or variations of such words and phrases, and statements that certain actions, events or results "may", "could", "would", "might", "will be taken", "will occur" or "will be achieved". Forward-looking statements are based on the opinions and estimates of E3 Lithium as of the date such statements are made. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, levels of activity, performance or achievements of E3 Lithium to be materially different from those expressed or implied by such forward-looking statements, including, but not limited to, risks related to: E3 Lithium's ability to effectively implement its planned exploration programs; unexpected events and delays in the course of E3 Lithium's exploration and drilling programs; changes in project parameters as plans continue to be refined; the ability of E3 Lithium to raise the capital necessary to meet its milestones, conduct its planned exploration programs and to continue exploration and development on its properties; the failure to discover any significant amounts of lithium or other minerals on any of E3 Lithium's properties; the fact that E3 Lithium's properties are in the exploration stage and exploration and development of mineral properties involves a high degree of risk and few properties which are explored are ultimately developed into producing mineral properties; the fact that the mineral industry is highly competitive and E3 Lithium will be competing against competitors that may be larger and better capitalized, have access to more efficient technology, and have access to reserves of minerals that are cheaper to extract and process; the fluctuations in the price of minerals and the future prices of minerals; the fact that if the price of minerals deceases significantly, any minerals discovered on any of E3 Lithium's properties may become uneconomical to extract; the continued demand for minerals and lithium; that fact that resource figures for minerals are estimates only and no assurances can be given than any estimated levels of minerals will actually be produced; governmental regulation of mining activities and oil and gas in Alberta and elsewhere, including regulations relating to prices, taxes, royalties, land tenure, land use, importing and exporting of minerals and environmental protection; environmental regulation, which mandate, among other things, the maintenance of air and water quality standards and land reclamation, limitations on the general, transportation, storage and disposal of solid and hazardous waste; environmental hazards which may exist on the properties which are unknown to E3 Lithium at present and which have been caused by previous or existing owners or operators of the properties; reclamation costs which are uncertain; the fact that commercial quantities of minerals may not be discovered on current properties or other future properties and even if commercial quantities of minerals are discovered, that such properties can be brought to a stage where such mineral resources can profitably be produced therefrom; the failure of plant or equipment processes to operate as anticipated; the inability to obtain the necessary approvals for the further exploration and development of all or any of E3 Lithium's properties; Risks inherent in the mineral exploration and development business; the uncertainty of the requirements demanded by environmental agencies; E3 Lithium's ability to hire and retain qualified employees and consultants necessary for the exploration and development of any of E3 Lithium's properties and for the operation of E3 Lithium's business; and other risks related to mining activities that are beyond E3 Lithium's control. Although E3 Lithium has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking statements in this report, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements contained in this report. E3 Lithium does not undertake to update any forward-looking statements except in accordance with applicable securities laws.

Certificate of Qualified Person

I, Alexander Haluszka as an author of this technical report titled "NI-43-101 Technical Report Estevan Lithium District, Southeast Saskatchewan" prepared for E3 Lithium Ltd. (the "Issuer") with an effective date of May 23, 2024 (the "Technical Report"), do hereby certify that:

1. I am Principal Hydrogeologist with Matrix Solutions Inc. of Suite 200, 214-11 Avenue SW, Calgary AB, T2R 0K1

2. I am a graduate of the University of Calgary with a B.Sc., Hons. in Geology, 2006, and an M.Sc. in Geology specializing in Carbonate Sedimentology, 2009.

3. I am a registered professional geologist with the following affiliations and relevant areas of specialization:
   a. Professional
      i. Registered Professional Geoscientist in Alberta
      ii. Registered Professional Geoscientist in British Columbia
      iii. Registered Professional Geoscientist in Saskatchewan
      iv. Registered Professional Geoscientist in Manitoba
   b. Areas of Specialization Relevant to this Report
      i. Carbonate sedimentology
      ii. Petroleum geology and geophysical log interpretation
      iii. Regional hydrodynamics and hydrogeological assessment
      iv. 15 years of experience in geological mapping, geophysical log interpretation and hydrogeological assessment studies

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

5. I am responsible for the preparation of the Technical Report in its entirety.

6. I am independent of the Issuer in accordance with Section 1.5 of NI 43-101.

7. I had no prior involvement with respect to the property that is the subject of the Technical Report.

8. I have read NI 43-101 and the portions of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101 and Form 43-101F1.

9. At the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Calgary, Alberta, Canada this 3rd day of June, 2024.

/s/ Alexander M. Haluszka

Alexander M Haluszka, M.Sc., P.Geo.
Principal Hydrogeologist
Matrix Solutions Inc.

Certificate of Qualified Person

I, Jason Clarke, as an author of this technical report titled "NI-43-101 Technical Report Estevan Lithium District, Southeast Saskatchewan" prepared for E3 Lithium Ltd. (the "Issuer") with an effective date of May 23, 2024 (the "Technical Report"), do hereby certify that:

1. I am Professional Geologist with Matrix Solutions Inc. of Suite 200, 214-11 Avenue SW, Calgary AB, T2R 0K1

2. I am a graduate of the University of Calgary with a B.Sc., in Geology, 2012.

3. I am a registered professional geologist with the following affiliations and relevant areas of specialization:
    a. Professional
        i. Registered Professional Geoscientist in Alberta
    b. Areas of Specialization Relevant to this Report
        i. Petroleum geology and geophysical log interpretation
        ii. Regional hydrodynamics and hydrogeological assessment
        iii. 12 years of experience in geological mapping, geophysical log interpretation and hydrogeological assessment studies

4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

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9. At the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Calgary, Alberta, Canada this 5th day of June, 2024.

/s/ Jason Clarke

Jason Clarke, B.Sc., P.Geo.
Professional Geologist
Matrix Solutions Inc.

Table of Contents

List of Figures

List of Tables

1. Summary

E3 Lithium (E3, or the Company), a leader in Canadian lithium, is a public company with a head office located in Calgary, Alberta. The company trades on the Toronto Venture Exchange, as well as the OCT and Frankfurt markets (TSXV: ETL | FSE: OW3 | OTCQX: EEMMF).

The purpose of this technical report is to demonstrate the geological work done in E3's Project Area within the Estevan Lithium District of Southeast Saskatchewan and to disclose an inferred resource volume over E3's Crown Mineral permits. The ongoing analysis and technical review included geological mapping, review of petrophysical logs and petrophysical modeling for porosity, core descriptions, and review of core analysis data, and compilation and review of available lithium grade data in the area.

Alex Haluszka, P. Geo, and Jason Clarke, P. Geo (the qualified persons or QP's), of Matrix Solutions Inc, a Montrose Environmental Company were retained by E3 Lithium to supervise work and prepare a technical report on the resource estimate of the Saskatchewan property in accordance with National Instrument 43-101 (NI 43-101) standards.

1.1 Property Location and Ownership

E3's Project Area covers ~67,000 Ha, consisting of 38 subsurface crown mineral permits (Figure 1) in the Estevan Lithium District in Southeast Saskatchewan. The Estevan Lithium District is an area South of Regina where there are several companies who have both Crown and Freehold mineral permits to explore for lithium in brines (Figure 2). All crown permits in the E3 Project Area are held 100% by E3 and are listed under the broker names "Synergy Land Services Ltd. And Elk Run Resources Ltd.". The report and resource estimate are focused on E3's Saskatchewan Project Area. Table 1 below provides a list of all individual permits that make up the Project Area.

Table 1: List of Claims for the E3 Project Area

Permit/Lease	Term	Expiry Date	Hectares	Issued To	E3 Working Interest
SMP026	8	2029-04-19	1351.978	Synergy Land	100%
SMP027	8	2029-04-19	2271.562	Synergy Land	100%
SMP028	8	2029-04-19	1877.341	Synergy Land	100%
SMP029	8	2029-04-19	225.76	Synergy Land	100%
SMP030	8	2029-04-19	1361.104	Synergy Land	100%
SMP031	8	2029-04-19	2396.511	Synergy Land	100%
SMP032	8	2029-04-19	2327.8	Synergy Land	100%
SMP037	8	2029-04-19	1779.103	Synergy Land	100%
SMP038	8	2029-04-19	2413.024	Synergy Land	100%
SMP039	8	2029-04-19	2007.042	Synergy Land	100%
SMP040	8	2029-04-19	2071.582	Synergy Land	100%
SMP041	8	2029-04-19	2523.472	Synergy Land	100%
SMP043	8	2029-04-19	517.988	Synergy Land	100%
SMP069	8	2029-04-19	1866.618	Synergy Land	100%
SMP071	8	2029-04-19	1300.681	Synergy Land	100%
SMP072	8	2029-04-19	1233.653	Synergy Land	100%
SMP073	8	2029-04-19	2076.02	Synergy Land	100%
SMP074	8	2029-04-19	650.576	Synergy Land	100%
SMP075	8	2029-04-19	2120.995	Synergy Land	100%
SMP076	8	2029-04-19	2586.153	Synergy Land	100%
SMP077	8	2029-04-19	1934.871	Synergy Land	100%
SMP080	8	2029-04-19	2835.761	Synergy Land	100%
SMP094	8	2029-04-19	64.574	Elk Run Resource	100%
SMP033	8	2029-04-19	974.283	Elk Run Resource	100%
SMP034	8	2029-04-19	3493.557	Elk Run Resource	100%
SMP035	8	2029-04-19	259.11	Elk Run Resource	100%
SMP051	8	2029-04-19	1799.048	Elk Run Resource	100%
SMP052	8	2029-04-19	1835.038	Elk Run Resource	100%
SMP053	8	2029-04-19	1817.251	Elk Run Resource	100%
SMP054	8	2029-04-19	1811.543	Elk Run Resource	100%
SMP055	8	2029-04-19	1809.694	Elk Run Resource	100%
SMP057	8	2029-04-19	2770.873	Elk Run Resource	100%
SMP088	8	2029-04-19	2001.985	Elk Run Resource	100%
SMP089	8	2029-04-19	1869.161	Elk Run Resource	100%
SMP091	8	2029-04-19	2584.598	Elk Run Resource	100%
SMP092	8	2029-04-19	2052.494	Elk Run Resource	100%
SMP093	8	2029-04-19	1928.158	Elk Run Resource	100%
SMP096	8	2029-04-19	260.243	Elk Run Resource	100%

1.2 Geology and Lithium Brine

The Estevan Lithium District is in the Southeastern part of Saskatchewan, near the Manitoba border to the East, and the US border to the South. The primary target for brine-hosted lithium in the area is the Devonian-aged Duperow formation. Sediments of the Duperow formation were deposited as broad, carbonate-dominated rhythmic mega-sequences, reflecting significant fluctuations in sea levels over time. During the Late Devonian period, both the Duperow Formation and the Souris River Formation were deposited in the southeastern peripheral region of the

Williston basin, characterized by restricted depositional conditions, particularly in shallow-water environments. The depositional environment is favorable for the leaching of lithium or generating elevated lithium concentrations as the shallow brines become restricted and evaporate over time. Recent production testing and water analysis reporting has indicated that there are distinct and hydrodynamically isolated units with varying lithium concentration grades (Rostron, et al., 2022).

The Duperow was broken down into 6 distinctive zones, the Seward, Flat Lake Evaporite, Upper Wymark, Middle Wymark, Lower Wymark, and Saskatoon Member and are described in 7.2 Lithium-Rich Duperow Formation.

1.3 Status of Exploration

To date, E3 has compiled and reviewed historical information available from petroleum exploration in the Project Area and from adjacent properties. No new exploration activities have been completed by E3 in the Project Area at the time of publication of this report.

1.4 Resource

The resource estimate was developed in stages:

- Data compilation and review of existing reports in the area
- Core descriptions and reservoir depositional framework/lithofacies analysis
- Petrophysical modeling on logs, validated against core analysis where possible
- Generation of geological maps and reservoir volume calculations

The mineral resource estimate for the Project Area is summarized in Table 2**.** The mineral resource is considered inferred due to the geological evidence being sufficient to imply but not verify geological grade, or quality continuity.

Table 2: Resource Estimate for E3 Project Area

Interval	Brine Volume (m3)	Average Li Grade (mg/L)	OLIP (t)	LCE (t)
Seward	898,000,000	99	89,000	473,000
Flat Lake Evaporite	0	N/A	0	0
Upper Wymark	630,000,000	120	76,000	402,000
Middle Wymark	2,541,000,000	101	257,000	1,366,000
Lower Wymark	398,000,000	68	27,000	144,000
Saskatoon Member	624,000,000	48	30,000	159,000
Total	5,091,000,000		478,000	2,545,000

1.5 Conclusions and Recommendations

The general conclusion of this report was that sufficient information was available to demonstrate that a mineral resource exists within the mineral claims in the E3 Project Area. The resource was classified as an inferred resource due to the geological evidence being sufficient to imply but not verify geological grade, or quality continuity. There was sufficient evidence to document that the resource has a reasonable prospect for economic extraction. Two phases of work are recommended to increase confidence in the resource estimate within the Project Area and evaluate the extraction technologies to improve the understanding of project economics. The combined cost estimate to complete these additional work phases is $4,000,000 CAD.

2. Introduction

Throughout this report, E3 utilizes reservoir engineering terminology in conjunction with hydrogeological terminology. This is aligned with the anticipated recovery method via existing oilfield technologies (wells, pumps, and pipelines) to extract the lithium-rich brine from the reservoir and supply it to the direct lithium extraction (DLE) technology. A concordance table of key terminology is provided in Table 3.

Table 3: Hydrogeological and Reservoir Terminology

<table>
<tr><th>Reservoir Term</th><th colspan="2">Equivalent Hydrogeological Term</th></tr>
<tr><td>Reservoir/Net Pay</td><td>Aquifer</td><td rowspan="2">Hydrostratigraphic Units</td></tr>
<tr><td>Seal</td><td>Aquitard</td></tr>
<tr><td>Recoverable Volume</td><td colspan="2">Specific Yield</td></tr>
<tr><td>Total System Compressibility Product</td><td colspan="2">Specific Storage</td></tr>
<tr><td>Irreducible Water Saturation</td><td colspan="2">Specific Retention</td></tr>
</table>

2.1 Terms of Reference

Alex Haluszka & Jason Clarke of Matrix Solutions Inc. were retained by E3 as Qualified Persons supervising the work and authoring all sections of this technical report for the Project in accordance with National Instrument 43-101 (NI 43-101) standards. The report was prepared by E3 Lithium under the supervision of the QPs and will be used by E3 Lithium for the purpose of supporting commercial project evaluation and/or financing. E3 prepared the information on the Legal description and mineral rights in 4.2 Property Description and 4.3 Property Royalties. The technical work to support the resource estimate was completed by E3 staff under the direction and supervision of the QPs.

2.2 Sources of Data

The report is based upon information and data collected and compiled by E3 Lithium, public sources, and independent third parties. All data was validated by the authors. Mineral rights and land ownership information was provided by E3 Lithium. Most of the information contained within the report was derived from the following:

- E3-supplied exploration maps, logs, third-party reports, and publicly reported third-party field test data;
- Oil and gas data compiled by the Government of Saskatchewan; and
- Published literature (see Section 27 for references).

Sources of information are listed in Section 27 and are acknowledged where referenced in the report text. This includes technical papers covering the regional geology of south-eastern Saskatchewan and the potential sources of lithium mineralization in the formation brines. The foundation of this analysis rests on established geological studies with a historical focus on the exploration and development of petroleum and potash resources in Saskatchewan.

To conduct mapping and formation evaluations, data sources included well logs, cores, formation drill stem tests (DSTs), and historic production results. Much of this data was collected historically in support of various exploration and development projects in the area for both petroleum and lithium. All data, publicly accessible through platforms like the Saskatchewan Energy and Resources website or third-party mapping software providers such as Accumap, underwent a rigorous technical vetting process to ensure its reliability, regardless of its source.

2.3 Site Visit

To date, no on-site visit by the Qualified Person (QP) has been conducted. This is because the technical information used to complete this assessment, including measured lithium from brine samples, were available digitally in the public domain and no on-site activities have been conducted within the Project Area by E3 at this time. A site visit will be completed by a QP at a future date if the project progresses to a further stage of evaluation and brine samples are collected by E3 in the claims area.

3. Reliance on Other Experts

The claims status for the Project Area was reviewed by the QP's as described in Section 4.2 below. However, legal and survey validation is not in our expertise, and we are relying on E3's land-persons and lawyers to assert the validity of these claims. Through personal communication with E3, the authors have no reason to question the validity or the good standing of the E3 permits held in trust.

In some matters of regulations pertaining to the oil and gas industry in Saskatchewan, the authors have relied on the opinion of E3 technical staff who are more qualified in these matters. Such instances are noted in the text where applicable.

Two third-party subject matter experts (SMEs) completed technical analysis that supported the resource evaluation. These SMEs are not QP's, but their technical analysis was relied upon by the QP's and E3 technical staff in the preparation of this report, Sections 7 and 14.

Table 4: Third Party Subject Matter Experts Consulted in Preparation of Report

Third Party Expert		Scope of Work
SME Name, Title & Designation	**SME Company**	
John Lake P.Geo	Lake Geological	Core description
Reigh MacPherson, P.Geoph	MacPherson Energy Consulting	Petrophysical analysis

4. Property Description and Location

4.1 Location

E3's Project area is in the Southeast corner of Saskatchewan, close to the United States border in the South and the Manitoba border to the East. It sits in between the towns of Weyburn and Estevan (Figure 1).

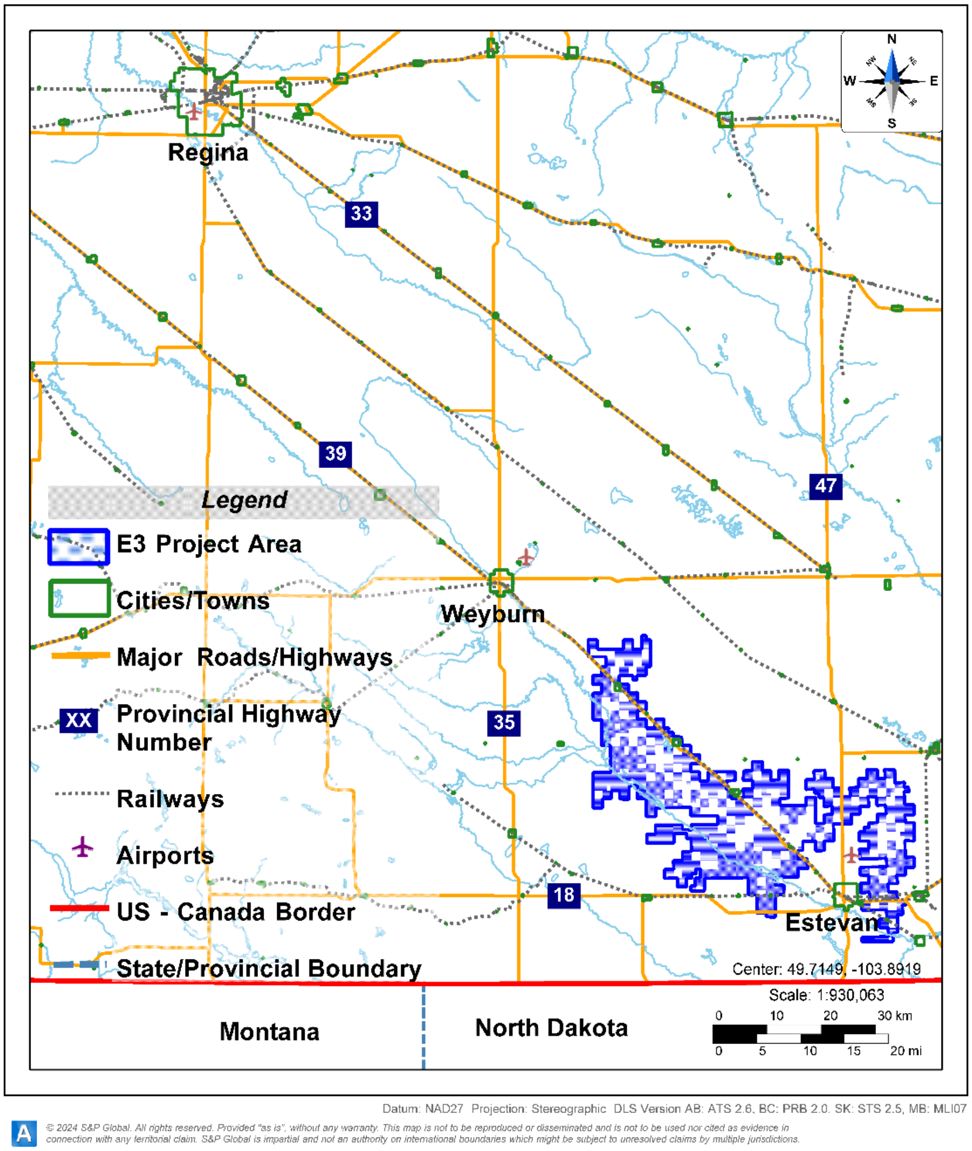

Figure 1: Location of E3 Lithium's Project Area in SE Saskatchewan.

4.2 Ownership and Tenure

E3's Project Area includes 100% working interest in 38 crown mineral permits covering 67,061.205 Ha (see Table 1 for permit list).

E3's permits were acquired through public bidding process provided by the government of Saskatchewan in April of 2021, and are currently held under the brokers "Synergy Land Services Ltd. and Elk Run Resources Ltd.". Permits issued by the crown include the subsurface mineral rights to all the minerals in the subsurface except petroleum and natural gas rights. E3 does not expect competition for pore space with petroleum and natural gas rights in the Duperow Reservoir over the E3 permit area; the current technical understanding is there is no petroleum or free phase natural gas in the Duperow unit where the E3 permits are (the pore space is 100% water saturated, with potential for some dissolved gases within the water). The authors understanding based on communication with E3 technical staff is that dissolved gas ('solution gas') that is produced during brine production would not require separate petroleum and natural gas rights in Saskatchewan, even it is produced in economic quantities.

The subsurface mineral permits "grant the holder the exclusive right to explore for and develop subsurface minerals within the permit lands. The permit holder may extract and remove samples of subsurface minerals from the permit lands for the purpose of analyzing and testing the samples and for mineralogical and other scientific studies." (Ministry of Energy and Resources, Saskatchewan, 2015). Permits expire 8 years after the date it was issued and have an annual rental fee along with a work expenditure commitment over the 8-year term. E3 permits are in the initial term and will end in 2029. At that point, an application can be filed, for the permits in good standing to be converted to leases, which allows the permit holder to produce minerals over the permit areas. Leases have a 21-year term. The crown permits will be subject to a royalty, but that structure is not currently available at this time, but it is expected that royalty updates will be incorporated into the "Subsurface Mineral Royalty Regulations" (Ministry of Energy and Resources, Saskatchewan, 2017) in the near future.

The authors have verified that that permits listed in Table 1 exist as reported by independently querying the permits available from the Saskatchewan Government via the Mining and Petroleum GeoATLAS (https://gisappl.saskatchewan.ca/Html5Ext/index.html?viewer=GeoAtlas). We also reviewed the trust agreement showing that Synergy Land Services Ltd. and Elk Run Resources Ltd. are holding the permits in trust for E3.

4.3 Environmental Liabilities

There are no known environmental liabilities or restrictions associated with E3's permits at this time. There is existing oil and gas infrastructure throughout the Project Area which are managed by 3rd party oil and gas companies who are producing from hydrocarbon reservoirs. E3 will only be liable for infrastructure related to their operations if this project proceeds to that stage of development.

4.4 Permits Required

Exploration work over the Project Area will involve drilling of test wells, production tests, and brine sampling. Production from within the permit area is governed by the Ministry of Energy and resources (MER) in Saskatchewan and it is expected that similar regulatory framework to current oil and gas production requirements will be followed for brine resource production. To drill wells, a well licence application must be applied for and granted by the Ministry of Energy and Resources in Saskatchewan. Requirements for licensing test holes are the same process as licensing oil and gas wells. Each location requires surface surveys, and permission to access surface locations (and acquisition of surface leases), 3rd party notifications to offset owners in the area. Currently, E3 has not applied for any licenses for drilling.

Subsequent to exploration drilling, E3 could apply to convert their subsurface mineral permits to subsurface mineral leases in order to produce lithium in brines and would also need to apply to license a surface facility for brine processing and lithium extraction.

4.5 Other Risks

Exploration for geothermal resources is currently occurring in Saskatchewan. Production of fluid for geothermal energy could theoretically interfere with production of brines for mineral resource extraction. The current focus of this activity has been in deeper reservoirs of higher temperature, and it is the author's opinion that geothermal exploitation of the Duperow reservoir is unlikely in the near future.

At this time the authors are of the opinion that there are no additional permits or significant other risk factors that could affect access, title, or the ability to perform work on this property.

5. Accessibility, Climate, Local resources, Infrastructure and Physiography

5.1 Accessibility

E3 Lithium holds a land position situated between the towns of Estevan and Weyburn, surrounded by properties owned by other major lithium explorers in Saskatchewan (Figure 1 and Figure 2). The company's land is positioned adjacent to key transportation infrastructure, with Highway 39 (a primary Saskatchewan highway) intersecting E3's Project Area. Additionally, E3's property is adjacent to major railroad networks.

The approximate midpoint of E3's Project Area is situated roughly 175 kilometers from Regina, the provincial capital, and the second-largest city in Saskatchewan. The closest commercial airport is situated in Regina, and there are also two regional airports in Estevan and Weyburn. The southern limit of the property is approximately 15 kilometers north of the U.S. border.

The convergence of oilfield development activities with E3's permit area has led to the pre-existence of numerous primary and secondary roads, arranged in a grid pattern. These roads provide access to different segments of the permit areas, enhancing the overall infrastructure and connectivity of the region.

Because the mineral permits are crown land, there are no significant restrictions expected on surface access to conduct exploration or development activities in the Project Area. As discussed in section 4.4, the evolving regulatory framework followed for brine production is expected to be similar to oil and gas. One of the aspects of the current regulatory framework for oil and gas is that a 100 m boundary must be maintained between sections with ownership boundaries to minimize drainage effects, so it is assumed no surface disturbances will occur within these areas (Ministry of Energy and Resources, Saskatchewan, 2024).

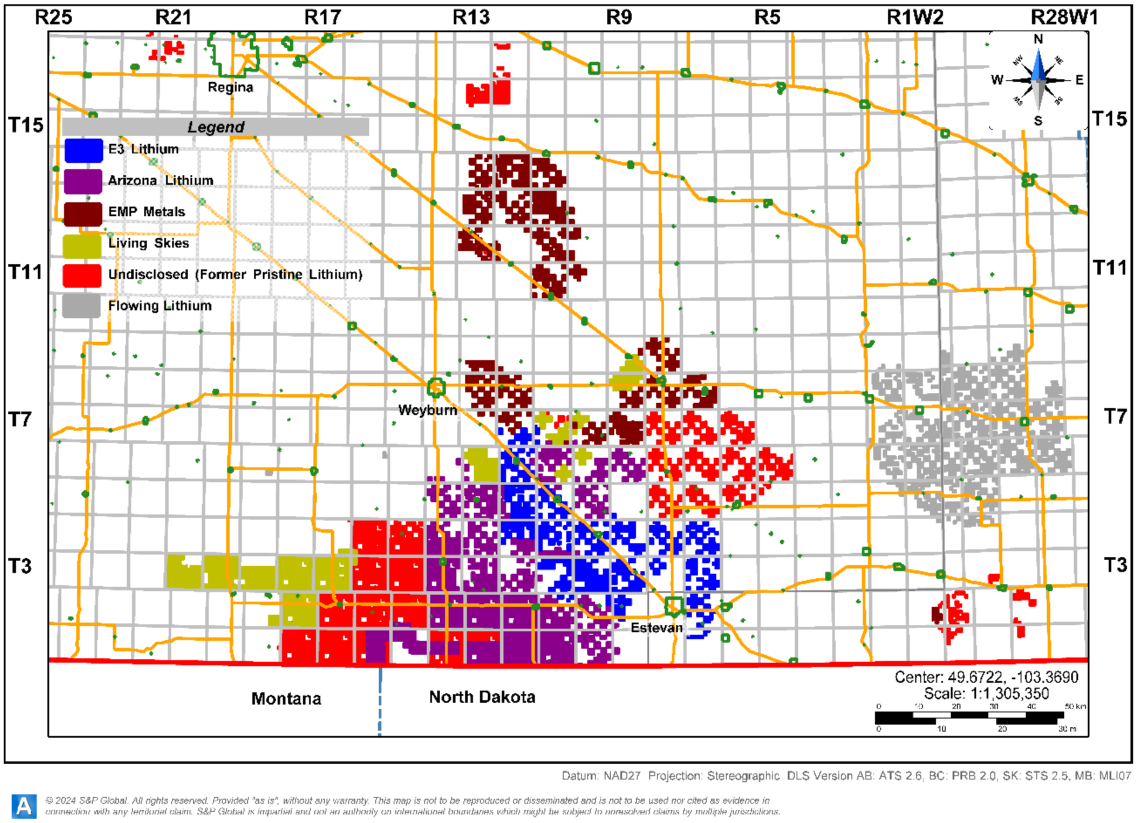

Figure 2: The Estevan Lithium District and Lands held by E3 Lithium and other prominent lithium explorers in the region.

5.2 Climate

Within the geographical scope covered by E3's allotted permits, the landscape aligns with the Prairie Moist Grassland classification, featuring an extensive cultivation footprint. According to the Köppen climate classification system, the region falls under the "warm-summer humid continental (Dfb)" climate category.

Based on climate data collected from the Estevan Weather Station spanning the years 1991 to 2020 (Figure 3 - (Environment and Natural Resources Canada, 2020)), the region undergoes winters characterized by cold, dry, and windy conditions, spanning four months from mid-November to mid-March. January stands out as the coldest month, recording a daily average temperature of -14°C. Transitioning into the warm season, which covers four months from mid-May to mid-September, July takes the lead as the hottest month, with a daily average exceeding 19°C. The annual precipitation measures 455 mm, predominantly occurring between from mid-April to early October. This period is marked by a monthly precipitation average of 55 mm, and June records the highest rainfall, with an observed average of 85 mm.

During the transitional Spring "break-up" period, spanning from mid-March to late May or June, contingent on factors such as snowmelt and Spring rainfall, the region experiences heightened moisture levels in both roads and terrain. Consequently, a temporary restriction is generally imposed on drilling operations during this period.

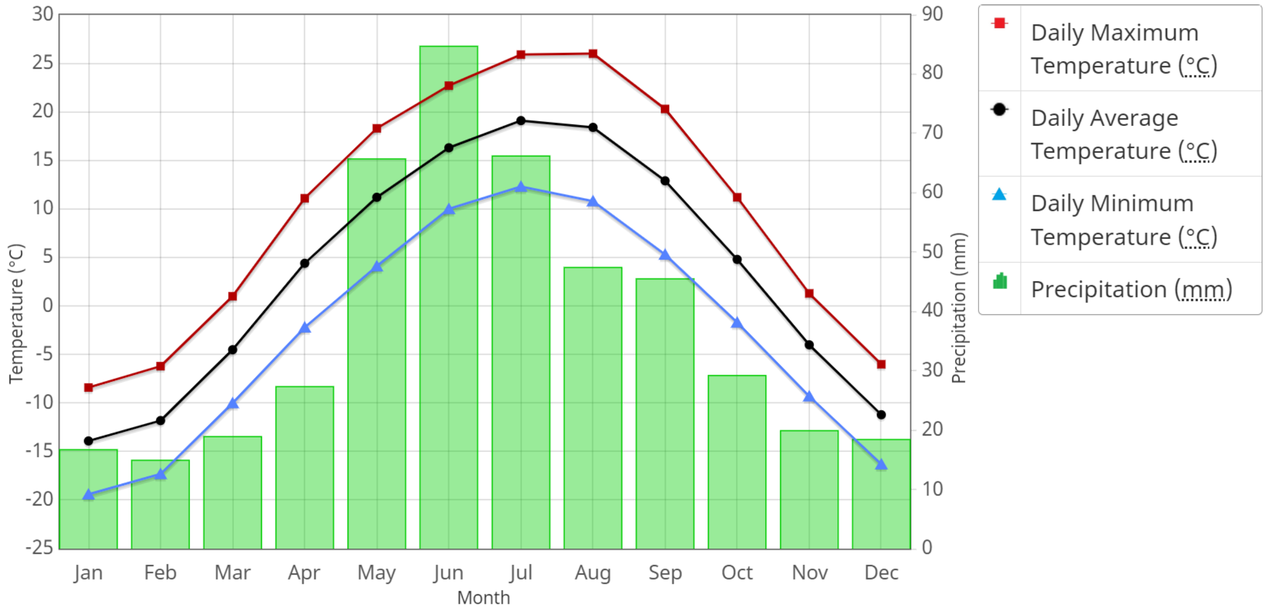

Figure 3: Historical Climate data obtained from Estevan weather station from 1991 to 2020

5.3 Local Resources

Convenient access to accommodation, food, fuel, and supplies is readily available in the City of Weyburn (population: 11,019 as per the census data (Statistics Canada, 2021)) and the City of Estevan (population: 10,851 as per the census data (Statistics Canada, 2021)). These urban centers are equipped with the necessary amenities and infrastructure to support the needs of personnel involved in the project. Weyburn and Estevan are home to a skilled workforce with expertise in oil and gas operations, potentially contributing valuable skills to the development of lithium resources. Additionally, the presence of local oil field service companies, specializing in field operations, further enhances the region's capacity for effective project implementation.

5.4 Infrastructure

The extensive legacy of oil and gas development in southern Saskatchewan has established an expansive infrastructure network, encompassing pipelines, roads, and power grids that effectively service the permit areas. E3 stands to gain significant advantages by leveraging the existing oil and gas infrastructure already in place. The presence of pre-existing oilfield facilities further enhances the operational landscape.

Primary highways are diligently maintained and subject to regular upgrades, while secondary gravel roads are well-kept, ensuring efficient access throughout the region. The City of Weyburn, with its strategic importance as a prominent railroad hub in Saskatchewan, adds to the overall connectivity and transportation capabilities of the area.

Furthermore, ample available land is suitable for the establishment of process plants and other necessary future infrastructure, providing E3 with the spatial flexibility required for the successful execution of its projects.

5.5 Physiography

E3's project is situated within the agricultural regions of southern Saskatchewan, characterized by a predominantly flat and gently rolling landscape. This location falls within the broader Saskatchewan Plains, known for its agricultural significance and relatively low relief. The elevation within the Project Area ranges from 500 to 600 meters above sea level (Figure 4).

The predominant origin of the landforms in this region is glacial activity, and the surficial sediments consist of glacial deposits, including till, glaciofluvial sediments, and glacial lake deposits. The landscape is further shaped by modern river valleys, such as those formed by the Souris River and its tributaries, which serve as natural drainage pathways.

Although the land is primarily flat, subtle variations in elevation create gentle slopes and rolling hills. These variations, coupled with the presence of water bodies and wetlands, contribute to a diverse ecosystem that supports a variety of plant and animal life.

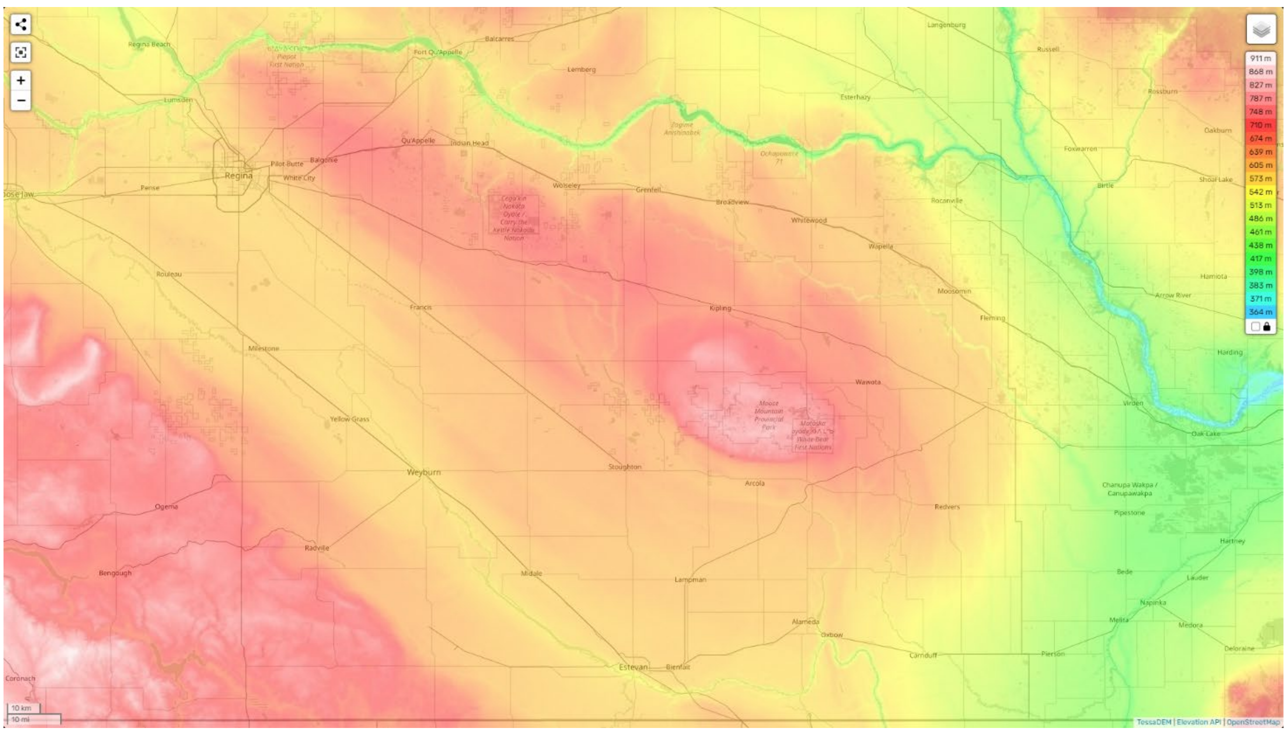

Figure 4: Elevation map of the project area and its surroundings (topographic-map.com, 2024)

6. History

There has been abundant drilling for oil and gas in southeastern Saskatchewan. Since 1955, about 1800 oil and gas wellbores have been drilled within E3's permit area targeting multiple hydrocarbon-bearing strata. To date, the area has produced 20 million cubic meters of oil and 1250 million cubic meters of natural gas (Figure 5) mainly targeting Mississippian aged strata overlying the Duperow Formation. Over 100 million cubic meters of associated water have also been produced. Current infrastructure includes vertical and horizontal wellbores, pipelines, and facilities built and operated by various Saskatchewan energy companies. This oil and gas exploration work has produced the high-quality geologic data (further described in sections 9 and 10) that was used in this report.

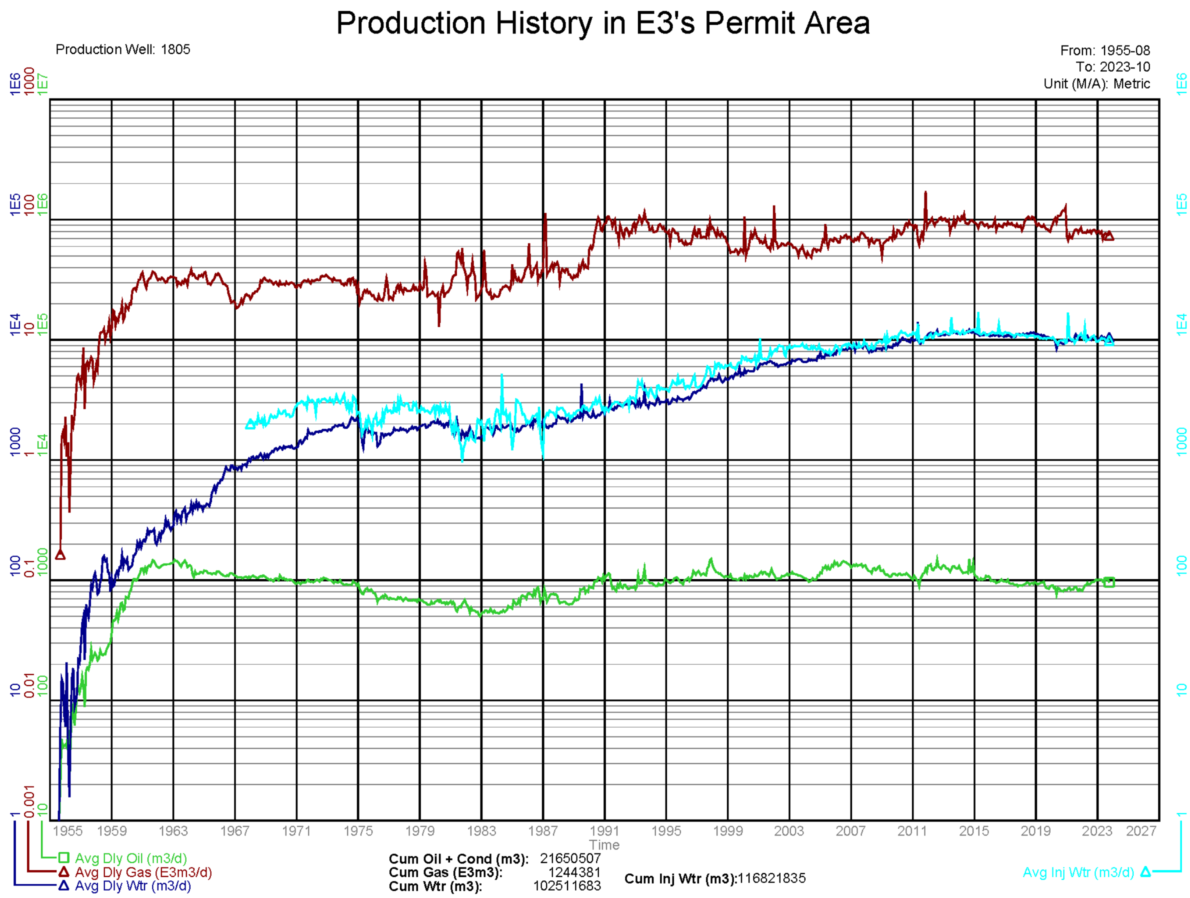

Figure 5: Oil and Gas Production History in Project Area

Since the 1950s, energy companies have strategically focused on Mississippian-aged reservoirs, including the Midale and Frobisher formations. Technological advancements, such as horizontal drilling and 2D/3D seismic processes, facilitated exploration in deeper reservoirs, with depths extending up to the Red River formation. However, due to the high cost and elevated exploration risk, drilling activities into the Devonian and Ordovician-aged formations have been limited. Recent testing of Devonian and Ordovician formation waters, facilitated by access to deeper wells, has indicated the potential for Li-rich brines, particularly from the Duperow Formation.

Although the primary focus of oil development is on shallower formations, E3's Project Area features several wells drilled through the Duperow Formation. This provides useful information for mapping potential Li-rich reservoir's thickness, extent, and reservoir properties.

Historically, energy companies in southern Saskatchewan showed limited interest in lithium concentrations in formation brines, resulting in limited data for evaluating specific zones for Li-rich Brines. Initial studies on the economic potential of Saskatchewan brines were conducted by Buchinski (Buchinski, 1988) and subsequently reviewed by Arnold and Ogu (Arnold & Ogu, 1989), Kreis and Gent (Kreis & Gent, 1992), and Rostron (Rostron, et al., 2002).

Since 2002, the Government of Saskatchewan, through the Saskatchewan Geologic Survey, has conducted wellhead fluid sampling programs across southern Saskatchewan, collecting and analyzing data on industrial minerals from subsurface brines from existing oil and gas wells. Extensive brine characterization tests were conducted in various formations as part of these programs, leading to the publication of several technical reports and research articles (Jensen, 2011; Jensen, 2012; Jensen, et al., 2013; Jensen, 2016; Jensen & Rostron, 2017; Jensen & Rostron, 2018; Jensen, et al., 2020; Rostron, et al., 2002). E3 has utilized this dataset, along with technical reports from neighboring lithium explorers (Arizona Lithium, 2023; EMP Metals Corp., 2023; Grounded Lithium Corp., 2023) and a robust regional understanding of geology and reservoir hydrodynamics, to evaluate and acquire their permit areas for prospective lithium-rich brines.

Historical information from both inside and outside the Project Area property boundary was compiled and utilized for this report. Exploration and production data from 1,529 historical oil and gas wells was compiled, with 47 of these wells falling within the Project Area.

7. Geological Setting and Mineralization

7.1 Regional Stratigraphy

Southern Saskatchewan constitutes the easternmost extension of the Western Canadian Sedimentary basin and includes the Williston Basin, which comprises Phanerozoic sedimentary rock on top of Precambrian basement rocks. The Precambrian Basement is predominantly composed of gneisses and granites, overlain by Paleozoic carbonate, Mesozoic detrital rocks, and Cenozoic glacial deposits. A stratigraphic column for the basin is presented in Figure 6 below.

At the base of the Paleozoic succession lies the Cambrian-aged Deadwood Formation, characterized by quartz sandstone, dolomitic limestone, and shale interbeds (LeFever, 1996). This formation represents the initial phase of Paleozoic deposition and unconformably overlays the weathered basement rocks. Overlying the Deadwood Formation, unconformities are present below and above the overlying Winnipeg Formation featuring sandstone and siltstone lithologies.

The Upper Ordovician and Lower Silurian Bighorn Group encompass the Upper Ordovician-age Red River Formation (Yeoman and Herald stratum), the Stony Mountain Formation, the Stone Wall Formation, and the lower part of the Lower Silurian-age Interlake Formation. These formations are characterized by interbedding of carbonates and evaporites. Key identifying features include widespread muddy beds, oolitic limestone, lime mudstone containing burrow and fossil, wackestone containing fossil and coated grain, lime mudstone that are thinly bedded or laminae, and anhydrite in lamina or nodular form (Fuller & Porter, 1962), (Carlson & Eastwood, 1962). The dolomitization of carbonate strata is reservoir enhancing, and significantly contributes to hydrocarbon storage in the Red River Bed. Evaporite occurrences are absent, and muddy beds are rare in the upper part of the Interlake Formation.

The Middle Devonian Elk Point Group exhibits a transgression-regression sequence of deposition, featuring evaporite, carbonate, and clastic rock formations. It comprises several distinct units, including the Ashern Formation, characterized by a thin shale unit (Edie, 1959), the dolostone-rich Winnipegosis Formation (Edie, 1959) and the Prairie Evaporite Formation, which contains halite, minor anhydrite, shale, and potash salts near the top (Gerhard & Anderson, 1988). The overlying Dawson Bay Formation consists of dolomitic shales, limestones, and mixed evaporites (Edie, 1959), followed by the calcareous dolomite and anhydrites of the Souris River Formation

(Sandberg & Hammond, 1958). Moving upwards, the Duperow Formation is characterized by calcareous dolomite and is capped by thin shale (Gerhard & Anderson, 1988). The Duperow Formation, being a prospective formation for Li-rich reservoirs, will be covered in detail in section 7.2. Subsequently, the Birdbear Formation predominately contains limestone with some dolostone. The Duperow Formation and Birdbear Formation collectively form the Saskatchewan Group, succeeded by the Three Forks Group, comprising the Torquay Formation (dolomite, shale, and anhydrite), the Big Valley Formation (marine shale and mudstone), and the Bakken Formation (black shale and medium-grain sandstone)

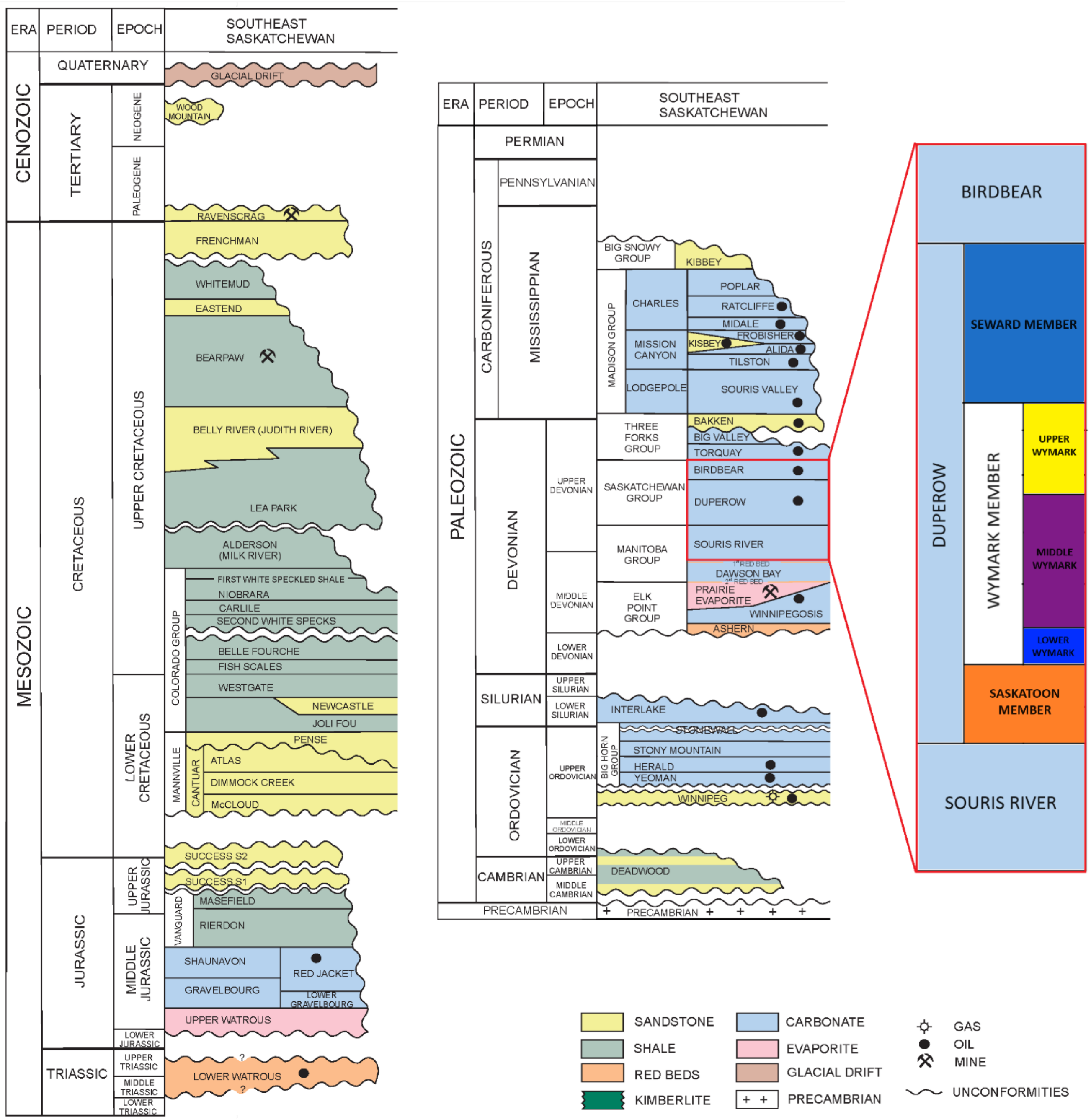

Figure 6: Stratigraphic Correlation Chart of SE Saskatchewan (Ministry of Energy and Resources, Saskatchewan, Feb 2022)

The Mississippian-age Madison Group is predominantly characterized by limestones and dolomites, serving as a significant petroleum reservoir.

The Mesozoic-era begins with the Watrous Formation, which is stratified into two lithologic units: the lower part comprises muddy-silty red beds with minor sandstone beds, while the upper part consists of organic mudstone with a small amount of anhydrite.

The Jurassic period includes the Middle Jurassic-age Gravelbourg Formation and Shaunavon Formation, as well as the Upper-Middle Jurassic Vanguard Group and Success Formation. They are primarily composed of green ash-colored or black marine shale containing fossils, and limey sandstones.

Moving shallower, into the Lower Cretaceous Mannville Group, it is divided into two units based on distinct lithology. The lower unit features the deposition of fluvial to estuarine facies sandstone and siltstone in the Cantuar Formation, while the upper unit consists of sediment from coastal and neritic facies, including sandstone, siltstone, and shale in the Pense Formation.

The Cretaceous Colorado Group, above the Mannville, primarily consists of marine deposits characterized by dark grey or green shale embedded with glauconite, alongside several beds of sandstone. Within the Colorado Group, a regional unconformity divides it into two lithologic units at the base of the Second White Speckled Shale Formation. This group, rich in oil and gas resources, contains several sandstone beds and boulder beds.

The Milk River Formation is composed of grey to light green shale and siltstone with traces of bentonite. The Lea Park Formation is characterized by dark grey shale interbedded with sandstone. The Upper Cretaceous Series Belly River Formation consists of alluvial sandstone, siltstone, mudstone, and coal. The Upper Cretaceous Series Bearpaw Formation includes shale, common fossils, barite druse, selenite, diamond selenite crystal, fibrous calcite, and various muddy blocks. The Eastend Formation, deposited in environments like lakes, swamps, and floodplains, is part of the Cretaceous-age sedimentary sequence. The Whitemud Formation contains white siltstone containing kaolin powder.

The Tertiary strata mainly comprise light grey sandstone and siltstone interbedded with coal. The Quaternary System includes glacial, lacustrine, alluvial, and aeolian sediment. Glacial sediment, marked by Precambrian and Paleozoic bedrock debris, originates from glacial transport. Lacustrine and fluvial facies sediments, ranging from gravel beds to clay beds, contribute to the deposits during interglacial and non-glacial periods (Mei, et al., 2009).

7.2 Lithium-Rich Duperow Formation

The Devonian formations within the Williston basin demonstrate broad, carbonate-dominated rhythmic mega-sequences, reflecting significant fluctuations in sea levels over time. During the Late Devonian period, both the Duperow Formation and the Souris River Formation were deposited in the southeastern peripheral region of the Williston basin, characterized by restricted depositional conditions, particularly in shallow-water environments.

Although the Duperow formation in Saskatchewan often exhibits evaporitic features, it shares lateral equivalence with the carbonate-dominated reef formations of the Leduc formation within the Woodbend Group of the Alberta Basin (Figure 7– modified from (Stoakes, 1992)). The eastern platform extending from Saskatchewan to Manitoba experienced variable restrictions due to its distance from the open ocean and the presence of obstructions from the Leduc Formation Reefs (Chow, et al., 2013).

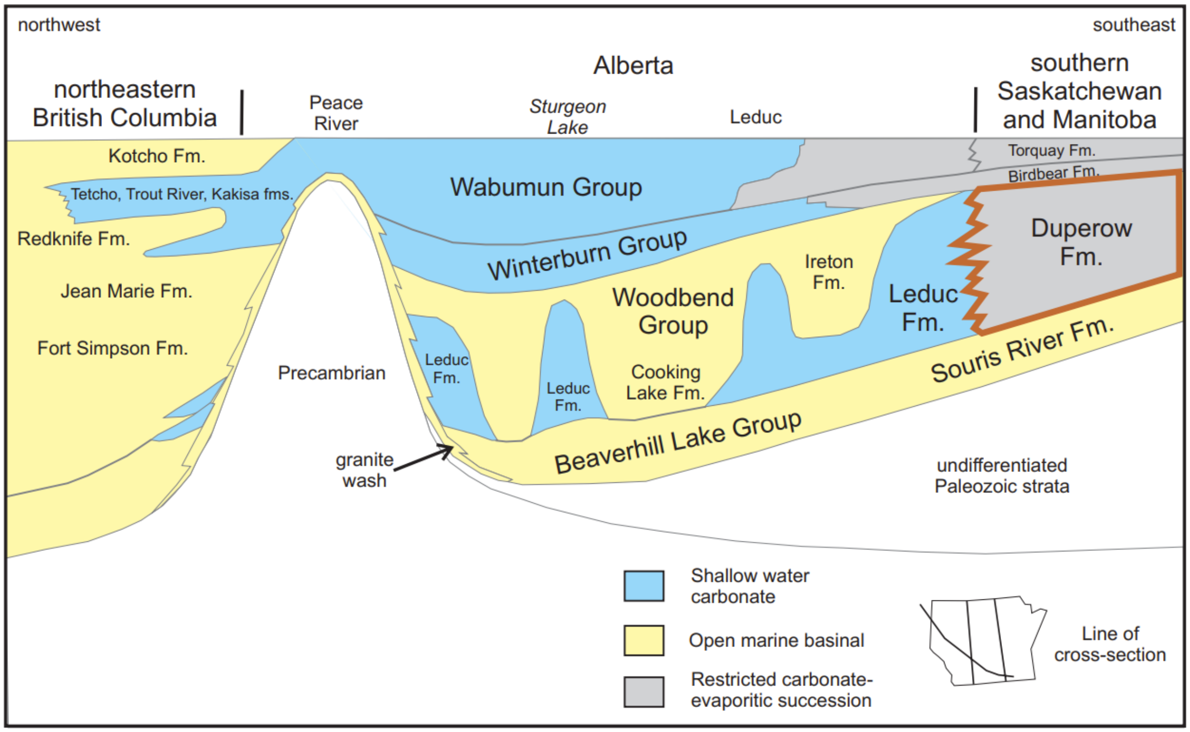

Figure 7: Schematic cross-section showing the lateral relationship between Devonian strata of southern Saskatchewan and of the Alberta Basin to the west (Stoakes, 1992)

The Duperow is typically divided into three members, which in ascending order are Saskatoon, Wymark, and Seward Members (Figure 6). Each member can be identified by prominent marker beds on geophysical well logs and correlated to cores (Cen & Hersi, 2006), (Eggie & Nicolas, 2012). The Wymark Member can be further subdivided into informal carbonate reservoirs labeled Upper Wymark, Middle Wymark and Lower Wymark, which laterally correlate regionally, with each sub-member having its own depositional sequences and trends.

7.3 Duperow Stratigraphic Divisions and Lithofacies

The Duperow type log stratigraphy for southeast Saskatchewan after Cen and Hersi 2006 (Figure 8), shows the entirety of the Duperow divided into 5 units: Seward, Upper Wymark, Middle Wymark, Lower Wymark, and the Saskatoon Member (Cen & Hersi, 2006). Static modelling and property-based mapping provided in this report follow a similar stratigraphic division as represented in the type of log; however, the Flat Lake Evaporite was picked in addition to these zones, as a non-reservoir unit. The Flat Lake Evaporite is a dominantly halite package of variable thickness, that occurs between the Upper Wymark and the Seward. The low density of this salt, and extremely high characteristic resistivities, can make this unit distinctive on well logs (Figure 9); however, like many evaporite layers, this unit is subject to dissolution and thickness is variable across the study area. The lithology and porosity types of the Seward, Upper and Middle Wymark units of the Duperow are described below. The descriptions come primarily from literature but were validated by E3 from several available core in proximity to the claims area that were logged by a third party (Lake Geological Services) on behalf of E3. A total of 13 cores were logged from 07-29-06-11W2M (inside Project Area) and 16-34-06-11W2M, 1-10-03-21W2M, 10-29-07-8W2M, 12-2-7-11-W2M, 15-12-7-11W2M, 16-3-11-17W2M, 3-8-1-11W2M, 6-2-2-14W2M, 6-33-7-8W2M, 7-32-3-11W2M, 8-27-7-11W2M, and 13-2-7-11W2M located outside of the Project Area.

1) Seward

The Seward Member has high argillaceous content, compared to the other Duperow sub-members. It is mainly comprised of limestone with various sub-lithofacies; these include medium to thick-bedded, burrow-mottled, buff to light brown bioclastic rudstone and laminated to thin-bedded bioclastic mudstone to packstone (Cen & Hersi, 2006). Vuggy porosity is sometimes occluded by anhydrite and or calcite. Two lithofacies dominant the Seward, a thinly to microbially laminated, buff coloured microcrystalline dolomudstone; and a grey-green argillaceous dolomudstone (Cen & Hersi, 2006). Across the E3 land base the gross thickness ranges from 33-52 m in the Seward.

Core descriptions from well 16-34-06-11W2M at measured depths (MD) 1847-1856 m, showcase the upper Duperow - Seward stratigraphy, with, mainly tidal flat depositional environment with some channel and restricted lagoonal. Types of porosities noted include intercrystalline, interparticle and moldic types**.**

2) Upper Wymark

Cen and Hersi 2006, define the very top of the Wymark unit coincident with the Flat Lake Evaporite- which consists of discontinuous, dominantly halite lenses that range in thickness from 0-6m. As this report is focused more on reservoir units, the Flat Lake Evaporite was broken out as being deemed 'non-reservoir'; therefore, it was not included this unit in our division of the Upper Wymark.

The Upper Wymark consists of light to dark brown bioclastic mudstone, wackestone, packstone and minimal stromatoporoid floatstone/bafflestone. Some irregular to wavy clay seams, firmground and vertical burrows exist in the wackestone and mudstone lithofacies. There is increasing content in anhydrite moving up section to the capping Flat Lake Evaporite. Overall, there is a 'restricting upward' deposition setting (Cen & Hersi, 2006). Across the E3 land base the Upper Wymark ranges in gross thickness from 23-39 m.

Core descriptions from well 07-29-06-11W2M at 1907-1925m (MD) include Upper Wymark stratigraphy, with sabkha, restricted lagoon to a tidal flat depositional environment interpretation. There is abundant interbedded evaporite (anhydrite) and vuggy, and interparticle porosity are noted**.**

3) Middle Wymark

The base of the Middle Wymark is characterized by cyclic successions of stromatoporoid floatstone/bafflestone, bioclastic packstone, wackestone and mudstone. Vuggy porosity is noted along with anhydrite nodules. Above the base, moving into the upper Middle Wymark, bioclastic packstone, wackestone, and mudstone exist with minor dolostone and anhydrite; where unlike the lower portion of this zone, stromatoporoid floatstone/bafflestone are rare (Cen & Hersi, 2006). Across the E3 land base area, the Middle Wymark ranges in thickness from 45-63 m.

A representative Middle Wymark core was described in the 1-10-03-21W2M well, throughout the interval 2304-2322m MD. The depositional environment interpretations are dominantly tidal flat, however other depositional facies include broken up reef (reef debris), restricted lagoon to standing margins and associated evaporites. These are quite similar facies expected, given the descriptions of the Middle Wymark after Cen and Hersei 2006.

4) Lower Wymark

The Lower Wymark is dominated by mainly limestone lithofacies, that have stromatoporoid floatstone/bafflestone (Kent, 1999) and nodular wackestone and mudstone (Cen & Hersi, 2006). Across the E3 landbase the Lower Wymark unit ranges in thickness from 6-13 m. One well defined cycle has been recognized in the Lower Wymark. The base is mainly bioclastic wackestone and stromatoporoid floatstone/bafflestone, above this unit there is a transition into a nodular to medium-and thinly bedded wackestone to mudstone lithofacies, with lastly a capping of dolomudstone interbedded with anhydrite (Cen & Hersi, 2006).

5) Saskatoon Member

The base of the Saskatoon is marked by a hardground surface, juxtaposing burrowed bioclastic wackestone (Upper Souris River Formation) with overlying argillaceous dolomudstone of the Lower Saskatoon Member (Cen & Hersi, 2006). Across the E3 landbase thickness ranges from 7-27 m. Cen and Hersi describe the Saskatoon member as being comprised of various lithofacies including dolostone, limestone and anhydrite. These three lithofacies are arranged in cyclic patterns, where limestones are overlain by dolostone, and last anhydrite on the dolostone units (Cen & Hersi, 2006).

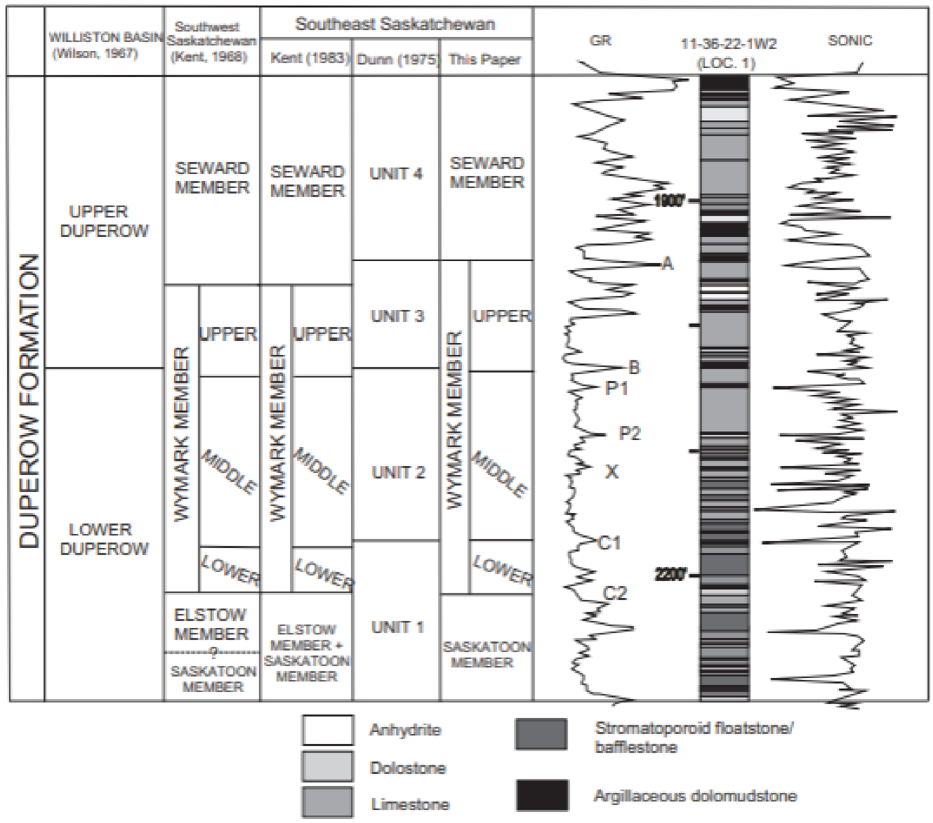

Figure 8: Type Log and unit division taken from Cen and Hersi, 2006; across SE Saskatchewan area. These formed the basis of the hydrostatic zone divisions and reservoirs herein.

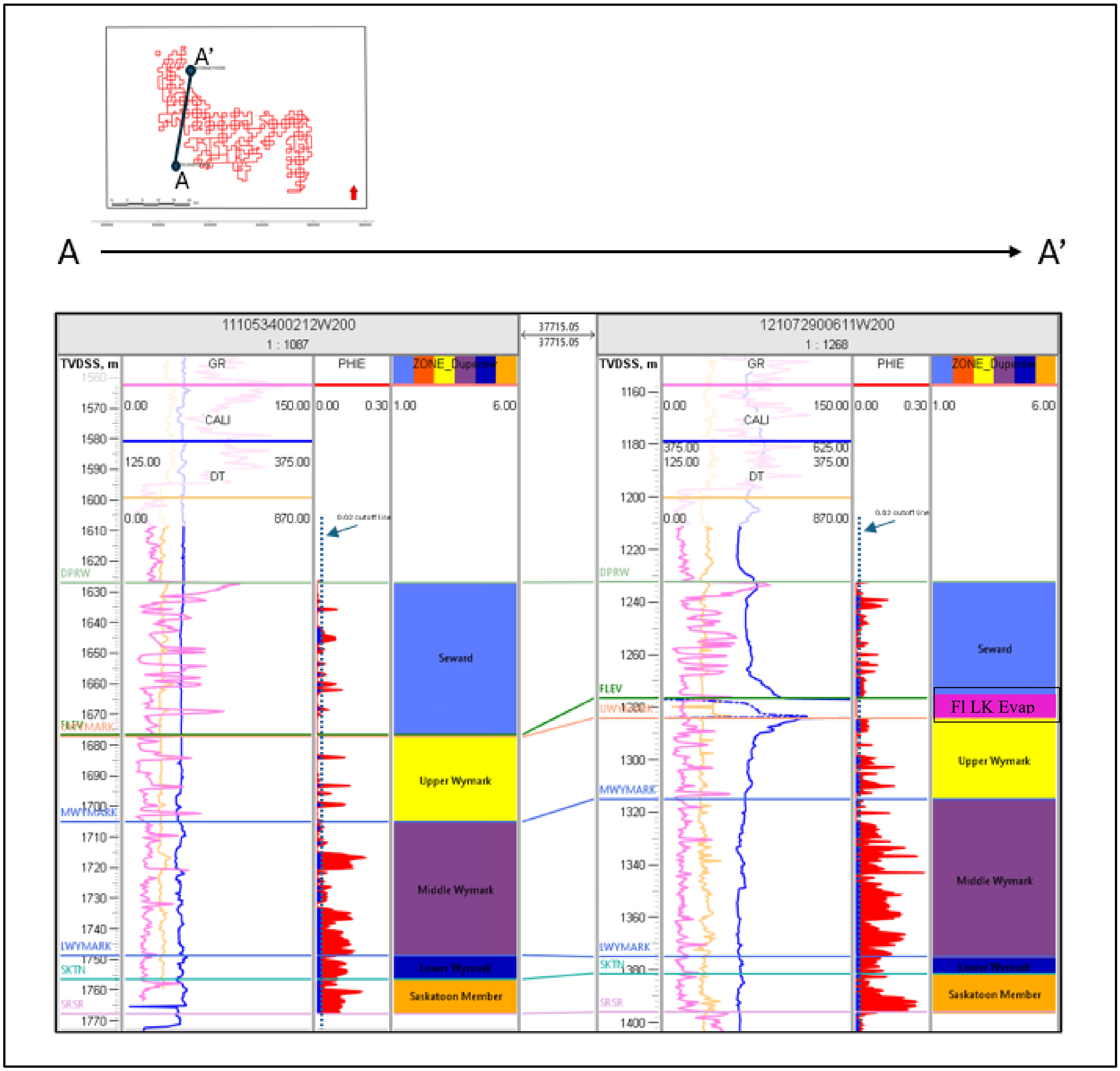

Figure 9: South to north cross section showcasing a subset of the geophysical log suites character across the E3 land base.

Existing wells drilled for hydrocarbons provide the bulk of the data that are the context and foundation for the geological interpretations of the Duperow across Saskatchewan. Figure 10 shows the lateral continuity of the Duperow (SK) to Leduc (AB), across the WCSB. The major depositional environment in the Project Area is described as "platform interior". Deposition in this setting is expected to result in laterally continuous deposits that are generally flat lying and unstructured as opposed to the reef complexes of Alberta during the Frasnian Stage. As mentioned in Section 7, both the Duperow Formation and the Souris River Formation were deposited in the southeastern peripheral region of this basin, characterized by restricted depositional conditions, particularly in shallow-water environments. These types of environments are highly evaporitic and saline, creating conditions conducive for lithium concentration.

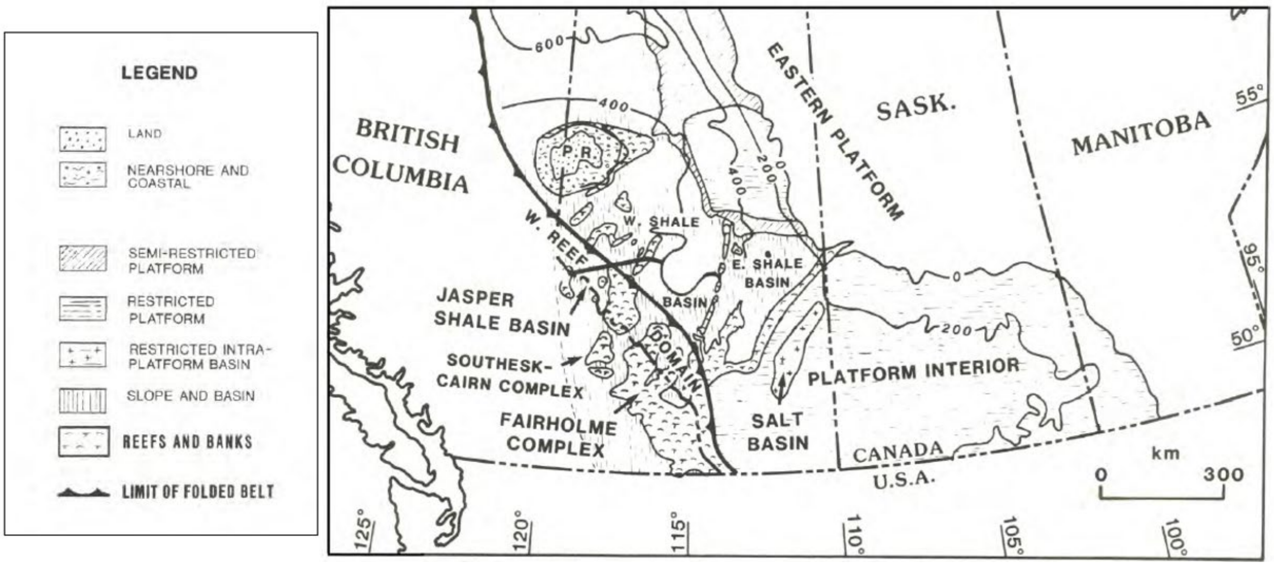

Figure 10: Taken from Eggie, 2012 and modified from Moore, P.F. 1988; showcasing the lateral continuity of the Leduc and time equivalent Duperow formations across the WCSB (Eggie & Nicolas, 2012; Moore, 1988)

Locally, there is a very strong lateral correlation between the litho-stratigraphic units within the property boundary, and it extends well over 20km to the North and South to the US border (Figure 1). The lateral continuity of the litho-stratigraphic units allows for the correlation of the rock units regionally and combined with the hydrostratigraphic continuity (discussed in 7.4) enables the regional correlation of the lithium grade data in the area (Figure 11).

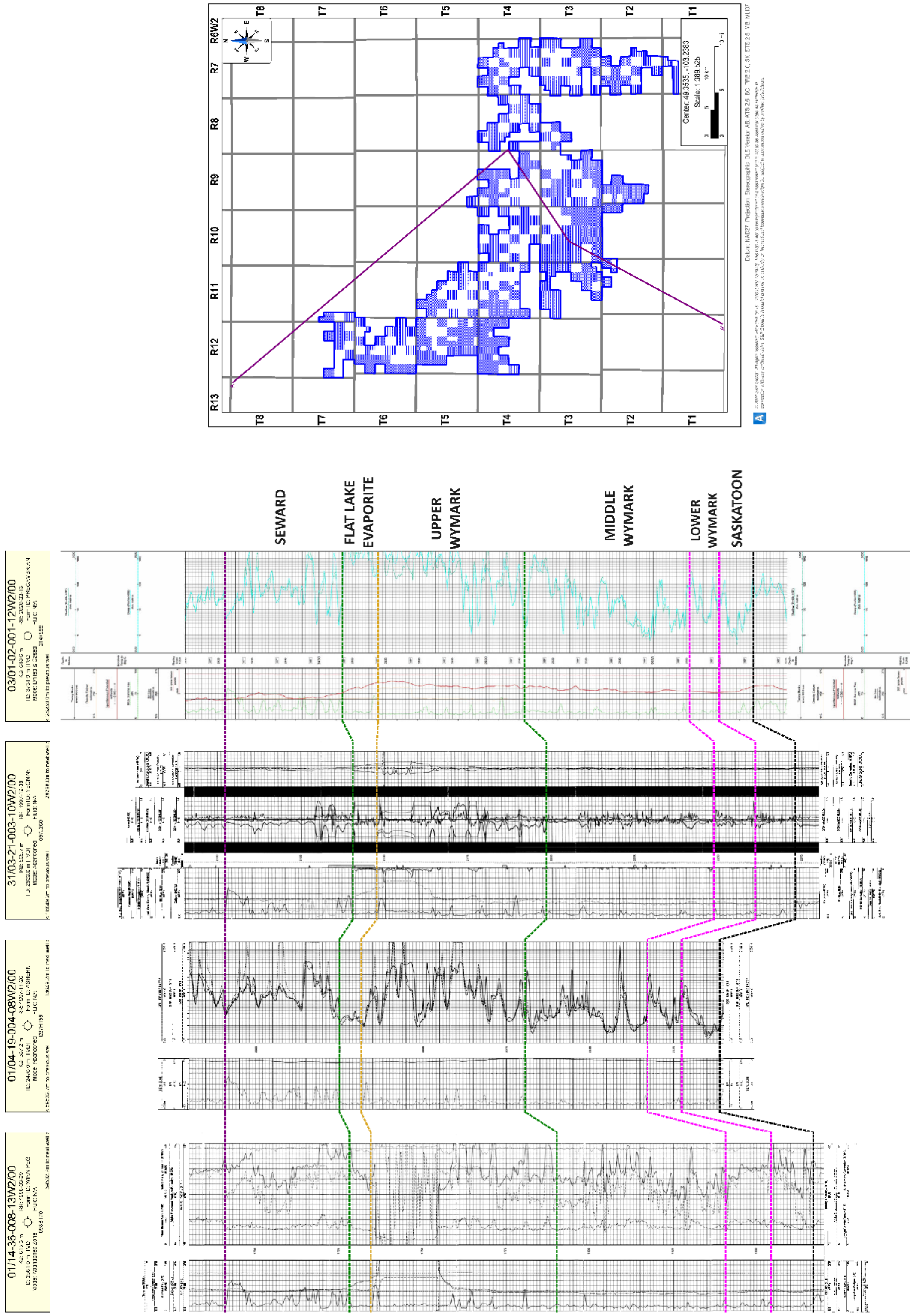

Figure 11: Cross Section: Showing Lithostratigraphic Correlations Across E3 Property Area and Beyond

7.4 Duperow Hydrogeology and Hydrostratigraphy

The Duperow aquifer has been mapped regionally and is continuous across the entirety of southern Saskatchewan and subcrops north of Saskatoon (Figure 12). The regional lithostratigraphic and hydrostratigraphic divisions are compared and shown in Figure 13. The Duperow aquifer includes the entire stratigraphic interval of the Duperow, with the Seward aquitard above. Due to the Seward aquitard, restricting inflow and outflow from the aquifer, the Duperow is defined as a large, confined aquifer. Previous studies done by Palombi (Palombi, 2008) show that the Williston basin recharges from the S-SW by tertiary outcrops which carry meteoric water through the subsurface from the Black Hills and Big Horn Mountains, which are located several hundreds of kilometers to the south of the project (Figure 14).

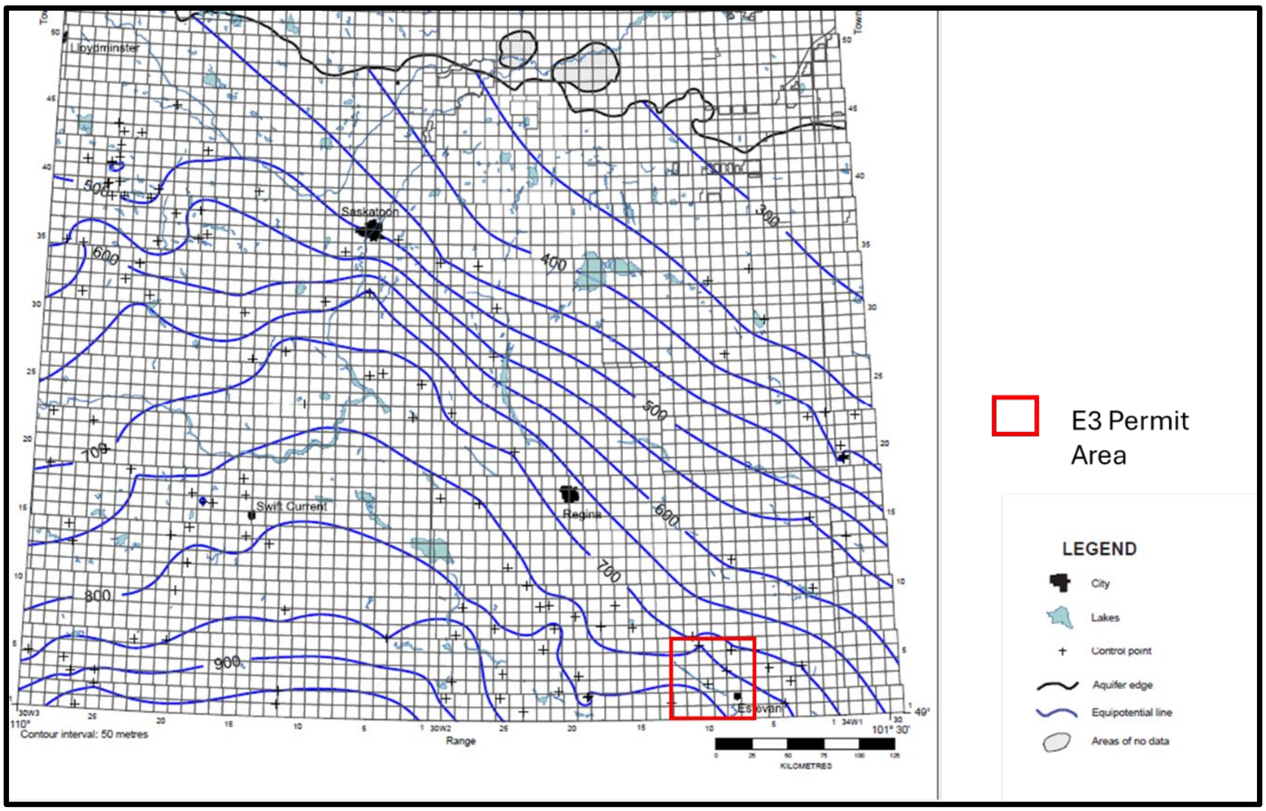

Figure 12: Extent and Hydraulic Head of the Duperow Aquifer (Saskatchewan Ministry of the Economy; Saskatchewan Geological Survey, 2015)

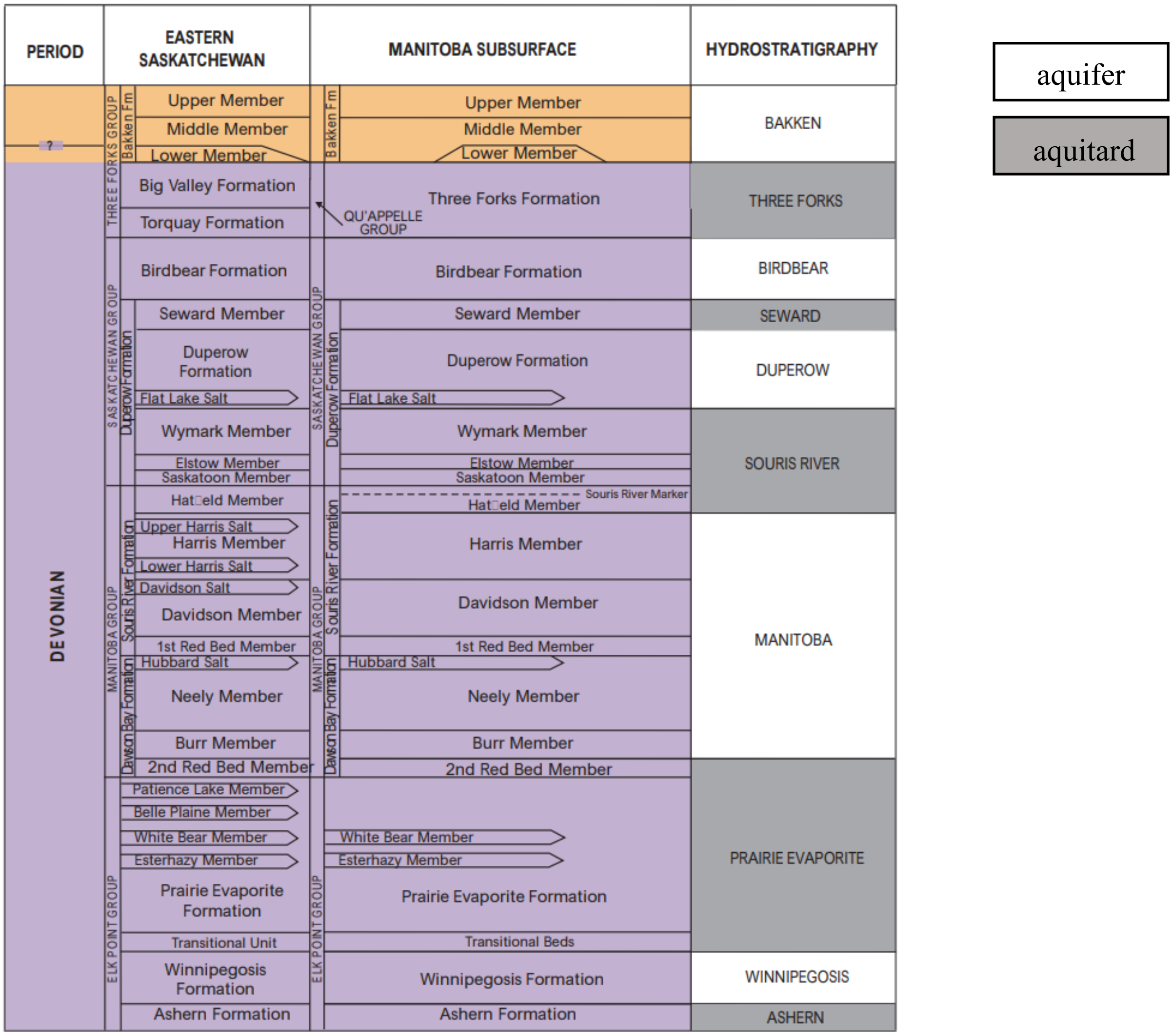

Figure 13: Lithostratigraphic and hydrostratigraphic correlations of the Williston basin aquifers showing the Duperow aquifer and Seward aquitard (Palombi, 2008)

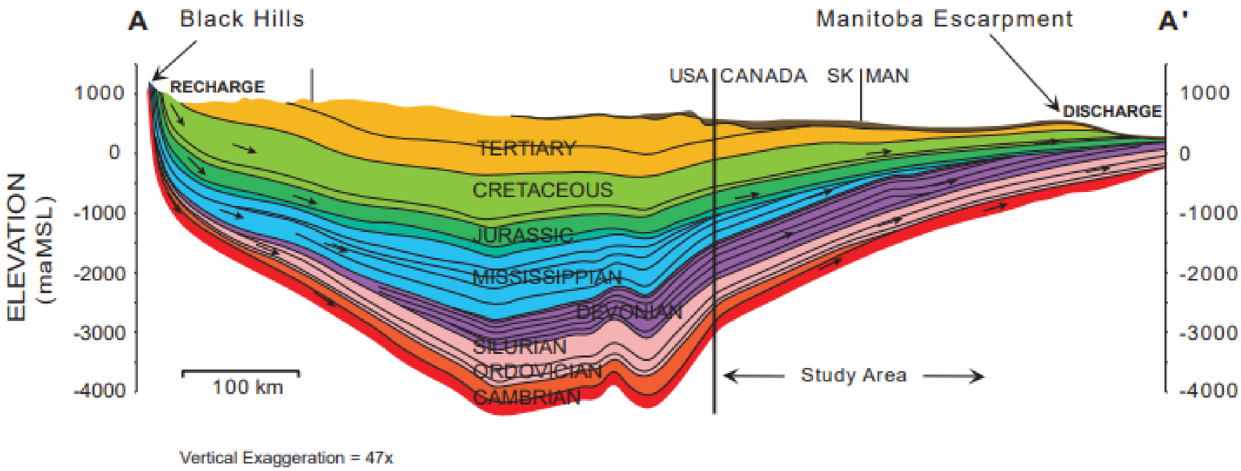

Figure 14: Regional structural cross section of the Williston basin strata showing recharge of the Williston basin aquifers from the Black Hills (Palombi, 2008)

Geochemical trends within the Duperow aquifer show TDS variations ranging from ~5 g/L in Northern Saskatchewan, to over 330g/l in SE Saskatchewan (Figure 15), with the E3 Permit area being mainly situated where the highest TDS values are.

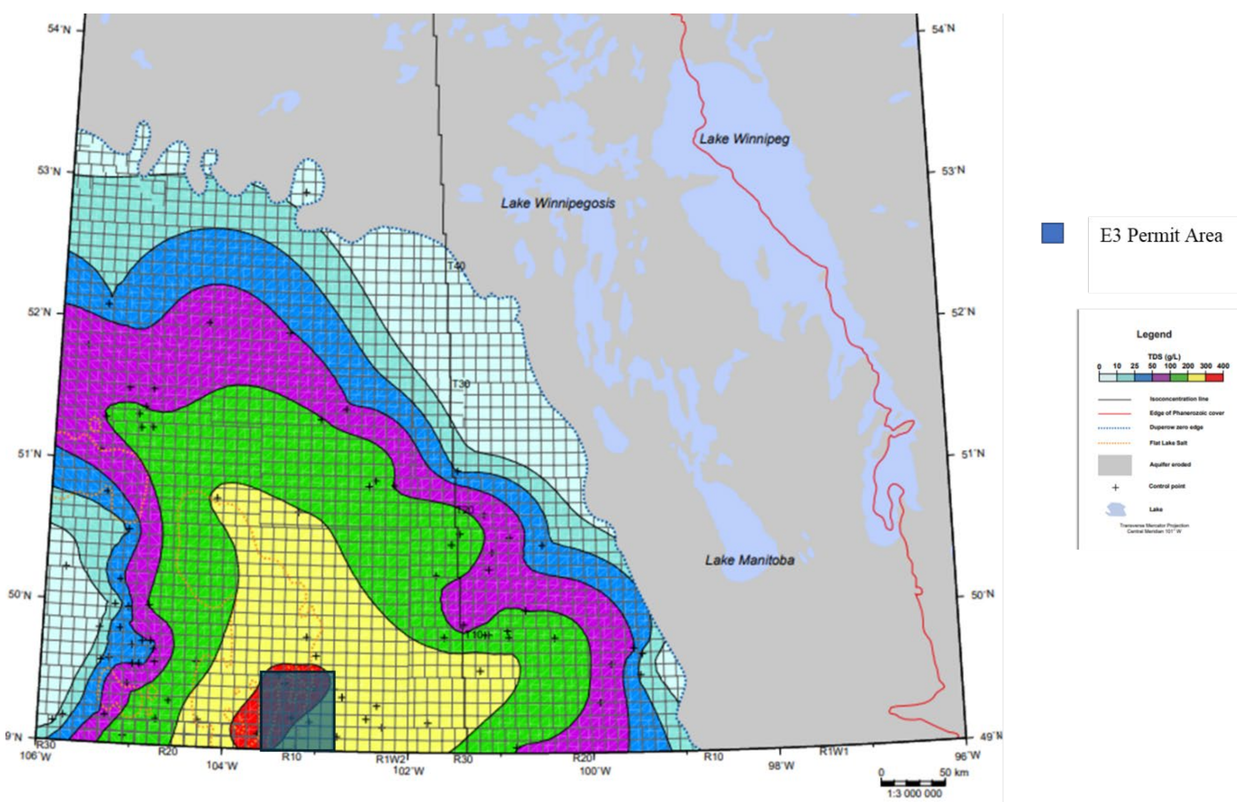

Figure 15: Regional variation in TDS within the Duperow aquifer (Palombi, 2008)

The source of lithium rich brines within the aquifer is not well understood. As discussed in Section 6, there have been studies measuring lithium in brines throughout Saskatchewan since 2002. Most recently, Rostron et al (Rostron, 2024) postulated that based on Chloride/Bromide ratios plotted against Sodium/Bromide ratios, the higher (+100mg/L) lithium brine samples coincided with bromide values elevated above the normal range for halite dissolution in Devonian seawater. This suggests that evaporative concentration mechanisms were occurring at the time, potentially enriching the paleo-seawater in conservative ions such as lithium. Brine geochemical analyses, specific to depths and zones within the Duperow were published in a PEA February 2024 by EMP Metals Corp., ROK Resources, and Hub City Lithium Corp (EMP Metals Corp., 2024); these analyses showed that despite differences in Li in the litho-stratigraphic intervals, the remaining brine chemistry was the same and the Duperow appears to be hydrostratigraphically similar throughout. This is consistent with the regional TDS mapping in Figure 15 for the combined aquifer interval and aligns with the regionally continuous pressure regime as indicated by the regional hydraulic head mapping (Figure 12). Additionally, the litho-stratigraphic intervals had similar cation and anion ratios and similar TDS and Stiff diagrams showing that the brine chemistry was consistent, although the lithium concentrations vary.

8. Deposit Types

E3 Lithium's resource is dissolved in formation water contained within confined aquifers in Devonian-aged carbonate rocks, with a vertical depth ranging from 1700 to 1900 meters. These types of deposits can be classified as low temperature geothermal brines, which refers to relatively deep >1km, pressure driven (i.e confined) reservoirs and aquifers, with <100degC temperature fluids, and higher TDS, >100,000 mg/L (Munk, et al., in review, 2024).

In contrast to these low-temperature deposits, high-temperature geothermal brine deposits (>100degC) are also hosted in pressure-driven (confined) reservoirs and aquifers but in deeper settings with higher temperatures (Munk, et al., in review, 2024). An example of a high-temperature geothermal brine deposit is the Salton Sea geothermal reservoir.

Shallow underground brine represents another significant lithium source, found in unconfined aquifers within evaporative, arid lowlands known as salars, mainly located in South America's "Lithium Triangle" encompassing Chile, Argentina, and Bolivia. They are also classified as closed-basin lithium brine deposits (Munk, et al., in review, 2024).

Globally, lithium is predominantly sourced from lithium-rich ores such as spodumene and petalite found in pegmatite rocks, with major hard rock lithium mines located in Australia, Zimbabwe, and Brazil. Alternatively, lithium deposits are found in hydrothermally altered saline lacustrine clays like illite and smectite, primarily in Nevada and Mexico. Serbia hosts a unique sedimentary lithium deposit known as jadarite ($LiNaB_3SiO_7(OH)$), interpreted as a fossilized salar/playa deposit, also known as paleosalar (Bradley, et al., 2017).

Because deep confined aquifers are regionally continuous over large areas, the exploration program for the Project Area relies heavily on regional data collected during exploration and production activities from other operators because it is expected that reservoir properties and grade can be extrapolated over large distances.

9. Exploration

This report relies predominantly on exploration information collected, compiled, and made publicly available by the Saskatchewan Government from historical oil and gas developments. The main exploration data type available in this data set are wireline logs. Wireline logs (also called well logs) are a standard tool employed by the petroleum industry when exploring and developing oil and gas resources. They provide physics-derived information about rock properties and fluid dynamics in the subsurface. This information is used to interpret the depths, lithology and fluid composition of subsurface rock formations. The practice of interpreting and quantitatively analyzing well logs is described as “petrophysics” in the oil and gas industry.

The well logs available in the area are as follows:

- Gamma Ray Log: measures the radioactivity of rocks and helps determine lithology
- Induction Log: measures formation electrical conductivity, and helps determine lithology and fluid composition
- Density and Neutron logs: measures hydrogen concentration and electron density, and helps determine lithology and total pore space in the rock
- Photoelectric logs: measures atomic weight of the rocks, and helps determine lithology

Core analysis is also routinely completed by the oil and gas industry. Standard oil and gas core analysis includes measurements of porosity and permeability. Various approaches can be taken to make these measurements (American Petroleum Institute, 1998). Typically, the porosity is determined by weighing the sample, then cleaning the sample and completely flushing all the liquid out of it. Sample is then dried in an oven and weighed again after. Then either air or helium is used to measure the pore volume and porosity is calculated based on the amount of total pore volume in the rock sample. Permeability is also typically measured using air and is measured in 2 directions. One is the direction that has the maximum permeability (Kmax) and the second is measured at 90 degrees to the maximum (K90). Comparing core analysis with measurements obtained in petrophysical logs helps to validate whether the log data is reasonable.

Lithium concentration measurements from six wells adjacent to E3's property area were utilized for lithium grade assessments in this report. These wells were specifically drilled for lithium exploration projects, were reported by the operators in NI 43-101 technical reports and have been validated by the authors of this report. Sample points include one for the Seward, seven for the upper Wymark, eighteen for the middle Wymark, one for the lower Wymark, and four for the Saskatoon member (see section 10). A total of 774 well logs featuring Duperow/Seward, and 564 Souris River Tops, as well as 338 well logs intersecting the upper, middle, lower Wymark, and Saskatoon members surrounding E3's Project area, were reviewed and interpreted to map the reservoir. Detailed petrophysical analysis of porosity was completed for 22 wells, 11 of which were calibrated to core data (see section 14). Porosity and permeability data were compiled for 57 cores, 13 of which were logged to validate the available descriptions of lithology and porosity in the units.

10. Drilling

There has been no drilling completed by E3 for this project as of the date of publishing this report. The assessment of lithium resources relies on historical well data obtained from oil and gas exploration, along with recently acquired data from wells drilled or recompleted by other lithium explorers adjacent to E3's project area, which were specifically designed to assess lithium concentrations and brine productivity.

Oil and gas drilling is almost exclusively mud rotary drilling, where a rotating drill bit attached to a drill string penetrates the subsurface layers and drilling mud is continuously circulated. Mud rotary is used because a high-density drilling mud can be kept topped up in the hole to act as a barrier to upward fluid migration from pressurized reservoirs during drilling. The drilling mud also acts to cool the drill bit and convey drill cuttings (also known colloquially in the industry as “chips”) to surface. The chip samples are analyzed by geologists to identify different rock types and establish the stratigraphy. As discussed in Section 9, open-hole well logging is conducted at specific depths to measure properties like gamma radiation and resistivity, acoustic properties, and other indicators. The data obtained from these logs are critical for validating and refining the stratigraphic interpretation based on chip samples and core analyses. The well logs also evaluate reservoir properties like porosity and permeability, crucial for assessing resources contained as fluid within porous rock.

Because the Project Area is within a sedimentary basin with limited structural dip, most exploration wells are drill vertically to assess these resources. Based on regional mapping (presented in Section 14), the Duperow Formation dips approximately 0.6 degrees to the south-southwest in the project area. If samples are collected from deviated wells, it is common practice in the oil and gas industry to conduct deviation surveys so that sample results can be corrected to the true vertical formation thickness. Of the wells reviewed, approximately 10% report that they came from deviated wells.

Arizona Lithium drilled three wells in their Prairie Lithium Project area (Arizona Lithium, 2023) targeting the Duperow formation. Arizona Lithium’s drilled wells are listed below:

- 101/14-33-002-12W2
- 104/01-02-001-12W2
- 141/16-20-003-12W2

EMP Metals has drilled a new well in their Viewfield permit area and recompleted two existing wells in their Mansur project area specifically aimed at collecting water samples for measuring the lithium concentration and conducting production tests in the Duperow formation. EMP Metals’ drilled/recompleted wells are listed below:

- 111/11-02-009-13W2 (Mansur/Recompleted)
- 101/14-36-008-13W2 (Mansur/Recompleted)
- 101/02-22-007-09W2 (Viewfield/New)

11. Sample Preparation, Analyses and Security

No samples were collected by E3 Lithium as part of this resource evaluation. This assessment instead relies on samples collected by others and validated by the authors of this report.

E3 and the authors have assessed water-chemistry data made publicly available by the Government of Saskatchewan, as part of their investigation into the mineral potential of brines in the region (Jensen, 2011; Jensen, 2012; Jensen, et al., 2013; Jensen & Rostron, 2017; Jensen & Rostron, 2018; Jensen, 2016; Jensen, et al., 2020; Rostron, et al., 2002) to evaluate the brine properties and to assess the formation. Additionally, brine samples were collected by other exploration companies with adjacent claims to E3 and have made that data publicly available through NI 43-101 reports (Arizona Lithium, 2023; EMP Metals Corp., 2023). The authors are of the opinion that the sampling procedures, analytical methods, and security are adequately described by Arizona Lithium and EMP metals that these data can be relied upon for the purposes of documenting a resource for the Project Area. Historical sampling conducted by government agencies was used to inform the broader understanding of the resource but has not been relied upon for the resource estimate.

11.1 Sampling Procedure and Sample Preparation

Sampling techniques were consistent between Arizona Lithium and EMP Metals. The wells were cased and then perforated over the zones of interest. During well testing, formation water was brought to the surface using an electrical submersible pump (ESP), and by swabbing small volumes of fluid. Zonal isolation was maintained by pressure-tested packers during swabbing operations. Samples were collected directly at the wellhead, or from sampling ports attached to flow lines as close to the wellhead as possible. The representative samples were collected in sample bottles, immediately sealed, and labeled with the date, time of day, sample number, and location. The samples were dispatched to analytical labs while maintaining rigorous chain of custody protocols. The specific sampling techniques utilized by Arizona Lithium and EMP Metals are thoroughly documented in their respective published technical reports (Arizona Lithium, 2023; EMP Metals Corp., 2023).

11.2 Sample Analysis

Arizona Lithium's on-site internal laboratory initially conducted a rapid analysis of lithium and sodium concentrations in sampled brines. Subsequently, selected samples underwent further confirmation at Isobrine Solutions, a commercial laboratory affiliated with Arizona Lithium, with a quick turnaround time. Isobrine Solutions utilized an ICP-OES for lithium and sodium analysis and employed an Ion Chromatograph (IC) to measure chloride concentrations. Additionally, Arizona Lithium engaged Element Materials Technology (Element) and AGAT Laboratories for sample analysis. Both are large and reputable ISO-certified commercial laboratories accredited for their services. Element conducted lithium analyses using an ICP-MS, while AGAT utilized both ICP-MS and ICP-OES for lithium analysis.

EMP Metals opted to analyze their water samples at Isobrine Solutions to determine dissolved lithium concentrations, alongside other major dissolved metals, which were measured using ICP-

OES. An Ion Chromatograph (IC) was utilized to measure dissolved chloride, bromide, and sulfate concentrations.

The wells used to determine lithium grade over the Duperow stratigraphic intervals are listed below in Table 5:

Table 5: Lithium Concentration Measurements Per Stratigraphic Interval in 6 Wells Used for Resource Estimate

UWI	Li Conc. (mg/L)	Li Conc. (mg/L)	Li Conc. (mg/L)	Li Conc. (mg/L)	Li Conc. (mg/L)	Li Conc. (mg/L)
	Seward	Fl Lk Evaporite	Upper Wymark	Middle Wymark	Lower Wymark	Saskatoon
111/11-02-009-13W2			93	44		46
				86		
				53		
101/14-36-008-13W2			43	61		43
			103	148		
				77		
				59		
101/02-22-007-09W2			64	259		145
			220	167		
				98		
				94		
101/16-20-003-12W2			137	113		
				103		
101/14-33-002-12W2	99		172	149	68	48
				135		
				130		
				98		
103/01-02-001-12W2			166	132		53
P50 Concentration	99		120	101	68	48

11.3 Security

Samples were collected, shipped, and analyzed in laboratories, following a rigorous chain-of-custody protocol to ensure result integrity. This included the use of proper seals, labels, and documentation for chain-of-custody.

12. Data Verification

The authors have conducted a comprehensive review of all technical data compiled by E3 and third-party information presented in this report. The verification process entailed scrutinizing third-party reports and, wherever feasible, independently confirming the validity of data provided by E3.

Specific validation steps included:

- Reviewing geological picks provided by E3 to define the hydrostratigraphic model of the resource independently in Accumap software and comparing to available geophysical logs.
- Confirming publicly available core data used to evaluate the resource existed in Accumap. The QP's recreated the porosity and permeability cross plots (discussed in Section 14) from the raw core data in Accumap and compared to results provided by E3. The QP's also completed a frequency analysis of permeability and porosity data from the core to verify the porosity cut-off recommended by E3 (discussed in Section 14).
- Conducting a detailed review of provided third party resource evaluation reports and compared the Arizona and EMP resources lithium results to the regional historical government sampling campaigns.

It is the author's opinion that the dataset compiled by E3 is suitable for the purpose of evaluating a lithium brine resource for the Project Area.

13. Mineral Processing and Metallurgical Testing

Mineral processing and metallurgical testing have not been carried out for this project at this time.

14. Mineral Resource Estimate

The mineral resource estimate was completed by a multi-disciplinary team led by E3 and supervised by Alex Haluszka and Jason Clarke of Matrix Solutions Inc. acting as the QPs. The estimate was completed using volumetric analysis based on the geological parameters: reservoir geometry, porosity, permeability, and lithium concentrations. The mineral resource estimate benefited from a considerable amount of data compiled by the oil and gas industry and made public by the Government of Saskatchewan.

Key data sets used to determine reservoir brine parameters in the resource area include core plug analyses (effective porosity/ 'PhiE' and permeability), and wireline logs (lithology, total porosity/ 'PhiT' and relative permeability). Figure 16 illustrates the well locations pertaining to the specific dataset collected.

Table 6 details the methodology and datasets used to define attributes used to define the static model. The extractions for the rock volume and pore volume were taken from 2D property mapping across the E3 claims area, described in further detail below.

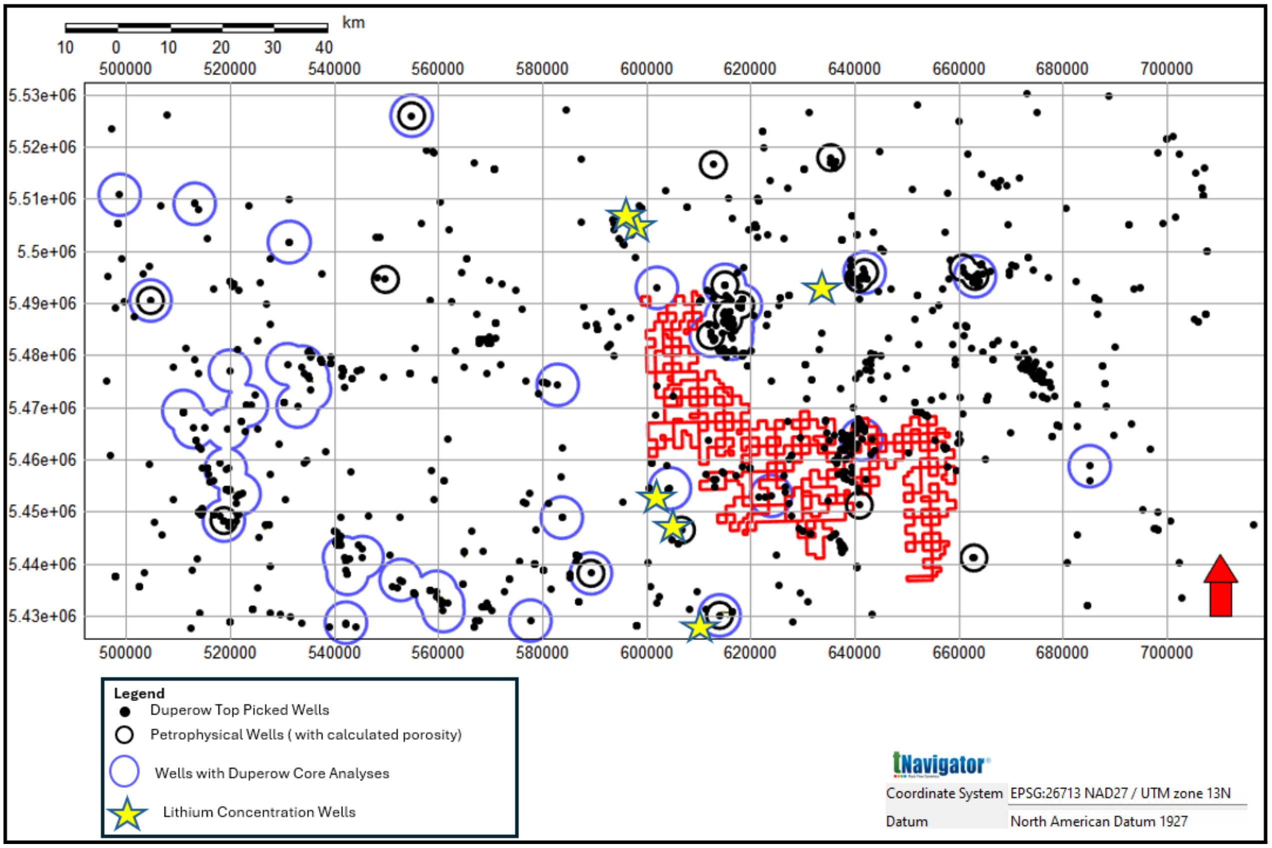

Figure 16: Data Locations for Resource Estimate Relative to Project Area.

Table 6: Methodology and datasets used to define static model and 2D property mapping inputs.

Parameter	Methodology	Data Used
Area Geometry	Large areal extent for building the model around the E3 land base, was largely defined by the wells with core data- porosity and permeability measurements. E3 claims area polygon was extracted from a larger mapping area (Figure 10) that included wells with core analyses (quantitative porosity and permeability measurements) and sampled for lithium grade by a credited lab.	
Structure & Thickness	• Single P50 (median) net reservoir thickness (based on a 2% porosity cutoff) applied across the E3 claims area.	• 774 wells with Duperow/Seward and 564 Souris River Tops (51 and 48 respectively, within Project Area) • 338 wells with Upper Wymark, Middle Wymark, Lower Wymark and Saskatoon Member (40 within Project Area)
Porosity	• Single P50 effective porosity (log PhiE curves with a 2% porosity cutoff) applied for Seward,	• 57 locations with core analysis (2 within Project Area)

	Upper Wymark, Middle Wymark, Lower Wymark, and Saskatoon Member; effective porosity was obtained from PhiE logs modelled by petrophysicist, and a subset of these PhiE curves had core calibration.	• 22 wells with PhiE curves- 11 of these 22 well/logs PhiE was calibrated to core data (all located outside of Project Area)
Permeability	• Permeabilities (K90) measured from core analyses range from 0.01mD to > 300mD	• 57 locations with core analysis (2 within Project Area)
Lithium Grade	• Single P50 lithium grade/concentration, for each flow unit, Seward Upper Wymark, Middle Wymark, Lower Wymark, and Saskatoon Member	• 6 wells were used to derive a P50 lithium grade for each flow unit (all located outside Project Area)
Fluid saturation	• Fixed value of 99% used as input	Assumed 1% dissolved gas volume in the brine as a safety factor

14.1 Structure and Thickness

The top and base of the Duperow can be seen in Figure 17 & Figure 18. The Seward, Upper Wymark, Middle Wymark and Lower Wymark all demonstrate relatively consistent thicknesses within the Duperow, indicating the stable structural conditions that were occurring at the time of deposition. Gross thickness values across the E3 land base for each of the zones of interest are summarized in Table 7.

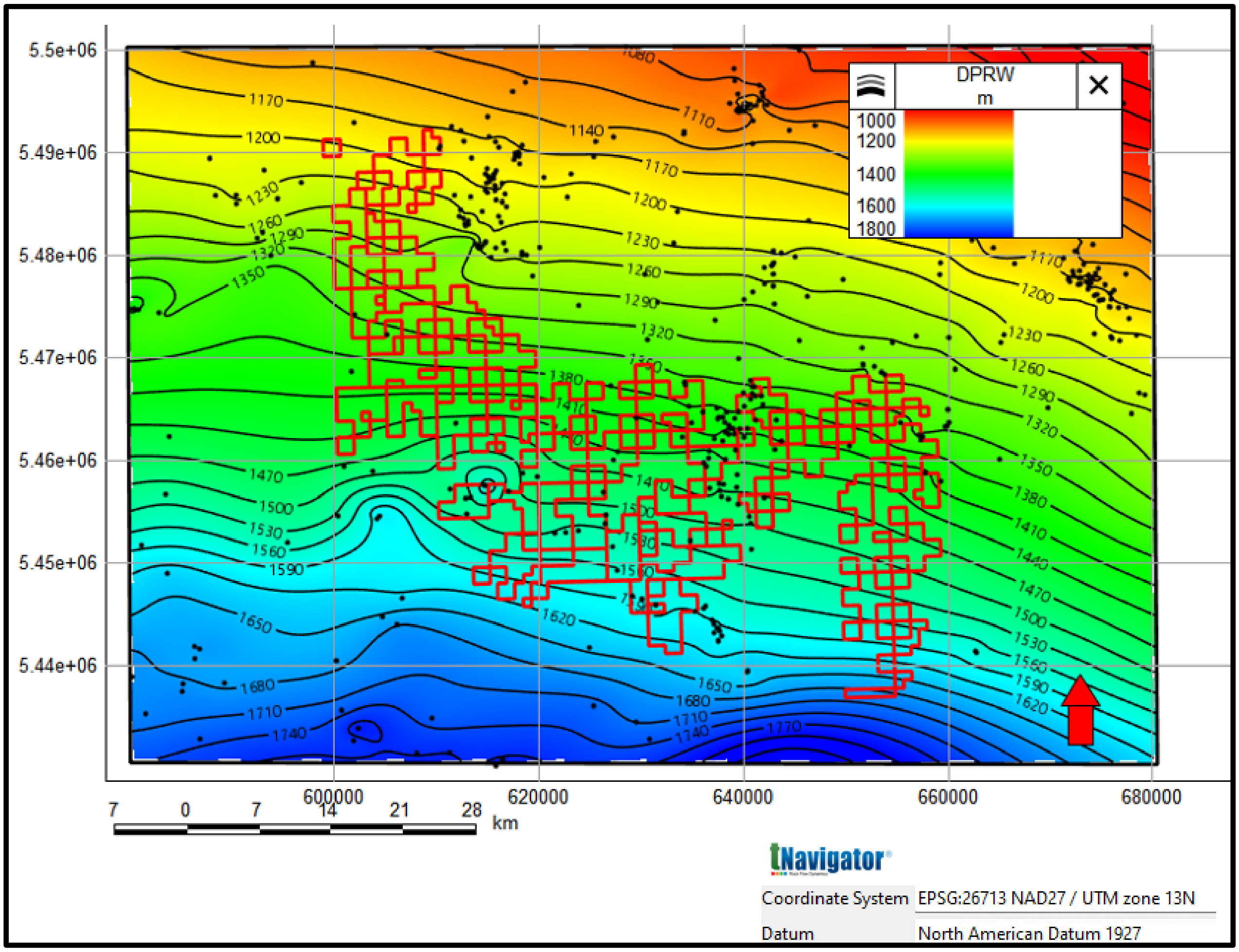

Figure 17: Top of the Duperow TVDSS (True Vertical Depth Subsea) across the E3 land base.

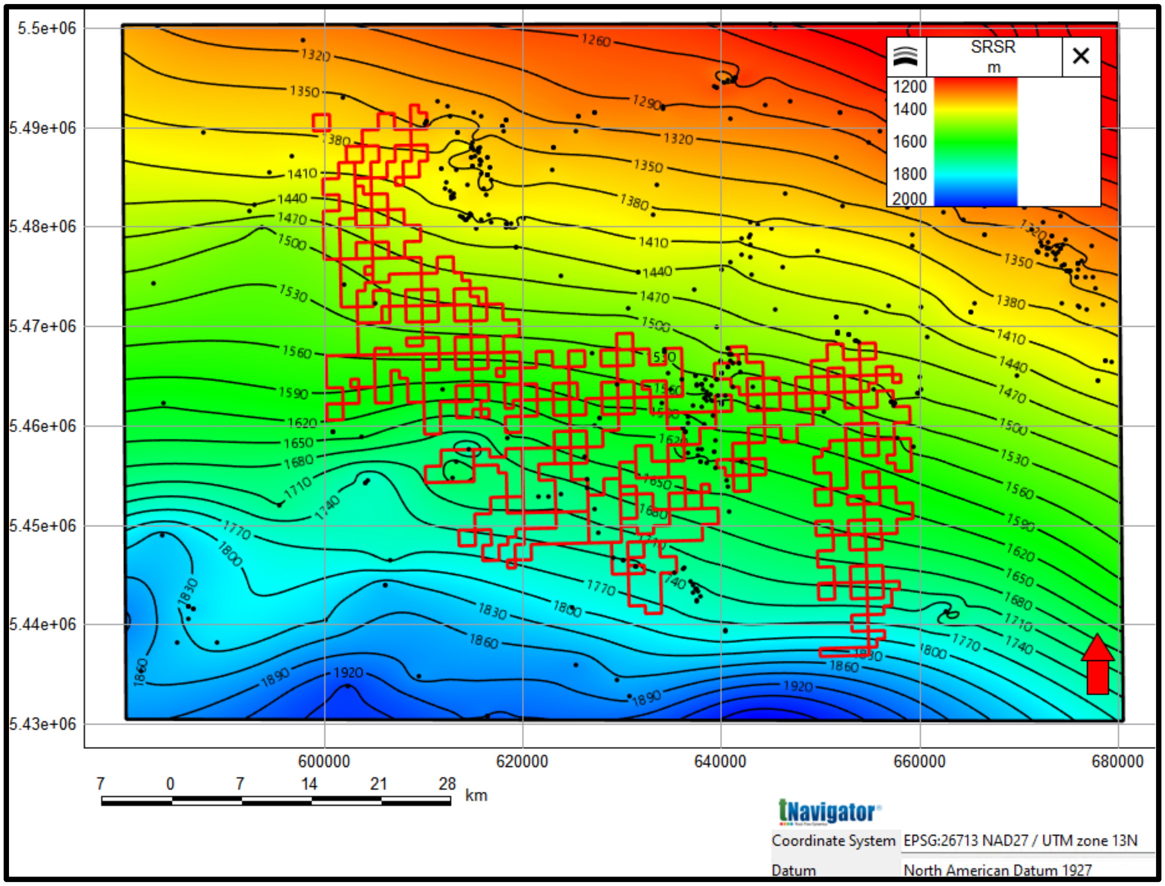

Figure 18: Top of the Souris River TVDSS across the E3 land base

Table 7: Ranges of gross thicknesses (minimum, averages and maximum) across the E3 land base.

Zone	Seward	Upper Wymark	Middle Wymark	Lower Wymark	Saskatoon Member
Minimum Thickness (m)	33	23	45	6	7
Average (m)	44	30	52	10	12
Maximum Thickness (m)	52	39	63	13	27

14.2 Reservoir Porosity

Current CIM guidance for lithium brines indicates that specific yield should be utilized for resource estimates (Canadian Institute of Mining, 2012). This guidance was developed based on salar resources and based on the following discussion, we believe that for deep, confined, carbonate reservoirs where pressure in the reservoir will be maintained using re-injection, estimating the recoverable volume based on effective porosity and not excluding irreducible water saturation in place of specific yield is appropriate.

Specific yield is defined as the amount of water that drains from the connected pores under gravitational forces (Woessner & Poeter, 2020) and an analogous petroleum geological term would be "recoverable volume", although reservoir drive mechanisms replace gravitational forces. Gravitational forces are not the driving mechanism for deep, confined reservoirs; instead, reservoir pressure is the dominating force. Reservoir pressures will be maintained during production, which means that the fluid level will not drop, and therefore the formation will not be dewatered, and pressure balance will be maintained. This means that the reservoir porosity will remain fully saturated during production, unlike in the definition of specific yield which replaces brine saturation with air. Furthermore, in this scenario total system compressibility (i.e. specific storage), is not a controlling factor on the producible volume because the reservoir pressure is being maintained.

The petrophysical analysis completed to derive effective porosity for the various members of the Duperow was completed by a third party petrophysicist. The QP's reviewed the outputs from this work and believe it accurately represents an estimate of effective porosity of the reservoir. A summary of this work is described in the following section.

The porosity of the five reservoir zones was determined from calculated effective porosity from well logs for 22 wells outside of the E3 land base (Figure 16). These wells were selected based on proximity to the E3 land base, and availability of core data. Core data was used to calibrate total porosity (evaluated by the geophysically measured density porosity) to effective porosity, as measured from the core.

Core porosity measurements are expected to be a direct measurement of connected pore space because porosity is assessed via gas injection. Therefore, the estimated PhiE from well logs was validated against core porosity measurements where available (Figure 19). This validation was completed at 11 of the 22 well log locations where core data was available. Due to the mixed mineralogy of the Duperow formation, and the scaling limitations regarding log data interval measurements vs. core intervals it is not possible to get a 1:1 correlation for log porosity to core porosity, but there was a reasonable match between the measurements of core data to log data, particularly where the rock was dolomitized. Additionally, from the cross plot it is seen that the derived PhiE from logs more typically underestimated the core porosity in areas where the values did not match. The actual porosity values applied to each member were established after a two-dimensional interpolation of porosity across the mapping area. This is discussed further in section 14.3 below.

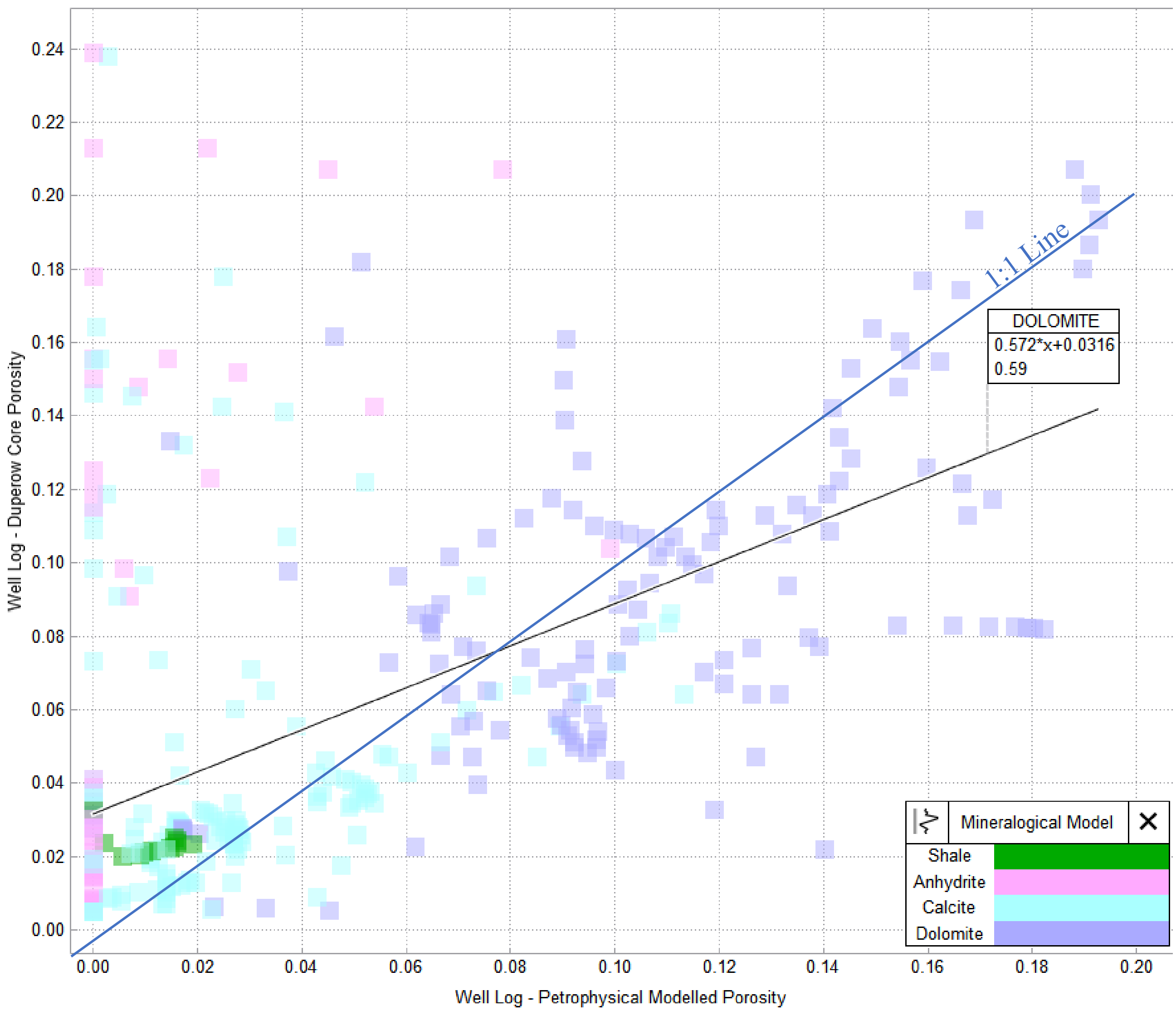

Figure 19: Cross Plot of PHIE Derived from Petrophysics with Core PHIE Measurements Sorted by Lithology

14.3 Porosity Mapping, Reservoir Permeability and Porosity Cut-off for Net Thickness

E3 used the PhiE curves described in section 14.2 above to generate 2D porosity maps using tNavigator, a software developed by Rock Flow Dynamics, which is a high-performance tool for integrated static and dynamic reservoir modelling. A convergent interpolation method was used to create the 2D property grids, which is a method based on an iteration algorithm, where the term 'iteration' refers to four steps: decreasing the grid increment; assigning values to the grid nodes; addition of the current residual grid from the previous iteration; and smoothing the cumulative grid. Through these iterations, the grid converges on an optimized result. Parameters specified in the convergent interpolation included a grid size step of 100m and a grid refinement ratio of 1.5. P50 (median) porosity values were extracted from the grid nodes within the claims area for each member of the Duperow, which are shown in Table 8 (P50 Effective Porosity of Interval).

Table 8: P50 (median) values, extrapolated from 2D property mapping across the E3 land base

Zone	P50 Effective Porosity of Interval	P50 Net Thickness with a 2% Porosity Cutoff (m)	P50 Li Concentration (mg/L)	Number of Li Concentration Samples
Seward	3.3%	26	99	1
Upper Wymark	3.5%	13	120	8
Middle Wymark	7.3%	44	101	18
Lower Wymark	8.1%	6	68	1
Saskatoon Member	8.6%	10	48	5

Net thickness is defined as the total thickness of the reservoir with total porosity above a 2% porosity cut-off. A porosity cut-off is applied to represent the lower productive limit of a formation, below which the rock is not expected to materially contribute to fluid production. This 2% cutoff was established based on porosity permeability cross plots generated from the available core data in the study area. The cut-off was applied to the available PhiE curved to evaluation the reservoir thickness.

The cross plot (Figure 20) between core porosity and core K90 permeability shows the majority of the permeabilities to be above 1mD using a 2% porosity cut-off. There are studies completed in conventional oil and gas reservoirs that show economic production of hydrocarbons below 1mD of permeability (Friesen, et al., 2017), and considering that oil is more viscous than brine, it can be assumed that it will flow at a similar or lower permeability than oil (based on Darcy's law). Darcy's law is as follows: $q = k \div \mu * \Delta p$, where: q=instantaneous flow rate, k=permeability, μ=dynamic viscosity of the fluid, and Δp =pressure drop.

The below Table 9 summarizes the core permeability data for the Duperow over the Project Area. The range of permeabilities comprise values as low as 0.01 mD and to up 265 mD. The p50 of the dataset shows 13.9 mD, and the geometric mean (geomean) is 6.9 mD.

Table 9:Summary of Core Data Permeability in the Duperow

Minimum Permeability (mD)	Maximum Permeability (mD)	P50 Permeability (mD)	Geomean Permeability (mD)
0.01	265	14	7

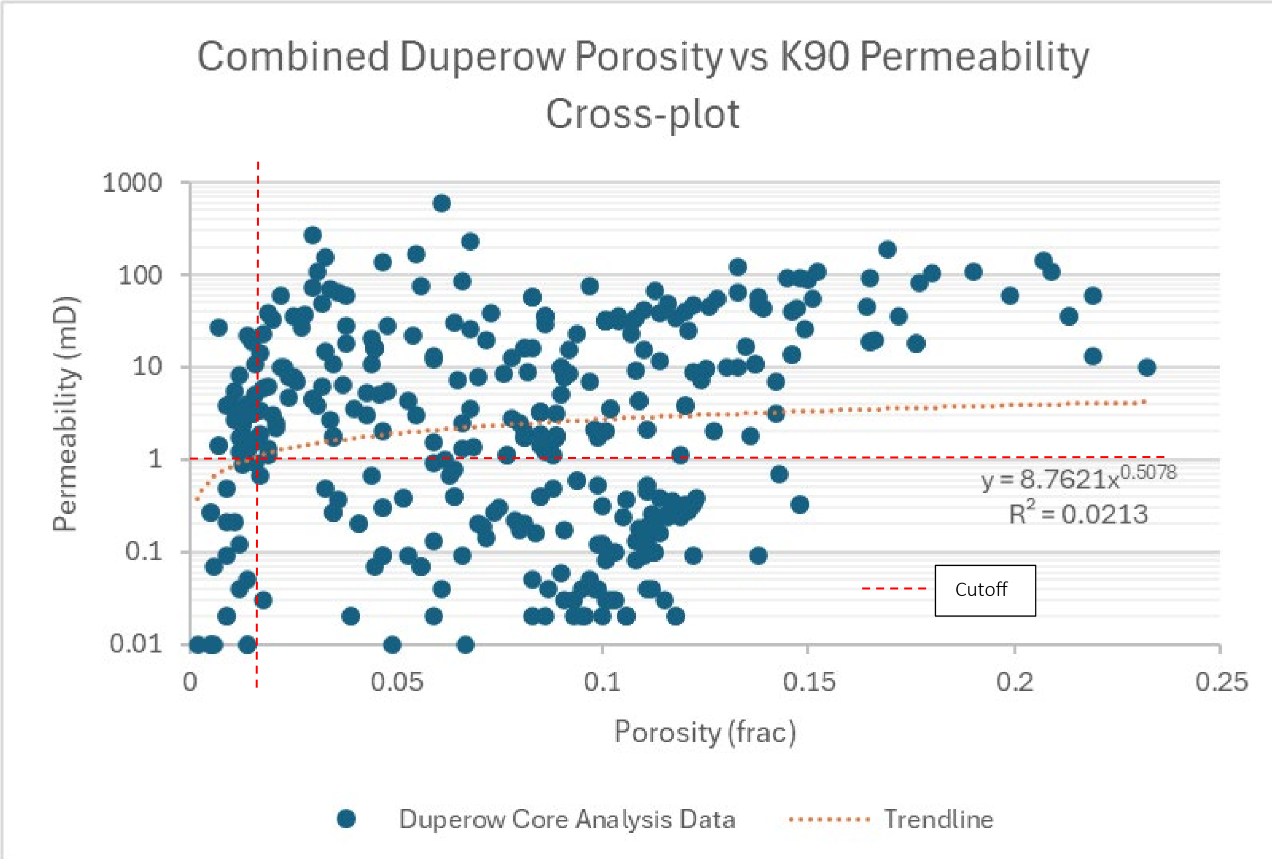

Figure 20: Cross plot of porosities and k90 permeabilities from core in the Duperow

14.4 Lithium Concentration

Continuity of the Duperow reservoir was demonstrated in Section 7 through Figure 9 and Figure 11 showing that the individual Duperow sub-members and members, are lithostratigraphically continuous across the Project Area and beyond. Grade continuity throughout the lithostratigraphic intervals is generally consistent over long distances within each of the lithostratigraphic intervals. The regional hydraulic head data presented in section 7 indicates that the Duperow reservoir is regionally pressure connected (hydraulic head is an indirect measurement of reservoir pressure). There is a historical lithium measurement within the E3 property area in the Upper Wymark in the Property Area from the 01/04-19-004-08W2 well that was taken as part of a regional sampling program undertaken by the Saskatchewan Geological survey in 2002 (Rostron et al, 2002). The lithium grade in the Upper Wymark was found to be 108 mg/L, and the TDS was ~307,000 mg/L which correlates to offsetting wells to the north and south of the property (Figure 21). The TDS also correlates with the regional TDS mapping in section 7 which supports the overall continuity of the brine chemistry across the property as well. For these reasons, the report authors believe it is appropriate to utilize the lithium grade measurements from adjacent properties to inform this resource evaluation report.

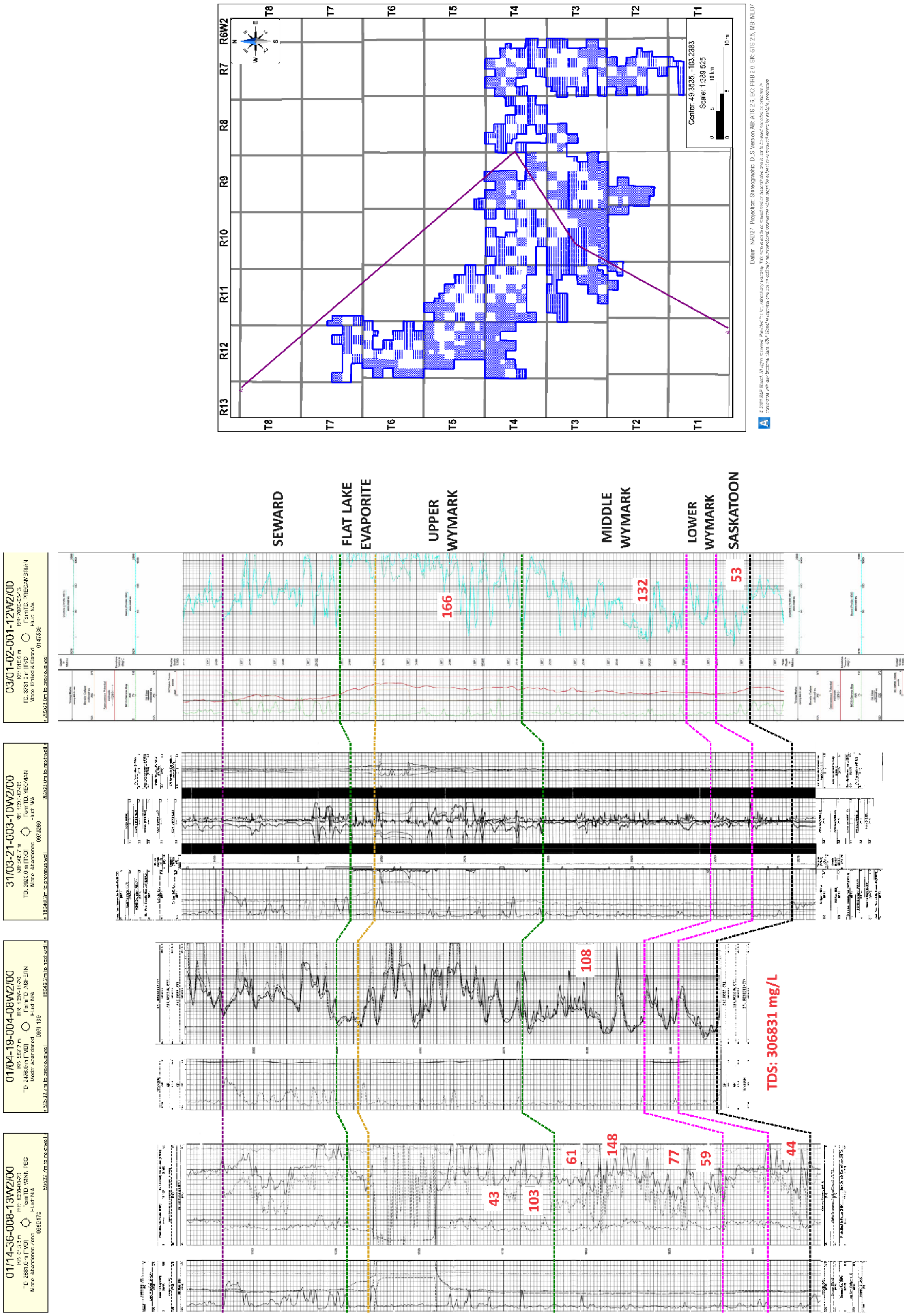

Figure 21: Cross Section: Showing Lithostratigraphic Correlations and Continuation of Elevated Lithium Grade (overlaying red text representing measured Li concentration in mg/L) Across E3 Property Area and Beyond

Lithium concentration measurements in the Duperow stratigraphy vary between the respective zones, indicating that the individual zones are hydrostatically connected laterally, but not necessarily vertically. The zones are divided based on the type-log (Figure 8): Seward, Upper Wymark, Middle Wymark and Lower Wymark. Existing lithium measurements from six wells in and around the E3 land base were available (as described in Section 11). Estimated grade values for the claims area were derived using these measurements and a P50 value was used if multiple measurements were available (Table 8)

14.5 Estimate of Brine Resource Volume and Lithium Resource Estimate

E3 and Matrix Solutions developed a methodology for calculating brine resource volume estimates in deep saline aquifers (Pugh, et al., 2024).

The resource is classified using the following terms: OLIP (original lithium in place), PLIP (producible lithium in place), and RLIP (recoverable lithium in place). OLIP represents the total amount of lithium within the formation that is theoretically available for production. It is based on the total brine volume contained in the effective pore space and calculated using the concentration of lithium within the brine. PLIP represents lithium in place that can be brought to the plant inlet for processing, considering modifying factors related to subsurface extraction (i.e. sweep efficiency). RLIP represents lithium that can be recovered and extracted from the brine using direct lithium extraction technology, and as such would also be subject to modifying factors related to surface processing (i.e. lithium recovery). PLIP and RLIP would be estimated as part of a Mineral Reserve estimate.

For this report the brine volumes were calculated using the 2% porosity cut-off to generate a net pay for each interval (Table 8). The volumes for each interval were then multiplied by the P50 lithium concentration for each interval. The volumes, concentrations, OLIP tonnage and lithium carbonate equivalent (LCE) tonnage are presented in Table 10 below. The numbers have been rounded to reflect the fact that they are estimates. A conversion factor of 5.323 was used to convert elemental lithium mass to lithium carbonate equivalent (LCE). The resource estimate for E3's Estevan property area is ~2,545,000 t of LCE. This resource estimate is classified as inferred due to the geological evidence being sufficient to imply but not verify geological, grade or quality continuity. Inferred mineral resource estimates can be upgraded to indicated and measured mineral resource with continued exploration. At that time, modifying factors can be applied to indicated and measured mineral resources, enabling them to be categorized as mineral reserves.

Table 10: Lithium Resource Estimate Summary

Interval	Brine Volume (m3)	P50 Li Grade (mg/L)	OLIP (t)	LCE (t)
Seward	898,000,000	99	89,000	473,000
Flat Lake Evaporite	0	N/A	0	0

Upper Wymark	630,000,000	120	76,000	402,000
Middle Wymark	2,541,000,000	101	257,000	1,366,000
Lower Wymark	398,000,000	68	27,000	144,000
Saskatoon Member	624,000,000	48	30,000	159,000
Total	**5,091,000,000**		**478,000**	**2,545,000**

15. Reserve Estimate

The Project is in an early stage and a mineral reserve estimate can not be evaluated at this time.

16. Mining Methods

To produce lithium, the reservoir water will be pumped to the surface from a drilled production well as produced brine. Brine will be transported via pipeline to a central processing facility where it will be processed at the surface to remove the lithium, leveraging DLE (direct lithium extraction) technology. The lithium-depleted brine will be injected into the reservoir using injection wells for pressure support and to maintain the reservoir voidage replacement ratio (VRR).

Arizona Lithium performed two production tests in 2021 on their 14-33-002-12W2 well. The tests lasted for just under 2 days each with one testing the full Duperow Formation interval, and the other performing an isolated test of the Upper and Middle Wymark sub-members. These tests sustained rates of 610 m3/d and 510 m3/day respectively. Modeling indicates that these wells could produce up to 2300 m3/d and 3600 m3/d. In 2022, Arizona Lithium performed a pump test on their 16-20-003-12W2 well and pumped 200 m^3/day and 400 m^3/day over a 3.5-day duration (total brine produced was 870 m^3).

A high-level estimate of potential well deliverability for the claims area was calculated using the data compiled for this report using the Farvolden equation (Farvolden, 1959):

$$Q_{20} = 0.68 * T * H_a * 0.7$$

Where:

Q_{20} = brine production rate sustained for 20 years
T = transmissivity (m^3/d)
H_α = available hydraulic head (m)

Hydraulic conductivity of the reservoir was determined from the P50 core permeability of 14 mD and the assumed representative bulk properties of the water at reservoir salinity, temperature and pressure conditions (viscosity of 4 x 10^{-4} Pa s and a density of 1,150 kg/m^3). Transmissivity of the reservoir was determined by multiplying the mapped average reservoir net thickness (cumulative average net thickness of all members of the Duperow reservoir) by the hydraulic conductivity. The available head was evaluated by subtracting the average elevation of the Duperow reservoir in the claims area (-1350 masl) from the average hydraulic head elevation (750 masl).

The calculation is as follows:

$$Q_{20} = 0.68 * \left(0.034\frac{m}{d} * 99\ m\right) * 2100\ m * 0.7$$

The result of this calculation is a theoretical single well production rate of 3,365 m^3/day. This value is relatively well aligned with the well production rates evaluated by Arizona Lithium described above and production rates of this order will support a reasonable prospect for eventual economic extraction.

17. Recovery Methods

No work has been completed to date for this section for E3's Project Area.

18. Project Infrastructure

No work has been completed to date for this section for E3's Project Area.

19. Market Studies and Contracts

No work has been completed to date for this section for E3's Project Area.

20. Environmental Studies, Permitting and Social or Community Impact

No work has been completed to date for this section for E3's Project Area.

21. Capital and Operating Costs

No work has been completed to date for this section for E3's Project Area.

22. Economic Analysis

No work has been completed to date for this section for E3's Project Area.

23. Adjacent Properties

A variety of offsetting crown mineral permits have been issued since 2018, when the government of Saskatchewan started offering subsurface mineral land sales. More than 500,000 Ha worth of mineral permits have been issued by the crown in the Estevan Lithium District in SE Saskatchewan since that time. Figure 2 in section 5.1 shows the crown permits that have been issued through these crown land sales. There are additional outstanding freehold permits that are interspersed within the crown lands, and adjacent to the Project Area that are privately owned by the freehold title owners, which can include individuals or corporations.

Several companies in the area have acreage and have continued to do exploration work over their land holdings including Arizona Lithium, and EMP/Hub City Lithium, who have both conducted sampling and production testing in the area and have published NI-43-101 and JORC reports. Additionally, there is Living Skies Lithium, Pristine Lithium, and Flowing Lithium who have crown mineral permits, but have not released any test data publicly to date.

24. Other Relevant Data and Information

The Government of Saskatchewan has a published guidebook for lithium from formation water (mineral brine) exploration and operations that was released in 2022 and outlines the regulatory and application process for brine testing, production, and facility development. It contains the necessary references to the legislation and regulations that ensure the application processes can be completed (Ministry of Energy and Resources, Saskatchewan, 2022). The existing framework in Saskatchewan has existed for both mining and oil and gas extraction for several decades, and brine mineral resource development leverages the existing and established guidelines and frameworks from both industries and can be referenced as projects move through exploration to commercial development.

25. Interpretation and Conclusions

The following are the interpretations and conclusions of the report authors:

- E3's Project Area spans ~67,000 Ha over an area in SE Saskatchewan that contains Lithium in deep saline brines within the Duperow Formation. The stratigraphy of the Duperow indicates that there is similar reservoir quality and characteristics as the Duperow Formation within offsetting properties in the area and contains brines from the Duperow regional reservoir.
- E3 leveraged data from historical oil and gas exploration and offsetting brine mineral lease holders to evaluate the resource potential of the reservoir within the Duperow strata. This evaluation found that the Duperow reservoir has several distinct stratigraphic intervals that can be regionally correlated using lithostratigraphy. These lithostratigraphic units appear to also behave as regionally continuous aquifer or reservoir units and contain different concentrations of lithium.
- Lithium concentrations used to calculate the resource estimate ranged from 43-259 mg/l within the various lithostratigraphic intervals. The lithium resource in place was calculated using a volumetric approach using a net thickness and effective porosity above a 2% cutoff over each interval and calculating volumes within each interval and using the available grade data for each interval to determine the potential lithium resource in place.
- The lithium resource estimate for E3's Estevan property is defined as an Inferred Resource and the quantity is **~2,545,000 *t LCE***
- An estimation of water production potential from the combined Duperow reservoir thickness shows that the reservoir is capable is producing at sufficient rates to be a reasonable prospect for economic extraction. This estimation is validated by production testing on the Duperow by adjacent mineral lease holders as well as historical oil production.

- The authors believe that the benefits of reinjection of depleted brine into the same reservoir (maintaining pressure and voidage replacement) outweigh the potential negatives (resource dilution). It is specifically the planned reinjection that justifies the use of effective porosity in the resource estimate and minimizes the need to consider the effects of irreducible water saturation and reservoir compressibility on the resource producibility.

26. Recommendations

E3 is continuing to advance evaluation of the resource present at the Project Area. The following recommendations from the authors are provided to support this continued evaluation.

There are two phases of work programs recommended by the authors. It is expected that these phases can be advanced in parallel and are not dependent on the outcomes of either work phase.

Phase 1: Data Collection within the Project Claims Area

- Conduct additional brine sampling through swabbing, wireline packer testing or sampling of existing production wells within the property area to increase confidence in the reservoir grade data:
    - Local data should be collected within the claims boundary to confirm the interpretation that the resource is continuous.
    - A larger dataset of verified samples should be compiled and statistically evaluated to confirm that the grade distribution is homogeneous laterally within the reservoir sub-units
- Drilling and reservoir testing within the claims boundary to increase confidence in deliverability and reservoir properties (permeability) locally within the claims area.
- Conduct reservoir simulations and flow modeling to establish and optimize a commercial production and injection well network, specifically focused on potential dilution of the brine reservoir through reinjection of depleted brine.

The estimated costs to complete the Phase 1 work is $3,000,000 CAD.

Phase 2: Evaluation of Mineral Extraction and Processing Technologies

- Complete an evaluation of extraction technologies based on brine samples collected from the claims area to confirm that a suitable technology exists and can support a reasonable prospect of economic extraction.

The estimated costs to complete the Phase 2 work is $1,000,000 CAD.

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