

ALBERTA DATA PARTNERSHIPS

Stakeholder Session Report

Edmonton

December 6, 2017
Matrix Hotel

Calgary

December 13, 2017
Hyatt Regency Hotel

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INTRODUCTION

Background

Alberta Data Partnerships (ADP) is a not-for-profit, Alberta-based company which executed a Mapping Data Agreement in 1997 (renewed in 2014) with the Government of Alberta to license specific data sets used to create new data products for distribution to government, industry, municipalities and the public including:

- Cadastral Mapping: Cadastral or parcel mapping data depicts the location of survey plans registered with Alberta Land Titles and shows the boundaries of surveyed parcels including additional data, such as right of ways. Urban and rural cadastral data defines the location of all plans of survey registered with Alberta Land Titles, including subdivisions, descriptive plans (metes and bounds), roads, rights-of-way, condominiums, railways, etc.
- Titles Mapping: A dataset containing line work that shows the extent of ownership for each parcel, as indicated on the Certificates of Title registered at Alberta Land Titles, and the LINC number (descriptor) for each title. This includes all “titled” property (freehold land), crown land and unpatented lands. Title mapping is maintained in-sync with the cadastral fabric, and both products are most often used together for municipal and emergency response planning,
- Disposition Mapping (DIDs): An accurate, complete and timely geospatial mapping inventory that maintains surface activity extents for several types of dispositions (i.e. leases & permits) on Alberta’s Crown Land. Examples include: LOC, MSL, EZE, PLA, GRP, etc. Disposition mapping is used for regulatory, permitting and planning applications, by all industry, public and private sector interests that are active on public lands. DIDs+ combines an extended set of attributes for active dispositions with the graphical mapping representation of DIDs.

Over the past decade, many ADP stakeholders – the oil and gas industry, first responders, utility companies, forestry companies, municipalities, land surveyors and others – have advocated for access to the additional information fields, similar to those available in DIDs, for mapping on private and titled land. These data fields, when integrated with the Titles and Cadastral Mapping data, provide a necessary base layer for land access and emergency response work, as well as for various planning needs and regulatory requirements.

The registered survey plans represented in Cadastral Mapping only account for a portion of the activities affecting the land. Landscape changes beyond survey plans can be seen on the ground and in aerial imagery, and can be related to interests on title. Mapping the registered interest on titled lands in conjunction with the ongoing Crown Land Disposition mapping program would provide a more comprehensive view of the overall landscape.

Stakeholder Engagement

In November 2014, ADP held Stakeholder Sessions related to changes in the organization and the evolving regulatory and economic landscape. As part of those sessions, a report was created (and is

available on the ADP website) that describes the feedback for a “Private Land DIDs” (now the Registered Interests on Titled Lands, or RITL) concept.

The feedback from the attendees was clear, that a product like RITL should be a priority for ADP to investigate. In order to validate the previous discussions at Stakeholder Sessions, as well as with External Advisory Groups, and conversations held as part of regular business, ADP has met with specific stakeholders since June 2017 to present the concept and share the findings of a benchmark study done by MNC.

In December 2017, Stakeholder Sessions were hosted in Edmonton and Calgary providing an opportunity for ADP stakeholders to meet with their colleagues from industry, government and the public for an update on ADP activities, including the Open Data Areas Alberta, and join the conversation on the RITL initiative. This report provides a summary of the feedback from those Stakeholder Sessions.

OVERVIEW OF PRESENTATIONS

The ADP and MNC Presentation slides are available in Appendix C.

Alberta Data Partnerships Update

The ADP Update presentation provided an overview of the evolution of ADP, including major milestones in its development. Governed by a board of directors, ADP has the core purpose of maintaining and promoting the broadest possible distribution of provincial digital mapping that meets the immediate needs of the Alberta market. Formerly the Spatial Data Warehouse, ADP rebranded in 2014, developing a new strategic plan in 2015/16. In 2016/17, ADP initiated the Open Data Areas Alberta initiative to increase accessibility to more data from both the government and industry in six key rural areas, as well as to provide pre-commercialization funding for Alberta Small and Medium Enterprises (SMEs).

Attendees had questions about ADP’s future plans as to whether more urban data may be incorporated into the data sets or whether there are plans to refresh data protocols.

Open Data Areas Alberta Projects

Two recipients of grant funding from ADP presented about their projects during the stakeholder sessions. In Edmonton, SensorUp presented on the Environmental Data Exchange Node. In Calgary, Waterline Resources presented their Water Budget Tool. Both presentations included discussions about open data and the need for open data standards. Attendees of both sessions were interested to explore the concept and issues surrounding open data.

Introduction to Registered Interests on Titled Land (RITL)

This presentation provided an introduction to the concept of RITL and the rationale for its consideration. As of 2017, there are no spatial records of surface activities on private lands unless they are shown on registered plans of surveys. Previous ADP stakeholder sessions have identified that an authoritative, accurate data set that addresses this gap would be valuable and beneficial in terms of time, costs and efficiency. As well, mapping registered interests on titled land in conjunction with ongoing mapping on crown lands would provide a more comprehensive view of the overall landscape in Alberta.

RITL Benchmark Project

In 2017, MNC conducted a benchmark project to capture RITL data for an area comprised of one township. The project was intended to help determine the feasibility and concerns with creating a provincial RITL data set, and to develop a baseline report to enable further discussion and engagement with stakeholders. MNC shared the project methodology and findings at the sessions, including program, technical and product considerations.

Stakeholders were very interested in the project, contributing feedback on the strengths and constraints of the current data available, as well as considerations for and challenges in moving forward. There were many questions and comments regarding the scope, logistics and costs surround a RITL product however, there was a general acknowledgement of the need to breakdown organizational silos and the value of a centralized, authoritative data source. Attendees also presented several suggestions for potential partnerships that ADP may explore to support the RITL initiative (for example, Alberta Land Titles, survey companies).

Alberta Energy Regulator and RITL Data

This Alberta Energy Regulator (AER) presentation provided an overview of all the types of data that AER collects related to RITL. There were questions surrounding the format of the data captured and whether historical data is captured digitally. While the data is an artifact of previous technology and has not yet evolved to be digitally accurate yet, AER's intent is to promote the collection of structured information and increase the maturity level of digitally accurate data.

Attendees were interested in the AER data collection process and appreciated the information about the legacy issues associated with the data. Stakeholders who attended the session found the background information very useful and were interested to learn about the data lineage and collection processes. They were also interested in the idea of open data and some of the constraints surrounding data collection and sharing. Some were encouraged to see the evolution of technology towards digital accuracy, while others emphasized the need for improved data standards, policies and processes.

STAKEHOLDER CONSULTATION

Session Objectives

- 1) Reconnect with key stakeholders of Alberta Data Partnerships and share information about relevant projects and work.
- 2) Get input on the merits of developing a business case for an expanded Registered Interests in Titled Land.
- 3) Capture the key considerations and elements that stakeholders want to see included in a project of this nature. Consider objections or barriers to advancing such a project.
- 4) Determine the best approach to an expanded RITL project.

Approach

Attendees participated in small group (4 – 8 people) discussions. At each table, a table host and recorder were selected amongst the participants. This person captured the group discussion in a session workbook. One participant from each group also captured one or two highlights from each discussion on a flip chart and the highlights were shared with the larger group.

Each small group discussed six questions described in Appendix B. There was also a “parking lot” section for groups to record anything else that they thought was important but perhaps not part of the conversation related to the questions.

Information gathered in the workbooks and on the flip charts, and the discussion captured when the highlights were shared with the larger group, was analyzed to identify the key themes described as follows.

Economic Competitiveness and Geo-Spatial Data

The availability of a centralized, authoritative source for RITL data would provide operational gains for companies and organizations that are already using the data. Extensive time and resources are currently dedicated to obtaining and compiling data from multiple sources, and creating geo-spatial data manually. The availability of centralized, reliable data would reduce the life cycle and costs of projects, allowing companies to streamline business processes and increase efficiency. A reduction in the time needed to gather data also allows more time for innovation and value-added activities including research and novel applications for traditional data sets.

Increased efficiency related to RITL data may also lead to improved customer service as decreased costs can be passed on to the client and opportunities to develop new products that generate value to clients increase. For example, the ease of developing quotes and the accuracy of the quotes would be improved with a single accurate, accessible data source.

A common data set also provides an opportunity to improve the quality of the data with the development of standards and guidelines for data collection. Confidence in the accuracy of the data reduces risk for stakeholders as it decreases the uncertainty of purchases and assets, and supports evidence-based decision making.

Stakeholders had conflicting opinions about whether RITL would provide a competitive advantage for Alberta companies in relation to each other. While RITL data would lower research and development time and costs, and would be an advantage for smaller firms or start-up companies that would otherwise have limited resources to gather data, it would also eliminate any exclusive advantage of companies that already have efficient data collection processes in place or sufficient funds to access the data from multiple sources. There is also a potential disadvantage for small survey companies which specialize in data collection.

However, in a broader sense, a centralized source of accurate data has the potential to attract new investments into the province. Alberta is already highly competitive based on the wealth of data available; an efficient and meaningful data set could improve market access and further attract investors to open businesses in Alberta. It also increases the potential for new partnerships and integration as data sharing would be essential to the success of RITL.

Alongside the economic impacts of RITL, a centralized, accurate data set can improve data access for rural municipalities that do not have ample resources for data collection. It can also provide a holistic view of areas for improved emergency response planning, and have positive impacts on the environment by decreasing the environmental footprint required to collect data and supporting integrated planning to manage risks related to environmental and external factors.

Attendees at the sessions also provided several examples of other jurisdictions and initiatives that effectively use geo-spatial data to gain advantages. These included:

- New Brunswick Cadastral P_ID
- Community Cadastral Map of Canada
- BC Integrated Cadastral Information Society
- Energy East Project
- United States Homeland Security
- European Union INSPIRE Spatial Data Infrastructure

Current Utilization of Data Related to Registered Interests on Titled Lands

The majority of attendees use RITL related data for decision-making and planning. Some use the data for land use or construction planning, while others use it for policy plans. The data is also useful to inform site checks and in investigations to determine missing items that require further research. One stakeholder group stated that the data is mostly used for planning rather than implementation as it is viewed as incomplete.

Another common use of the data is the identification of landowners and stakeholders both for notification purposes and to protect their interests. The data is required for notifications, public consultation, planning, safety, access, and management. RITL maps could also be used to engage with the landowners. Stakeholders also use RITL related data for pipeline renewals, emergency response planning, land valuations, to determine private land right of ways, to limit fragmentation of undisturbed lands, and conservation efforts. Municipalities use the data for all municipal plans and for tax purposes.

RITL related data is also used on public lands for sales, land exchanges, reinvestment to crown lands, bed and share interests, and agreements under the *Public Lands Act*. There are also tax recovery implications for municipal land sales.

Regardless of the use, currently all stakeholders gather data from multiple sources. Some manually create geo-spatial data maps or imagery, and each company maintains their own database.

Potential Impacts on Business Processes

A centralized, accurate data set would streamline data access processes and improve stakeholders' efficiency. The ability to pull all or majority of the data from a single source would reduce data hunting and decrease the complexity of technical workflows. However, RITL data would need to be accurate, current and contain all relevant types of data (e.g. caveats). This may change the processes companies use to capture the data.

An increase in efficiency would be realized by the decreased project timelines and costs required for current processes that require data from multiple sources. There may also be an opportunity to automate data queries or reduce the iterations of products with consistent data. As well, an authoritative, common data set would facilitate interagency communication and coordination, and enable better third-party requests.

A RITL data set can also enable continuity of activity across public and private lands, support research activities, support the mitigation of planning issues, and be used to communicate with clients about potential complications or issues. Notifications to landowners and stakeholders could be easier and timelier, and consistent data could help standardize planning and reporting. Permitting and by-law enforcement could also be expedited.

Companies that are able to harness efficiencies that RITL offers can become more competitive and data contributors could potentially use RITL as a financial source, depending on the model developed to acquire the data.

Collaboration and Sharing Information

A data product like RITL could change the way private and public entities collaborate by offering a common data set that facilitates communication and common understandings between entities, potentially increasing the efficiency of the parties involved. It could also increase stakeholders' abilities to work with third-parties and landowners by providing a common reference source.

An accurate common data set would enable stakeholders to identify concerns early in processes and reduce the risk of potential data loss as the data would be stored centrally rather than in individual company databases. In the future, RITL could facilitate interprovincial integration of registered interests across jurisdictions.

Considerations, Obstacles and Challenges

There are a number of process and technical changes that would need to be defined or occur to ensure data access. Data standards and guidelines need to be developed to ensure the consistency and accuracy of data. As well, there is a need for clearly defined data governance, legislation and regulatory activities to ensure compliance and mitigate risks for companies providing and accessing data.

Considerations surrounding data accessibility, privacy and security also need to be investigated. Some information may need to be concealed for the security of infrastructure. As well, the *Freedom of Information and Protection of Privacy Act* may apply to certain types of data. There may be additional issues surrounding private data as companies may not want to share proprietary information that they have invested funds to collect. Incentives may be needed for companies to share source data, especially historical data.

RITL would also require changes to current revenue models. Consideration is needed to determine how the data set will be funded, the impact on current revenue streams (e.g. the impact on Alberta Land Titles and survey companies who currently collect and maintain data sets), and the cost of accessing data. Ideas suggested at the sessions included a model where the first data collector in an area could receive reduced costs for subsequent data access or a subscription-based model.

There were questions surrounding how the data set would be managed and maintained. Companies could potentially register and be responsible for monitoring and maintaining data if the governance structure and standards are in place to support this. Conversely, a centralized source could manage and maintain the data however, it would require a large amount of resources. Another suggestion was a model where the first company in an area makes the initial data available with additional companies responsible for maintenance and updates. As accuracy and currency of the data will be important to build confidence in the system, consideration also needs to be given to how the data collection and maintenance standards will be enforced.

Attendees highlighted a number of database requirements including:

- The ability to submit data digitally
- The ability to search the database, including by category
- Access to metadata
- The ability to download information
- Format options
- Hyperlinked sections
- Simplicity and ease-of-use
- Distributed analysis

There is also a need for an error reporting mechanism and communication/tracking system for identified errors.

In addition to these considerations, increased access and clarity for registered interests on titled lands may impact public perceptions of the data. RITL data may be taken as absolute and potentially be misinterpreted by inexperienced users. As well, it could increase disputes between neighbouring landowners or interested parties.

A centralized data set may also enable opportunism for companies that are searching for properties with specific interests. As well, there are potential legal and national security implications. Legal requirements under the *Mines and Minerals Act*, and other acts, may impact the data set. As well, the consolidated nature of the data and public accessibility increases the potential of someone using the information against industry or the government.

Stakeholders anticipate challenges in defining the scope of the data set, recognizing the need to prioritize the types of data on the title to include. As well, there were questions surrounding the time required to develop a data set of this complexity.

NEXT STEPS

The feedback from these Stakeholder Sessions will be distributed to all attendees and will be available on the ADP website. It will also be incorporated into a proposal for a future pilot project and, if viable, into a business case for a larger implementation.

APPENDIX A: SESSION AGENDA

Welcome and Introduction	David Muddle
Alberta Data Partnerships Update	Erik Holmlund
Open Data Areas Alberta Project Presentation	SensorUp Inc. (Edmonton) Waterline Resources (Calgary)
Break	
Introduction to Registered Interests on Titled Land (RITL)	Erik Holmlund
RITL Benchmark Project	MNC
Alberta Energy Regulator and RITL Data	AER
Morning Review and Discussion	(Calgary)
Lunch	
Kick Off Afternoon Activity	David Muddle
RITL Tabletop Discussions	David Muddle
Break	
RITL Table Top Discussions	David Muddle
Break	
Workshop Wrap Up & Closing Remarks	David Muddle & Erik Holmlund

APPENDIX B: STAKEHOLDER CONSULTATION QUESTIONS

Edmonton Questions

1. Review of the Presentations

You have heard updates from Alberta Data Partnerships, the Open Data Areas project, and an introduction to the Registered Interests on Titled Land, a benchmark review, and the potential impact from the perspective of a regulator.

As a group, have a brief discussion about the presentations this morning.

What interested you? What surprised you? Did you learn something new?

2. Economic Competitiveness and Geo-Spatial Data

During the last round of Stakeholder Engagement Sessions, and during the development of ADPs Strategic Plan, there was discussion around economic competitiveness. Our province is a competitive jurisdiction due to many, interrelated factors. These factors include a cost-competitive tax regime, a clear and transparent regulatory environment, a highly educated labour force, and excellent transportation and physical infrastructure. Access to good data is frequently cited as an important source of economic competitiveness.

How can Geo-Spatial Data be a source of economic competitiveness? Can you think of examples of where Geo-Spatial Data supports greater competitive advantage? Are there other jurisdictions that use Geo-Spatial data to their own advantage particularly effectively?

3. Current utilization of data related to Register Interests on Titled Lands

The Cadastral Mapping and Title Mapping datasets depict the boundaries (parcel/lots/roads/extent of ownership) as shown and described on plans of surveys and certificates of titles registered at land titles respectively. Digital Integrated Dispositions (DIDS) mapping depicts the boundaries of surface activities (e.g. well-sites, pipelines, leases etc.) on Crown Land. However, there is currently no spatial record of surface activities (interests) on private lands unless they are shown on registered plans of surveys.

How does your organization currently use RITL – related data?

4. Understanding the Impact on Business Processes

Consider the previous conversation. You likely use some combination of mapping tools to support business or regulatory functions. Think about your current operational requirements to support these efforts.

Can you describe changes to your business process if you had access to a data product like RITL?

5. Collaboration and Sharing Information

One of the challenges of spatial mapping is the overlapping of multiple interests on the same piece of geography. Additionally, information sharing between public and private spheres is often fraught with tension and complexity.

How could a data product like RITL change the way private and public entities collaborate and share information?

6. Objections

There is an assumption that better, more integrated, and complete data is always desirable. However, there are often very good reasons why data sets are kept separate, for example, there may be technical, monetary, or ethical objections to further integration.

Can you think of examples when it is desirable to keep data sets separate and distinct or where we would not want to encourage sharing? What are some of the arguments for not pursuing a broader RITL project?

Calgary Questions

1. Review of the Presentations

You have heard updates from Alberta Data Partnerships, the Open Data Areas project, and an introduction to the Registered Interests on Titled Land, a benchmark review, and the potential impact from the perspective of a regulator.

As a group, have a brief discussion about the presentations this morning.

What interested you? What surprised you? Did you learn something new?

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During the last round of Stakeholder Engagement Sessions, and during the development of ADPs Strategic Plan, there was discussion around economic competitiveness. Our province is a competitive jurisdiction due to many, interrelated factors. These factors include a cost-competitive tax regime, a clear and transparent regulatory environment, a highly educated labour force, and excellent transportation and physical infrastructure. Access to good data is frequently cited as an important source of economic competitiveness.

How can Geo-Spatial Data be a source of economic competitiveness? Can you think of examples of where Geo-Spatial Data supports greater competitive advantage? Are there other jurisdictions that use Geo-Spatial data to their own advantage particularly effectively?

3. Current utilization of data related to Register Interests on Titled Lands

The Cadastral Mapping and Title Mapping datasets depict the boundaries (parcel/lots/roads/extent of ownership) as shown and described on plans of surveys and certificates of titles registered at land titles respectively. Digital Integrated Dispositions (DIDS) mapping depicts the boundaries of surface activities (e.g. well-sites, pipelines, leases etc.) on Crown Land. However, there is currently no spatial record of surface activities (interests) on private lands unless they are shown on registered plans of surveys.

How does your organization currently use RITL – related data?

4. Future State - Understanding the Impact on Business Processes

Consider the previous conversation and your responses to how you currently use RITL data. You likely use some combination of mapping tools to support business or regulatory functions and create the necessary information on private lands. Assuming that there was a RITL product available, what technical and operational changes would be required to operational requirements to support these efforts?

Can you describe changes to your business process if you had access to a data product like RITL?

5. Collaboration and Sharing Information

One of the challenges of spatial mapping is the overlapping of multiple interests on the same piece of geography. Additionally, information sharing between public and private spheres is often fraught with tension and complexity.

How could a data product like RITL change the way private and public entities collaborate and share information? What sort of process and technical changes need to occur to ensure data access? Who needs to be working together and what challenges do you foresee?

6. Obstacles and Challenges

There is an assumption that better, more integrated, and complete data is always desirable. However, there are often good reasons why data sets are kept separate, for example, there may be technical, monetary, or ethical objections to further integration. Additionally, functional integration often involves breaking down complex information silos, and can be expensive and difficult to do well.

Can you think of examples when it is desirable to keep data sets separate and distinct or where we would not want to encourage sharing? What are some of the arguments for not pursuing a broader RITL project?

APPENDIX C: PRESENTATION SLIDES

Alberta Data Partnerships Update – *slides attached*

SensorUp Presentation – *please contact Dr. Steve Liang at info@sensorup.com to obtain slides*

Waterline Resources – *please contact Jamie Willis at jwills@waterlineresources.com to obtain slides*

RITL Benchmark Report – *slides attached*

Alberta Energy Regulator and RITL Data – *please contact Jamie Roberts at jamie.roberts@aer.ca to obtain slides*



2017 Stakeholder Session

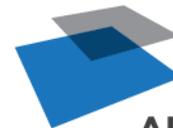
December 13: Calgary



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Sustainable spatial data
for responsible development.

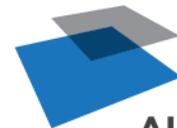
WHY ARE WE HERE?



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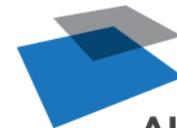
Early 1990s

- In the late 80s and early 90s, the GoA compiled provincial coverage of cadastral data and a 1:20K series of topographic maps
- Cadastral updates cost over \$200 per plan
- 6,000 plans per year projected to go to 10,000
- GoA decided to get out of the map updating business



1997

- Assigned mapping to Spatial Data Warehouse
 - Ownership of data remained with GoA
 - Governing Documents signed
- Original Board Members:
 - GOA
 - Alberta Power
 - Canadian Western Natural Gas Company
 - Northwestern Utilities
 - AGT
 - Transalta Utilities



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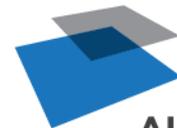
1997

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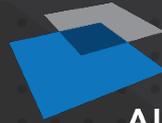
1999

- SDW created business plan and RFI was released
 - Altalis won RFI and began negotiations to become ADP JV partner
 - Joint Venture Agreement is signed and Altalis becomes the initial private sector partner of SDW

altalis



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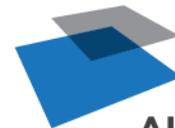


Mapping Data Agreement (MDA)

- Between GoA & ADP
- Grants ADP distribution rights of base data
- ADP is committed to maintain it
- Effective September 1997 (renewed in 2014)

Joint Venture Agreement (JVA)

- Between ADP & Altalis
- Contractual Joint Venture
- Makes Altalis the day to day operator
- Revenue sharing which funds ADP

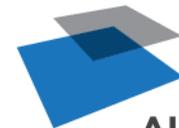


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2000

ADP Stakeholder Forum Identifies Priorities

- Titles Mapping
- Municipal membership in SDW
- Transfer of Base Features Data Set
- Topographical updating
- Integration of Crown Land Dispositions



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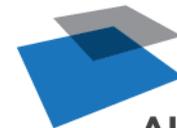
2001

MDLA expanded to include Titles Mapping

- AUMA and AAMDC join the SDW Board



Partners in Advocacy & Business



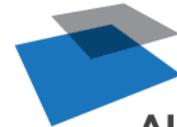
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2005

- Entered Agreement to map Crown Land Dispositions on Nov. 1 - DIDs
 - No government funding required to map historical dispositions – included in fee
- CAPP and AFPA joined SDW Board



CANADIAN ASSOCIATION
OF PETROLEUM PRODUCERS



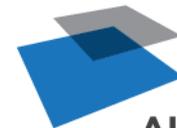
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2010
–
2012

- Alberta One Call, ACR joined SDW Board



- DIDs+ released in October 2012
 - Enhanced product that includes DIDs and 40 other attributes including Owner name



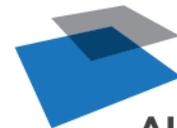
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2013

- Full-time Executive Director hired
- AER joined SDW Board



**Alberta
Energy
Regulator**



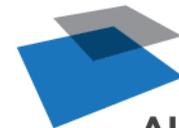
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ADP Board Members



2014

- SDW rebranded as Alberta Data Partnerships
- A new Mapping Data Agreement is signed with the GoA
 - Includes no-cost distribution of certain data sets under the Alberta Open Government Licence



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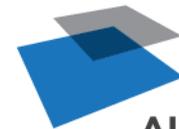
2015

-

2016

- ADP develops and releases a new five year Strategic Plan with a renewed Vision:

Making Alberta's spatial data
more comprehensive and
accessible



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Values and Guiding Principles

Partnership

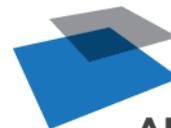
ADP is a connector and facilitator between the makers and users of data. Everything ADP does is based on the principle of collaboration and mutual interest of the parties.

ADP is always seeking to develop new partnerships with the makers and users of geospatial data.

Competitive

ADP recognizes that high-quality, timely, and accessible geospatial data is a source of competitive advantage for the province.

ADP reinvests revenue from the joint venture and licensing arrangements in such a way that it can continue to innovate while maintaining accessibility.



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Values and Guiding Principles

Accessibility

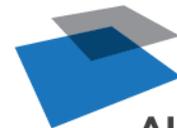
ADP aims to make geospatial data available to the greatest number of users at a reasonable and sustainable cost.

ADP pursues partnerships to meet its core objectives of developing broader, more comprehensive, and integrated geospatial data at a reasonable cost.

Sustainable

Sustainability is core to the work that ADP does, from the projects that ADP undertakes to the initiatives that are pursued that require monetary investment.

ADP invests in the long-term sustainability of programs so that the operating model isn't subject to changes in the political climate.



**ALBERTA DATA
PARTNERSHIPS**

Values and Guiding Principles

Quality

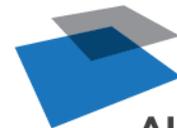
ADP works with providers to maintain the integrity of the data sets and ensure that the products and services are reliable, and usable by clients.

ADP ensures that products and services are demand driven and delivered on current platforms and with current technology.

Value

ADP provides information that everyone can rely on to make timely, informed decisions. We can argue how we interpret the information to make policy and a business decision, but there is no dispute about the completeness, accuracy, or currency of the information—it is fact.

ADP's data is complete and reliable.



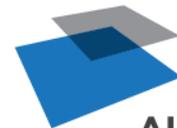
**ALBERTA DATA
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STRATEGIC GOAL #1

Review governance model and improve effectiveness

STRATEGIC GOAL #2

In order to cover all the interests on the land, identify, and develop more diversified partnerships including MOUs, Joint Ventures, and diversification of sustainable revenue streams



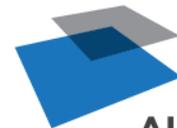
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STRATEGIC GOAL #3

Define and determine the movement through being a “one-stop shop” to targeted high demand, value-added data compilations.

STRATEGIC GOAL #4

Become a leader with respect to the management and distribution of data, including open and accessible spatial data, for both government and private stakeholders.



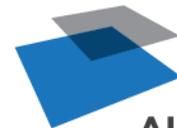
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STRATEGIC GOAL #5

Enhance stakeholder and client outreach to increase awareness of ADP and our distribution agents (what it is, what it offers to potential partners).

STRATEGIC GOAL #6

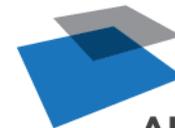
Examine and ensure alignment with the Government of Alberta —e.g., policy and service offerings.



ALBERTA DATA
PARTNERSHIPS

2016

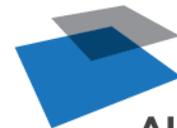
- Two RFPs issued
 - Disposition Mapping and Maintenance
 - MNC Ltd. was successful
 - Public Lands Survey Plan Distribution
 - Abacus Datagraphics was successful
 - Badgr was released in December 2016



ALBERTA DATA
PARTNERSHIPS

2017

- Released Alberta Data Partnerships Open Data Policy
- Released an independent, multi-jurisdiction study on mapping
 - Reviewed Canada, US Public Lands and select European entities



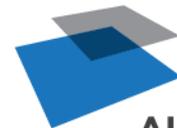
**ALBERTA DATA
PARTNERSHIPS**

2016

-

2017

- Open Data Areas Alberta project was initiated



ALBERTA DATA
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- How to increase accessibility to more data – both industry and government
- How to develop a one-stop shop for data, so that all users – industry, public and government – can access the same data
- What are the commercialization opportunities utilizing open data?
- How can data costs be lowered for pilots projects and research?



OPEN DATA AREAS
ALBERTA

FOCUS ON ACCESS AND COMMERCIALIZATION

- Providing no-cost and open access to data produced by the private and public sectors in specific geographic areas will allow users (industry, government, SMEs, etc.) to pilot new approaches and tools more cost effectively.
- Through an agreement Alberta Economic Development and Trade, ADP will be able to grant SMEs and industry grants for pre-commercialization work focused on the needs of industry of government.



OPEN DATA AREAS
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ODAA DATA PROVIDERS

- Airborne Imaging
- Alberta Agriculture and Forestry
- Alberta Environment and Parks
- Altalis
- DigitalGlobe
- Hatfield Consultants
- NRCAN/University of Victoria
- Planet
- Silvacom
- Tarin Resource Services



OPEN DATA AREAS
ALBERTA

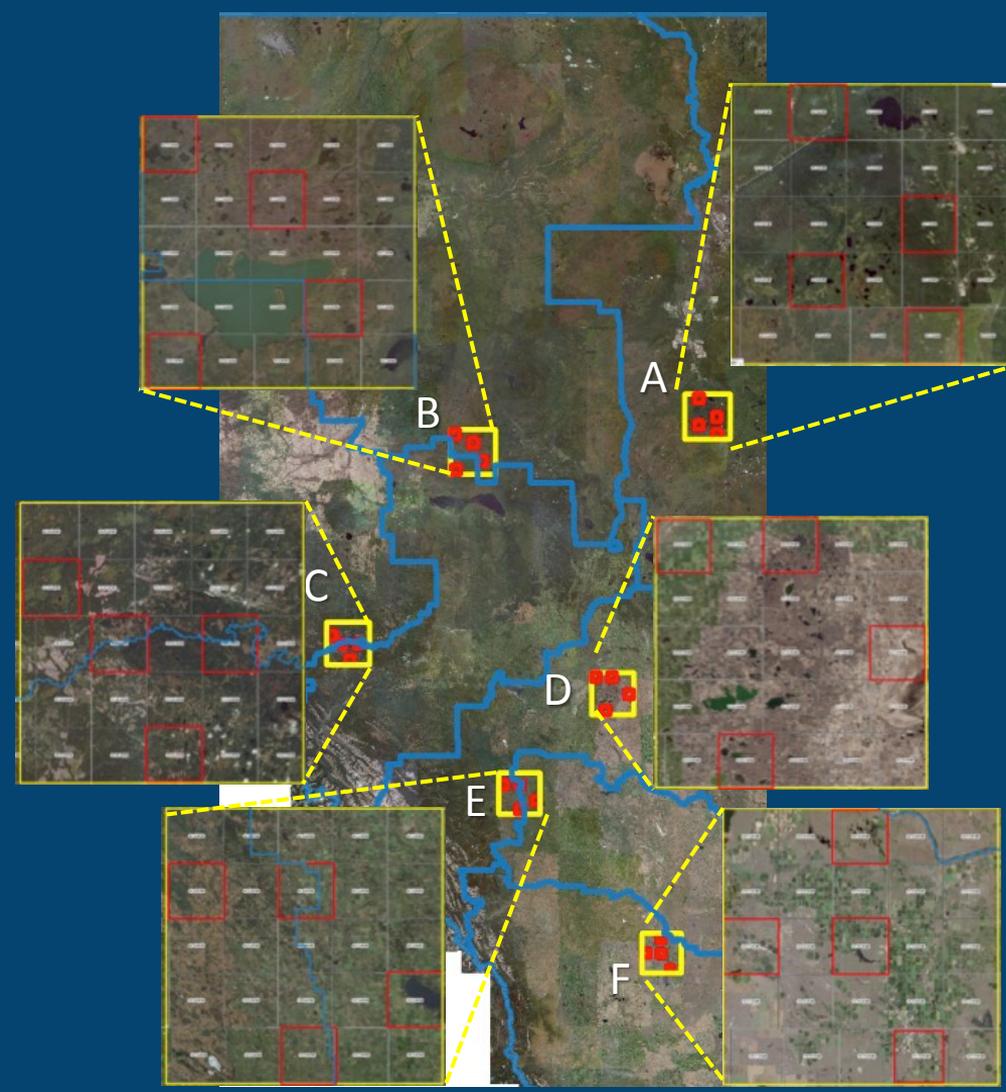
Open Data Areas Alberta – Locations

Open Data Areas Size

- Yellow: 25 Townships (~2500 km²)
- Red: 1 Township (~100 km²)



OPEN DATA AREAS
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RESEARCH AND PRE-COMMERCIALIZATION FUNDING

- Funding is directed through a request for proposal process at projects directed at innovative approaches (i.e., pre-commercialization stage) using data provided through the Open Data Areas initiative.
- Funding from ADP to a maximum of \$40,000 per project
- ADP will work with proponents to leverage other funding opportunities



OPEN DATA AREAS
ALBERTA

INDUSTRY AND GOVERNMENT “CHALLENGES”

- Alberta Data Partnerships will engage with industry to develop “challenges” that will be provided as an RFP to the SME and entrepreneur community for a response.
- Successful proposals would need to:
 - meet ODAA’s guidelines and use ODAA data,
 - be at the pre-commercialization stage (not research), and
 - meet the need of the industry group or company that brought the challenge forward.



OPEN DATA AREAS
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FIRST FUNDING RECIPIENTS

- First proposal call for pre-commercialization funding is complete. Three proposals were accepted from:
 - GeoAnalytic Inc.
 - Waterline Resources Ltd.
 - SensorUp Inc.



OPEN DATA AREAS
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GEOANALYTIC

- Project is a social media hub that incorporates geospatial data from Open Data Alberta with GPS tracks, photos, videos and other user supplied data to promote safe and responsible back country usage.
- Will provide a point of collaboration between back country stakeholders that leverages environmental and geospatial data to address issues of access, environmental protection, and safety.



OPEN DATA AREAS
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SENSORUP INC.

- Project is an environmental data exchange node. This node combines in one place, up-to-date, disparate data. Combining the data will make them easier to find, easier to analyze together, reusable, and repurposable. Ultimately, this offers industry and the province considerable value, in social, economic, and environmental domains.
- SensorUp will design and create a fully functional data exchange node that can be tested with industry.



OPEN DATA AREAS
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WATERLINE RESOURCES INC.

- Waterline proposed to build a Water Budget Tool. The geodatabase behind this tool will be a repository for groundwater level and associated data collected in the field by, for example, a hydrogeological consultant.
- Use of the tool to upload vetted compliance data into WURS will facilitate management of the WURS system by the Alberta government and will promote water resource management.



OPEN DATA AREAS
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NEXT STEPS

- ADP and the ODAA Steering Committee will release new Challenges with a deadline in Q1 of 2018
- Focus areas of the Challenges will likely focus on using Earth Observation and Geomatics technology on opportunities in:
 - Renewable Energy
 - Historical Imagery
 - Fire / Flood Mapping and Monitoring

www.opendataareas.ca

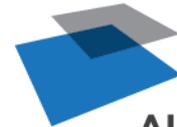


OPEN DATA AREAS
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“The Benchmark Project” Registered Interests on Titled Land (RITL)



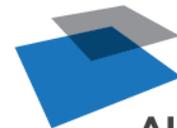
mnc



**ALBERTA DATA
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The RITL Benchmark Project

- In April 2017, Alberta Data Partnerships (ADP) and MNC embarked on a benchmark project to capture Registered Interests on Titled Lands (RITL) for an area comprising one township
- The intent of this project was to develop a baseline report to enable further engagement and discussion with end users on creating a provincial RITL dataset

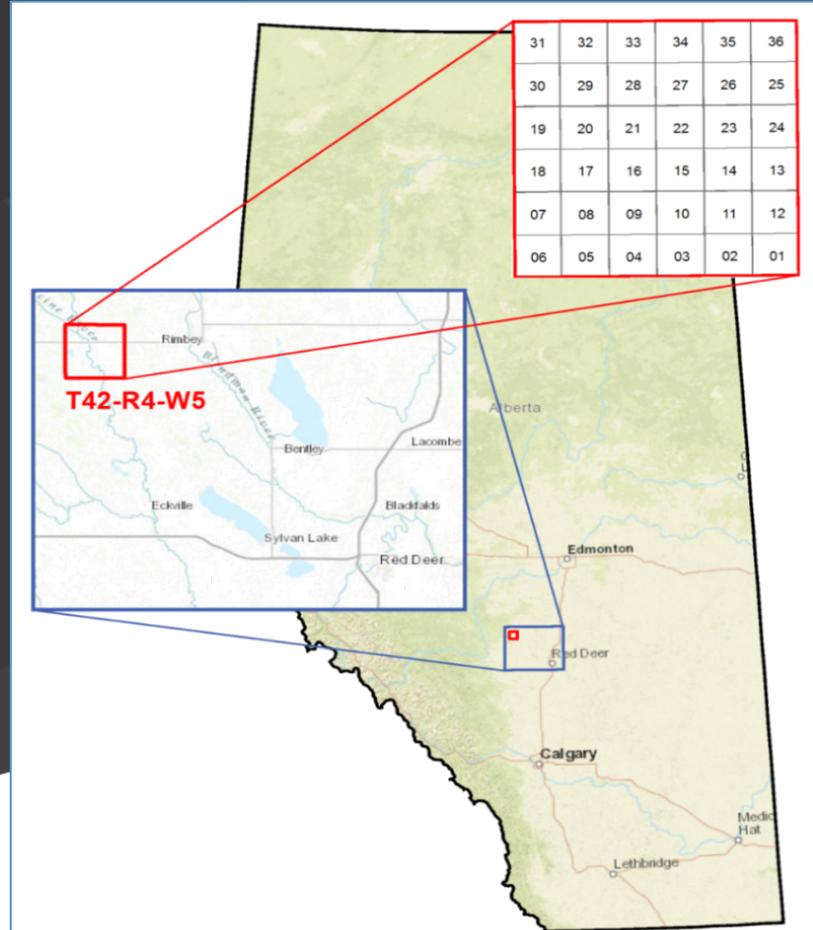


**ALBERTA DATA
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The Project Area

Township 42, Range 4 West of Meridian 5

- ✓ Included a small volume of disposition mapping to allow analysis of integration approaches
- ✓ Large volume of titles with registered interests
- ✓ A majority rural areas with a small amount of urban density
- ✓ A mix of crown and titled land; majority being titled
- ✓ Large volume of cadastral plans
- ✓ **Within an Open Data Area**



The Scope

- 209 land titled parcels in the project area
- Map 1,357 linear interests of types:
 - Caveats
 - Utility Right of Ways
 - Restrictive Covenants
 - Easements

S				
LINC		SHORT LEGAL		TITLE NUMBER
0020 312 112		1759AE;20;11,12		002 041 268 +2
LEGAL DESCRIPTION				
PLAN 1759AE				
BLOCK 20				
LOTS 11 AND 12				
EXCEPTING THEREOUT ALL MINES AND MINERALS				
ESTATE: FEE SIMPLE				
STATS REFERENCE: 4;14;37;35				
MUNICIPALITY: TOWN OF CASTOR				
REFERENCE NUMBER: 962 135 132				

REGISTRATION	DATE (DMY)	REGISTERED OWNER(S) DOCUMENT TYPE	VALUE	CONSIDERATION
002 041 268	16/02/2000	AFFIDAVIT OF SURVIVING JOINT TENANT		

ENCUMBRANCES, LIENS & INTERESTS				
REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS		
082 230 633	03/06/2008	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - ATCO ELECTRIC LTD. ATTN LAND & RECORDS MANAGEMENT 10035 105 ST EDMONTON ALBERTA T5J2V6 AGENT - TRACY DAVIDSON		
TOTAL INSTRUMENTS: 001				

Data Sources

Dataset	Type	Source for Project	Authoritative Source
ATS V4.1 Polygons	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	altalis
Cadastral Mapping	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	altalis
Titles Mapping	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	altalis
DIDs+	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	altalis
Fortis Utility Data	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	altalis
SPOT Satellite Imagery	Geospatial Data	Rocky Mountain House Sylvan Open Data Area	Planet
Buried High Pressure Pipes	Geospatial Data	AbaData	Alberta Energy Regulator
Buried Low Pressure Pipes	Geospatial Data	AbaData	Alberta Energy Regulator
Titles	Documents	Land Titles Office	Land Titles Office
Instruments	Documents	Land Titles Office	Land Titles Office
Registered Survey Plans	Documents	Land Titles Office	Land Titles Office
Wellsite Plats	Documents	AbaData	Alberta Energy Regulator

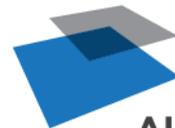
Mapping Overview

Guideline:

- The registered interest described on the title is the governing document that defines the extent of the linear interest

Common Reference Base:

- Map RITL polygons aligning with the current cadastral and titles mapping products
- It was acknowledged that there would be issues with alignment with the DIDs mapping where private lands and crown lands intersect

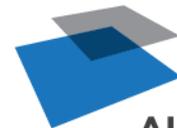


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Mapping Overview

Interests were mapped using several methods:

- Documents containing individual ownership plans (IOPs) with distances & bearings were mapped using precision input
- Documents containing IOPs which could not be mapped with precision input were digitized
- Document metes and bounds descriptions
- Documents referring to other documents which could aid in locating/mapping the interest



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Correlation to Cadastral Survey Plans

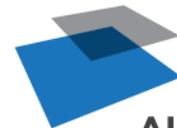
IOP described in the interest document (i.e., instrument) were the same or very similar to the Registered Survey Plan	247
IOP described in the interest document was different than the Registered Survey Plan	11
IOP described in the interest document had no matching Registered Survey Plan	155

Instruments without plan

Instrument does not have a plan, but area described matches or is very similar to Registered Survey Plan & lease holder and date corresponds	321
Instrument does not have a plan attached, but these sketches are filed at AER	205
Metes and bounds description in instrument	37
Instrument does not have a plan attached, but description matches a reference data source such as Fortis or gas co-op line data, or information is available in surrounding information of a plan/sketch (i.e., outside the Area of Interest)	125

Considerations

- Considerations for a province-wide RITL Project are categorized by:
 - Program
 - Technical
 - Product



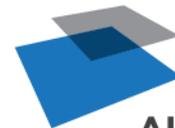
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PROGRAM CONSIDERATIONS

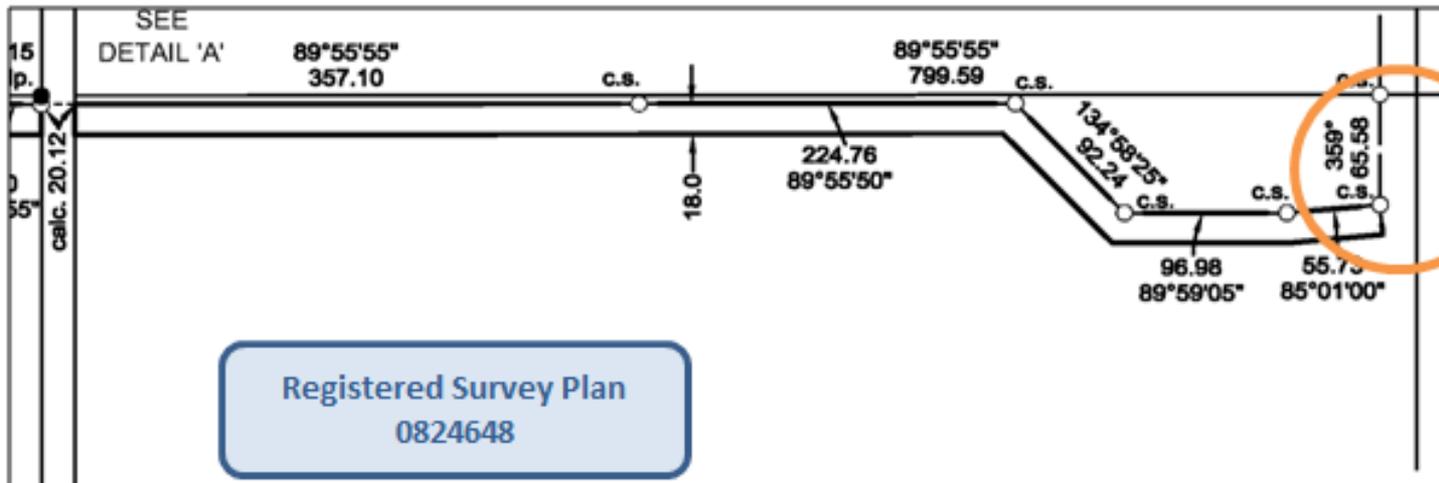
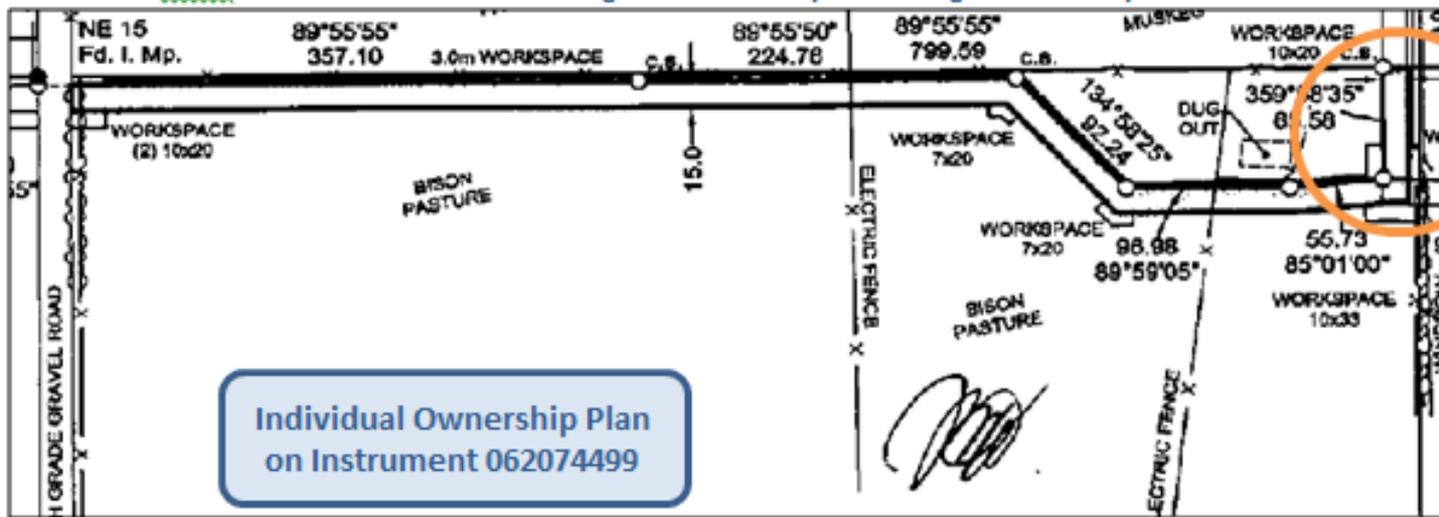
Consideration

The plans included in the interest documents are not necessarily current or as-constructed.

Improve the governing process to ensure construction plans are submitted to the appropriate registry.



**ALBERTA DATA
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TA DATA
ERSHIPS

PROGRAM CONSIDERATIONS

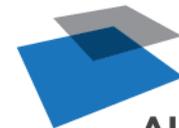
Considerations

- Costs
- Currency of data
- Ease of access

Source Data Access

Types of Source Data

- Titles and interest documents
- AER plans
- Geospatial data
- Unregistered plans from surveyors



ALBERTA DATA
PARTNERSHIPS

PROGRAM CONSIDERATIONS

4 types of linear interests were mapped:

- Caveats
- Utility Right of Ways (URWs)
- Restricted Covenants
- Easements

Additional interest types were also discovered during this project

Types of RITL Interests

Interest Type	Analysis
Identified in Original Scope	
Caveats	Required, but with exception: caveats can also be non-linear features (e.g.: loan, purchaser's interest, monetary value owing, monetary amending agreement)
Utility Right of Ways	Required
Restricted Covenants	Unknown conclusion: only 1 found in AOI so no tangible findings
Easements	Unknown conclusion: only 1 found in AOI so no tangible findings
Investigated During the Project	
Discharges	Required: to understand interests that have been discharged or partially discharged
Surface Rights	Required
Water Resources	N/A to AOI: Further research recommended
Right of Entry	Required
Encumbrances	N/A to AOI: Further research recommended
Leases	N/A to AOI: Further research recommended

PROGRAM CONSIDERATIONS

Mapping Reference Base

Align with the Cadastral Mapping and Titles Mapping to ensure the datasets are in a common reference frame.

Advantages	Disadvantages
<ul style="list-style-type: none">• Titles Mapping is kept in sync with Cadastral Mapping. Titles is the foundation (parent parcel) for the interest parcels• RITL integration with the Cadastral and Titles mapping will prevent erroneous gaps or slivers• New plans of surveys integrated into the cadastral fabric affect Titles and typically cause new or changed interests: Cadastral>>Titles>>RITL updates would be a typical workflow• Cadastral and Titles fabrics are of higher accuracy than Disposition mapping (DIDs) because new plans aid in improving spatial accuracy	<ul style="list-style-type: none">• RITL fabric will not align with Disposition mapping in areas where the ATS has changed since version 4.1• Disposition Mapping is mapped to ATS version 4.1 and is not integrated into the Titles and Cadastral datasets

PROGRAM CONSIDERATIONS

In situations where the extents of the interest are not definable with the available source data, create a BLANKET parcel representing the entire titled parcel and attribute it with the registration number of the interest registered on the title.

Interests are not definable with the available source data.

Interest Type	Mapped as Blanket
Caveats Pipelines, Powerlines, Well Sites, Access Roads, Well Extensions, Easements, Road widenings, Deferred Reserves, Environmental Reserve, Encroachment Agreement, Riser sites	103
Utility Right of Ways (URWs)	24
Easements	1

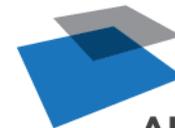
PROGRAM CONSIDERATIONS

Consideration

Communication plan

Title and interest discrepancies

As with the Titles Mapping Project completed in 2005 (mapping over 1.6 million parcels), which output a discrepancy report for over 200,000 Land Titles records (such as legal description errors), a RITL mapping project may yield similar reports.



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TECHNICAL CONSIDERATIONS

Digitizing (Non-Precision) Method of Capture

Consideration

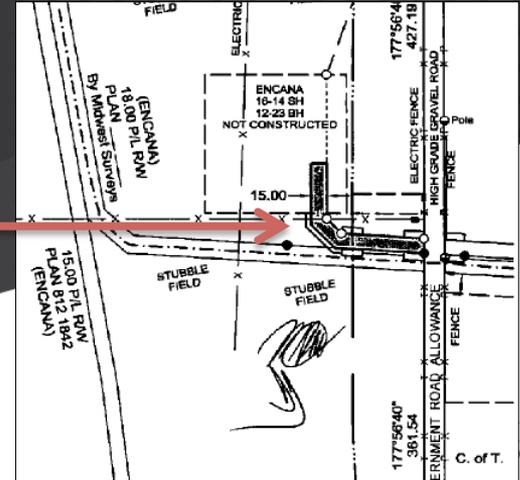
Confirm mapping scenario
assumption

Problem: Not all plans or sketches can be input with precision (COGO).

Example: A registered interest on title has an individual ownership plan (IOP) attached, but that plan is missing the dimension information required to map the interest as precision input (COGO).

Assumption: Digitizing can be used as an option when source data prevents precision input.

Interest to be mapped



TECHNICAL CONSIDERATIONS

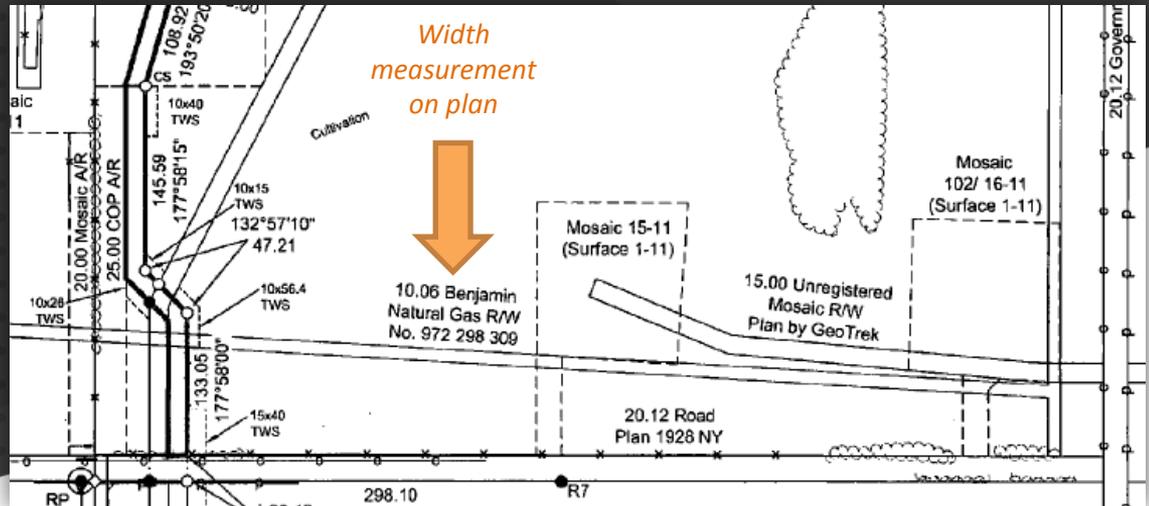
Utilizing Linear Geo-Spatial Source Data

Consideration

Confirm mapping
scenario assumption

Problem: The plan has limited detail to enable precision input. The gas co-op is represented as a linear feature in a geo-spatial source dataset.

Assumption: The geo-spatial linear feature can be used to create a polygon to reflect the width noted on the plan. In cases where the width is not recorded on the plan, a standard width could apply.



PRODUCT CONSIDERATIONS

Product Formats and Coordinate System

Consideration

Coordinate System:
GCS_North_American_1983

Polygon feature

Format:

Shapefile and Geodatabase feature



PRODUCT CONSIDERATIONS

Product Attribution

Consideration

Confirm attribute information shown in table

Name	Description
Section	Section number in which the interest is located
LINC	LINC number associated with the interest
RegisteredDocumentNumber	The unique registered document number for the interest
DocumentDate	The registration date of the interest as noted on the title
RegisteredDocumentType	Type of linear interest (e.g. caveat)
RegisteredPlanNumber	When applicable, the Registered Survey Plan number that corresponds to the interest
MappingMethod	Method of input (e.g. Precision/Digitize)
MappingCategory	A description of how the interest was mapped
FeatureType	Description of interest e.g. Pipeline, Well, Road
CaptureDate	Title/Interest Search Date
Discrepancy	Discrepancy found on interest

PRODUCT CONSIDERATIONS

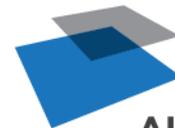
Product Currency and Delivery Approach

Consideration

Currency: Daily updates

Delivery: altalis

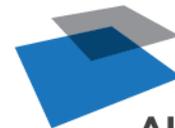
Ease of Access



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Benchmark Project Conclusion

- This project has confirmed that data sources and mapping methods are available to support a successful provincial scale RITL mapping program.
- The process of mapping 1,357 Registered Interests on Titled Land (RITL) provided insight into considerations for a province-wide dataset.



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