Archaeology
Audit Program 2023 Report

May 2024

BCER
BRITISH COLUMBIA ENERGY REGULATOR

Contents

Role of the BC Energy Regulator (BCER)

The British Columbia Energy Regulator oversees the full life cycle of energy resource activities in B.C., from site planning to restoration. We ensure activities are undertaken in a manner that protects public safety and the environment, supports reconciliation with Indigenous peoples, conserves energy resources and fosters a sound economy and social well-being. Our role includes the management of natural gas, hydrogen, ammonia, methanol, oil and aspects of geothermal resources, with an expanded role in carbon capture and storage (CCS).

We regulate energy resources through the Energy Resource Activities Act (ERAA) and other associated laws related to heritage conservation, roads, land and water use, forestry, and other natural resources. We work closely with land owners, rights holders, local government, industry, academia and other regulators to gather skills, knowledge and multiple perspectives to evolve our regulatory model.
We respect Indigenous values and seek

learning opportunities as we co-develop new processes that we put into practice in all facets of our business and decision-making. We are focused on advancing reconciliation and building trust and apply this in our work with First Nations and Indigenous communities as partners in building B.C.'s energy resource future.

We currently have over 280 employees operating out of seven locations: Fort Nelson, Fort St. John, Dawson Creek, Terrace, Prince George, Kelowna and Victoria. The largest number of employees are in the Fort St. John office.

With more than 25 years' dedicated service, we're committed to ensuring safe and responsible energy resource management for British Columbia.

Vision, Mission and Values

Vision

A resilient energy future where B.C.'s energy resource activities are safe, environmentally leading and socially responsible.
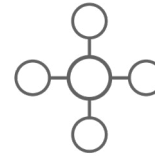
Mission

We regulate the life cycle of energy resource activities in B.C.,
from site planning to restoration, ensuring activities are undertaken in a manner that:
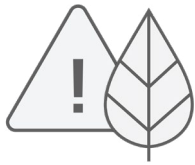
Protects
public safety and
the environment

Supports reconciliation with
Indigenous peoples and the
transition to low-carbon energy

Conserves
energy resources

Fosters a sound
economy and social
well-being

Values

Respect is our commitment to listen, accept and value diverse perspectives.

Integrity is our commitment to the principles of fairness, trust and accountability.

Transparency is our commitment to be open and provide clear information on decisions, operations and actions.

Innovation is our commitment to learn, adapt, act and grow.

Responsiveness is our commitment to listening and timely and meaningful action.

BC Energy Regulator Office Locations Throughout B.C.

Horn River Basin

Cordova Embayment

Liard Basin

Fort Nelson

Montney

Fort St. John

Dawson Creek

Terrace

Prince George

Kelowna

Victoria
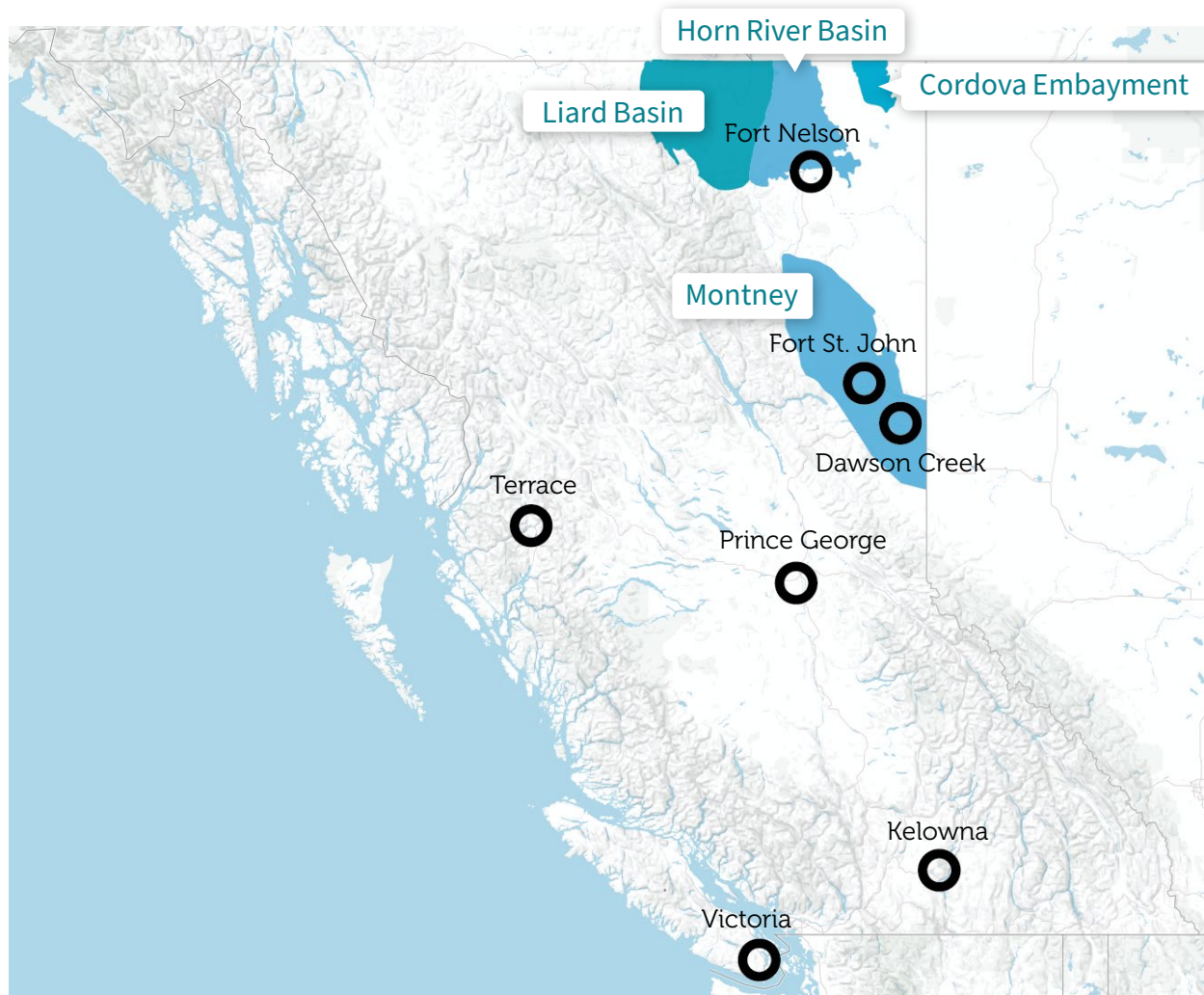
We acknowledge and respect the many First Nations, each with unique cultures, languages, legal traditions and relationships to the land and water, on whose territories the British Columbia Energy Regulator's work spans.

About The Archaeology Audit Program Report

The BC Energy Regulator (BCER) introduced the Archaeology Audit Program (AAP) in 2008 to assess energy resource permit holders' ability to manage archaeology resources. The AAP was created as a necessary component of the performance-based and professional reliance review process for archaeology. It is the permit holders' responsibility to ensure all legal and regulatory obligations are met.

BCER applicants are expected to engage archaeology professionals to evaluate archaeology conflicts within proposed development areas. It is the expectation of the BCER that under such a process permit holders take responsibility and are accountable for the protection and management of heritage resources. Permit holders must ensure planning and development activities comply with the Heritage Conservation Act (HCA) and meet conditions set out by the BCER.

The BCER provides support throughout the entire life cycle of each project to assist permit holders in achieving best practices when managing archaeology resources. It is at the post-construction phase of the project that the AAP is engaged when the BCER evaluates the effectiveness of the permit holder's performance by auditing their archaeology management system.

Each audit considers changing trends in the energy resource industry to ensure all aspects and types of development are considered. Previous audit results help focus the BCER's resources on energy resource permit holders who have scored poorly in the past. Permit holders selected for audit, but who have produced exemplary audit results, may be exempt and replaced through random selection.

This report details the results of the 2023 AAP for five audited permit holders (auditees).

The recommendations for all permit holders are based on observed best practices.

The report also provides opportunities for improvement regarding best management practices for archaeology resource management within the energy resource sector of B.C.

Objectives and Principles

Objectives

The AAP has two primary objectives:

1. **Provide recommendations to help ensure the permit holder's management systems are adequate for meeting legislative and regulatory obligations.** Through the interview, document and field examination process, the AAP analyzes the ability of the permit holder's management system to meet their obligations as they apply to legislation, permit conditions and other requirements under which energy resource permit holders are operating.

The AAP is not intended to be a compliance audit; however, it is the duty of the audit team to notify BCER enforcement staff of any breaches in legislation or policy.

2. **Gather baseline data to establish procedures for best management practices for archaeology resource management within the energy resource sector of B.C.** Innovative and successful practices will be highlighted in the Archaeology Audit Report within the context of cumulative recommendations for improvement. The Archaeology Audit Report recommendations should be used by all permit holders as best management practices to continually improve their processes.

Principles

The 2023 AAP team was comprised of the BCER's Heritage Conservation Program (HCP) staff. This consisted of a Lead Auditor, Auditor, and Audit Coordinator. The audit team has extensive experience in reviewing and advising on the work of both energy resource permit holders and archaeologists working in the province of B.C. Additionally, International Organization for Standardization (ISO) management systems, including ISO 9001 and ISO 14001, lead auditor training is provided to BCER HCP staff.

The AAP relies on the principles of independence and objectivity. Specifically, the following principles guide the conduct of this audit and the presentation of the audit results:

• Auditors shall act in an ethical manner and make decisions by applying due professional care and based on evidence obtained during the audit. Auditors will not act outside their areas of competence and knowledge.
• Auditors will be impartial and independent of the activity they are auditing, and act without bias or prejudice.
• Information reviewed or obtained during the audit process will be held in confidence by the auditors and only included in the audit report where the information is relevant to an audit finding.
• Audit results will be presented in a fair and accurate manner and will truthfully reflect the audit activity and evidence.
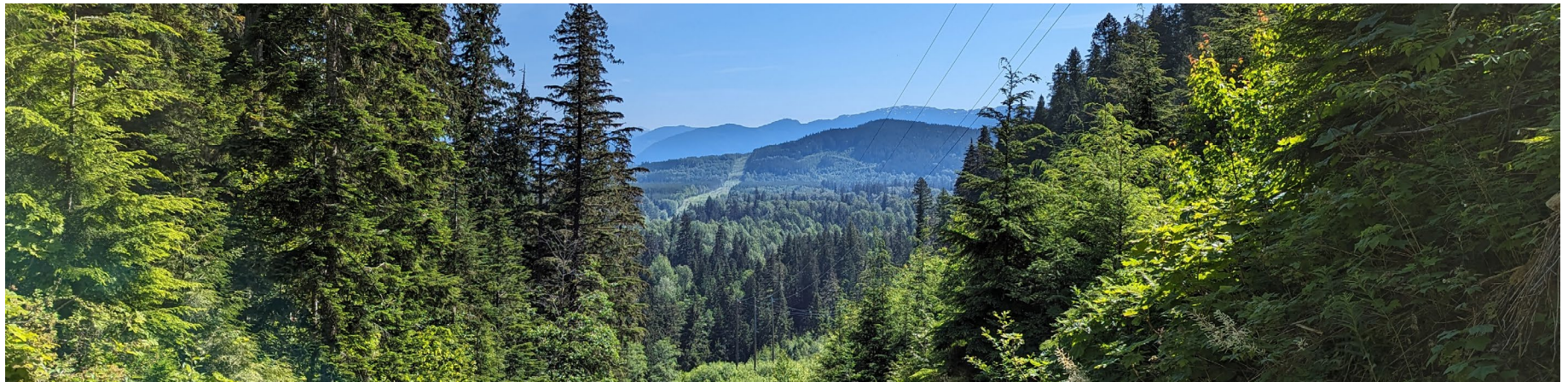
Sampling Method

The selection process for audited permit holders is based on a review of projects regulated by BCER with conditions relating to archaeology site avoidance and mitigation requirements. Projects are selected at the discretion of the audit team prior to or during the audit process.

Projects were chosen manually due to several variables that cannot be controlled through a random selection process, including archaeological values, small sample size, and accessibility. The parent sample for the 2023 AAP was chosen from a total population of 5,915 applications approved from 2018-2022 (including 2,385 applications for amendments) applied for by 137 companies. For the 2023 AAP, the target population consisted of permit holders with projects constructed from Jan. 1, 2022 to Dec. 31, 2022.

The resulting sample drawn from the 2022 population consisted of seven permit holders with a total of 20 projects.
Two permit holders were deemed exempt by the audit team due to consistently high performance in previous audits. Additionally, one permit holder was not selected due to lack of future development plans in the province. To compensate for the removal of these three permit holders, an additional project was selected to bring the total auditees to five permit holders.

One auditee notified the AAP team they had inadvertently provided notice of construction commencement to the BCER, so the selected project had not been constructed. It was determined an alternative development from the same selected proponent would replace the initial development.

Pipeline right-of-way

Cumulative Map of Archaeology Audit Program Locations

**Archaeology Audit Program
Field Audit Locations**

BCER

Map is for representation purposes only. The BC Energy Regulator assumes neither responsibility for inconsistancies or innaccuracies in the data nor liability for any damages of any type arising from errors or ommissions

1:1,350,000

0 10 20 40 60 80 km

Field Audit Sites 2023
Field Audit Sites 2021
Field Audit Sites 2020
Field Audit Sites 2018
Field Audit Sites 2017
Field Audit Site 2010
Field Audit Site 2009
Field Audit Site 2008

Gas Field
Oil Field
Overlap

Road - Main
Road - Local
Rail Line

Yukon Territory
Northwest Territories
Alberta

Inset 1

Kitimat

0 5 10 20 km

Inset 2

Summerland
Penticton
Princeton
Keremeos

0 5 10 20 km

Fort Nelson

Alberta

Mackenzie

Hudson's Hope

Fort St. John
Taylor

Chetwynd

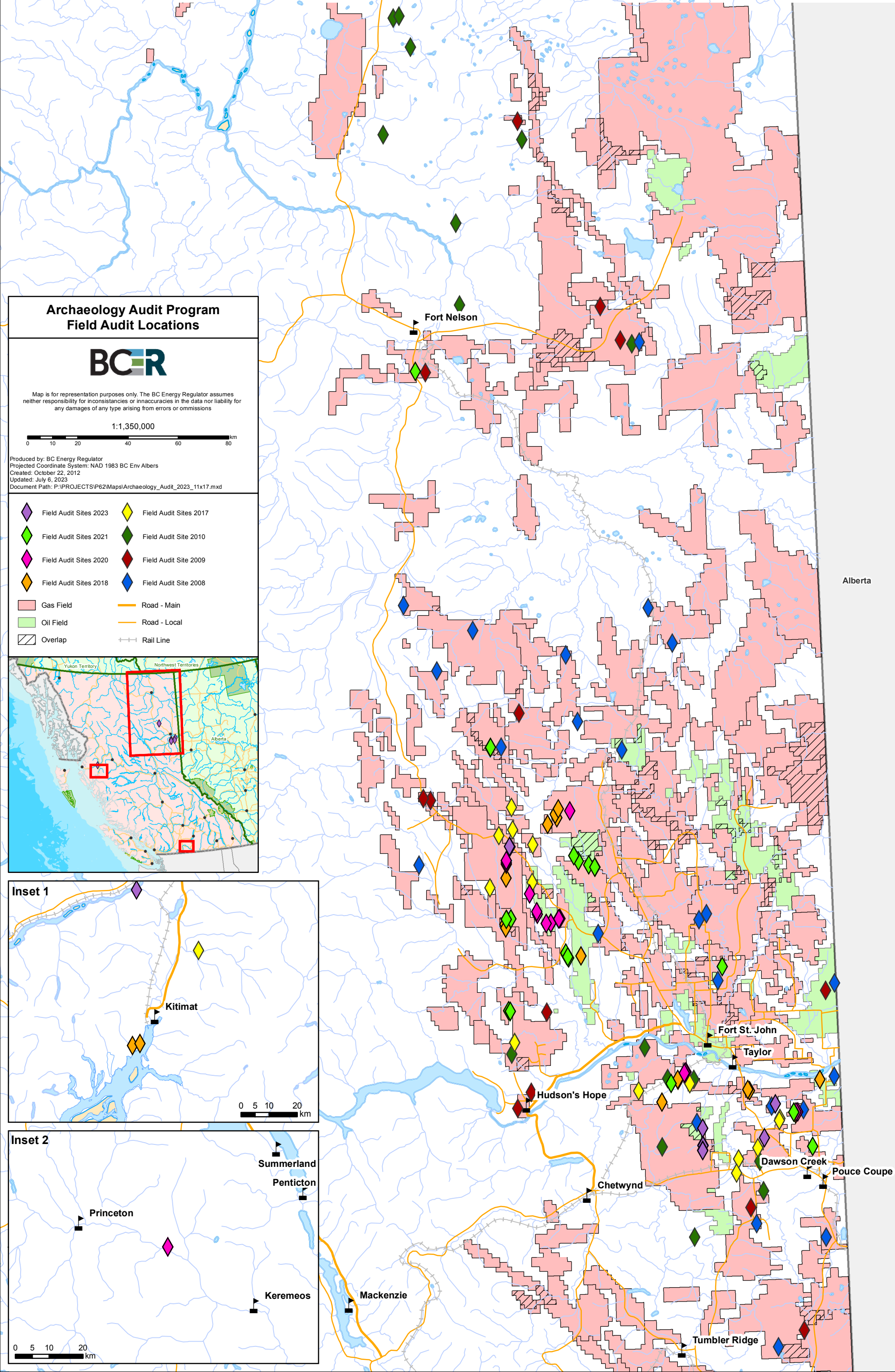Dawson Creek
Pouce Coupe

Tumbler Ridge

Figure 1 Cumulative Map of Archaeology Audit Program Locations

Data Analysis

The 2023 AAP examined nine main components, referred to as modules. Each module was designed to examine specific aspects of the permit holder's management system in order to analyze the extent to which the management system is functioning and analyze how effectively those systems are operating based on past audit results, published best practices, and professional knowledge.

Module Number	Criteria Measured	Functional Objective
Module 1	Process Creation and Management	Supports adherence to legislation and regulatory requirements through established processes.
Module 2	Previous Audit	To establish if recommendations from the previous audit have been implemented.
Module 3	Risk and Risk Management	To establish the level of risk a permit holder is willing to take and how that risk is managed.
Module 4	Communication	To establish communication competence between administrative/office personnel and field crews.
Module 5	Record and Document Control	Transfer of information between relevant parties to support project success and regulatory compliance.
Module 6	Compliance Process and Knowledge	Level of knowledge for processes that ensure compliance with regulatory requirements and legislation.
Module 7	Heritage Management Systems	To establish how the permit holder's management system was implemented in a construction context.
Module 8	Document review	To establish if the appropriate documents were provided for the audit.
Module 9	Field Questions	To observe and determine if the management system functioned successfully in the field.

Table 1 2023 Audit Modules and Functional Objectives

The audit interview questions and scoring criteria, were created by the AAP team prior to the selection of auditees. Auditees were provided the audit questions for the audit interview as well as a list of required documents at the time of selection for the audit. These documents, specific to the audited project, were required to be submitted prior to the audit interview. Scores were determined on the ability to submit the appropriate required documents within the specified time frame.

Table 1 outlines the criteria measured, corresponding functional objective, and method in which the data was collected for each module.

Scoring Criteria

The scoring criteria are updated prior to the start of the audit to include recommended practices identified by the AAP team and observations gathered through previous audits, including noted deficiencies in management systems. Auditee responses to questions are evaluated against a control set of possible answers from the scoring criteria in order to assign a finding. Audit findings have four categories representing a range from best practices to non-compliance vulnerability. A fifth category, Information Request (IR), tracks when the initial information received during the audit was insufficient to assign a finding and further information was requested from the auditee. Based on the additional information received, an IR finding was revised to a finding in one of the four main categories. Each standard finding and definition is detailed in Table 2.

Finding Category		Description
Exemplary Performance	(EP)	Assigned to innovative, pro-active processes or practices that exceed requirements.
Satisfactory	(S)	Sufficient management system to support compliance with legal and regulatory requirements.
Opportunity for Improvement	(OI)	Management system with weaknesses that could lead to system breakdown. Minimal effort was afforded for development of a specific management plan to manage archaeological resources or ensure compliance with legal and regulatory requirements.
Non-Conformance	(NC)	Audit determined regulatory, legal, or other requirements were not met.
Information Request	(IR)	This rating is assigned when additional information is requested from the permit holder to clarify the answer provided during the audit interview.

Table 2 Finding Categorization

Pipeline right-of-way with adjacent powerline

Audit Questions

The scoring criteria for each component was derived from observations of past best and worst practices demonstrated by permit holders.

For each question asked, responses directly related to the range of performance values established prior to audit.

Auditee responses were compared to the control set of possible answers and a finding assigned.

Table 3 details the audit questions and corresponding modules under each question asked.

Module 1: Process Creation and Management
1. Can you describe your role and work you do for the company?
2. Were you the field supervisor for the audited project(s)?

Module 2: Previous Audit
1. Have recommendations from the previous audit been implemented?

Module 3: Risk and Risk Management

1. Site avoidance boundaries are recommended by archaeologists, but proponents can request archaeologists provide additional avoidance measures to reduce risk of a potential non-compliance (such as increasing the avoidance buffer). When an archaeology site or area of archaeological potential is identified are avoidance boundaries and the risk associated with mitigation recommendations discussed?

2. While many companies rely on archaeologists to install fencing or flagging for archaeology site avoidance, it is ultimately the permit holder's responsibility to ensure that the sites have been flagged\marked prior to construction commencing.
   a. How do you know if the flagging is complete, and do you have a document on file? Can you provide this document?
   b. Is there an internal position responsible for tracking the completion of archaeology site flagging?
   c. Is there an internal process for tracking the completion of archaeology site flagging?

3. Who in the field is accountable for ensuring the site is avoided and is there a documented process?
   a. What documents are provided to field staff to ensure that the mitigation (site avoidance) is successfully implemented, and permit conditions are met?

Audit Questions Continued

Module 4: Communication

1. Are construction supervisors included in discussions about potential archaeological mitigation to ensure the mitigation will be feasible in the field during construction?
2. Is a meeting held to discuss archaeological mitigation requirements and permit conditions prior to construction? Who attends the meeting? Is the meeting documented? At what point in the planning/execution stages does this discussion take place?
3. Multiple contractors are involved during (ex. logging, pipeline), is each crew specific to each construction activity oriented on the specific location of archaeology sites?
4. Do you discuss archaeology concerns specific to each day at the kick-off/tail-gate meeting every morning? Is attendance at project meetings tracked and are working instructions signed onto?

Module 5: Record and Document Control

1. How are archaeology specific permit conditions and obligations tracked? Is there a position accountable for tracking permit conditions?
   a. What documents are on file to prove permit conditions have been met?

   b. Have all outstanding reports indicated in the audit selection letter been submitted?

2. How do you ensure that the information and documents provided to construction crews are the correct versions that were permitted by the BCER? Is this process documented?
3. How does the construction supervisor confirm that the construction package is complete and accurate? Is this process tracked and signed off on?

Module 6: Compliance Process and Knowledge

1. What is the process if the construction crew identifies artifacts during construction?
2. Do you have an archaeology chance find procedure? Do crews receive training on archaeological chance finds and is this training tracked?
3. What is the process if a potential archaeology non-compliance is brought to your attention during construction?
4. Is there a post construction inspection conducted to confirm mitigation strategies (ex. site avoidance, directional drill) were followed? Is there a specific person responsible for the inspection?
   a. How are post construction inspections tracked? What documents are on-file?
5. Are you familiar with the legislation that protects archaeology sites?
   a. Are crews and/or staff members informed (trained) on the legislation protecting archaeology sites and the penalties associated with the disturbance of those sites?

View of Archaeological area of potential adjacent to the pipeline right of way

Edge of Achaeological area of potential including orange no work zone flagging

Audit Questions Continued

Module 7: Heritage Management Systems
1. Proponent Specific Question(s)   - The specific questions to be asked will be tailored to each Proponent and file
2. Once the construction phase is complete for the audited project, how are archaeology avoidance and mitigation requirements communicated to the operations and maintenance team?
3. What documents are provided to the operations and maintenance team to support continued compliance with archaeology requirements?
4. If your company uses multiple archaeological consultants, how do you ensure consistent communication and accountability – one consultant may provide daily reminders while the other provides weekly reminders?
5. Is there consideration of archaeology requirements when assets are bought or transferred? Examples would include outstanding reporting, sites in conflict, incomplete archaeology.
Module 8: Document Review

1. The required documents were submitted prior to the audit interview and are congruent with the BCER copy (if applicable).
    a. AIF
    b. Archaeological Assessment Report (AIA, PFR, AOA)
    c. BCER-issued Development Permit
    d. BCER-issued Mitigation Approval Letter
    e. Project/Construction Plans
    f. Section 12.4 Permit (if available)
    g. Monitoring Report (if applicable)
    h. Stop-Work/ Chance Find Document(s)
    i. Post construction Inspection and Related Document(s)

Module 9: Field Questions
1. Have mitigation recommendations been followed?   a. If required, have the visual delineators (fencing, flagging) been removed?
2. If the construction supervisor attends the site visits, are they able to lead the audit team to the sites?

Table 3 Audit Module Questions

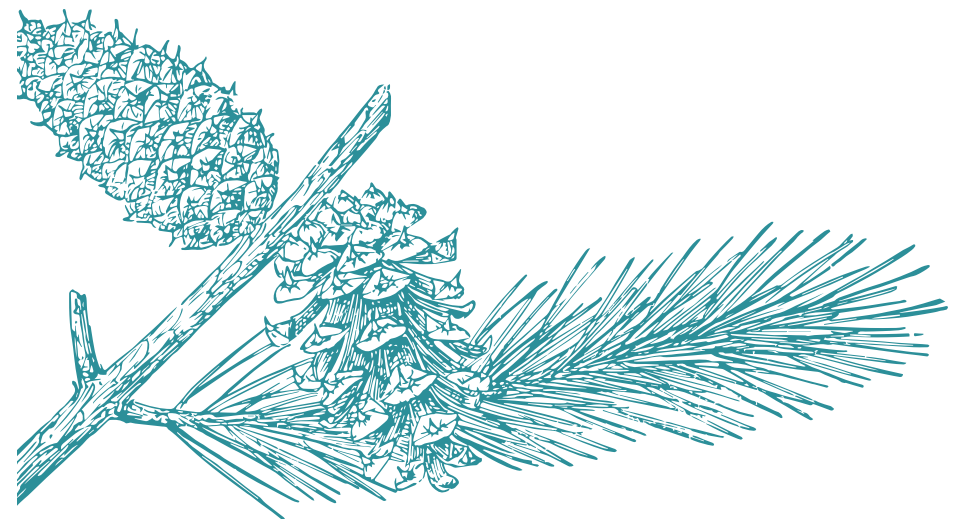*View of Achaeology site fencing and the directional drill entrance*

Audit Results

The results of the 2023 audit indicated an overall satisfactory scoring for most auditees.

	Exemplary Performance	Satisfactory	Opportunity for Improvement	Non-Conformance	Information Request	N/A
Permit Holder A	4	29	2	0	3	4
Permit Holder B	8	25	0	0	5	4
Permit Holder C	3	32	1	0	4	2
Permit Holder D	3	19	13	0	4	3
Permit Holder E	3	22	6	0	4	7

Table 4 Cumulative Findings by Individual Permit Holder

Table 4 depicts the cumulative findings by individual audited permit holder.
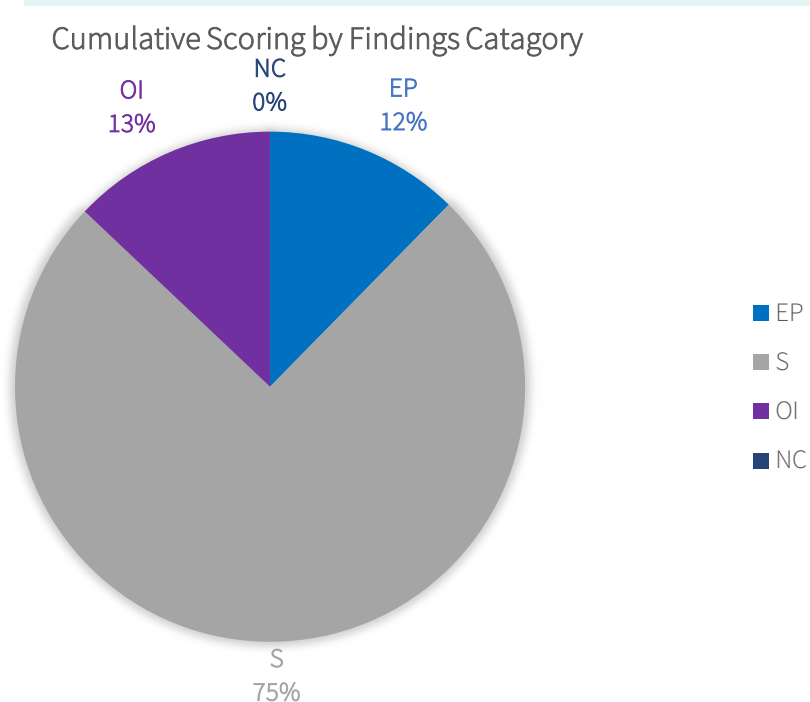
Audit Results Continued

Cumulative Scoring by Findings Catagory

- OI 13%
- NC 0%
- EP 12%
- S 75%

Legend: EP, S, OI, NC

Figure 2   The Cumulative Scoring by Findings Category

Cumulative Findings by Module

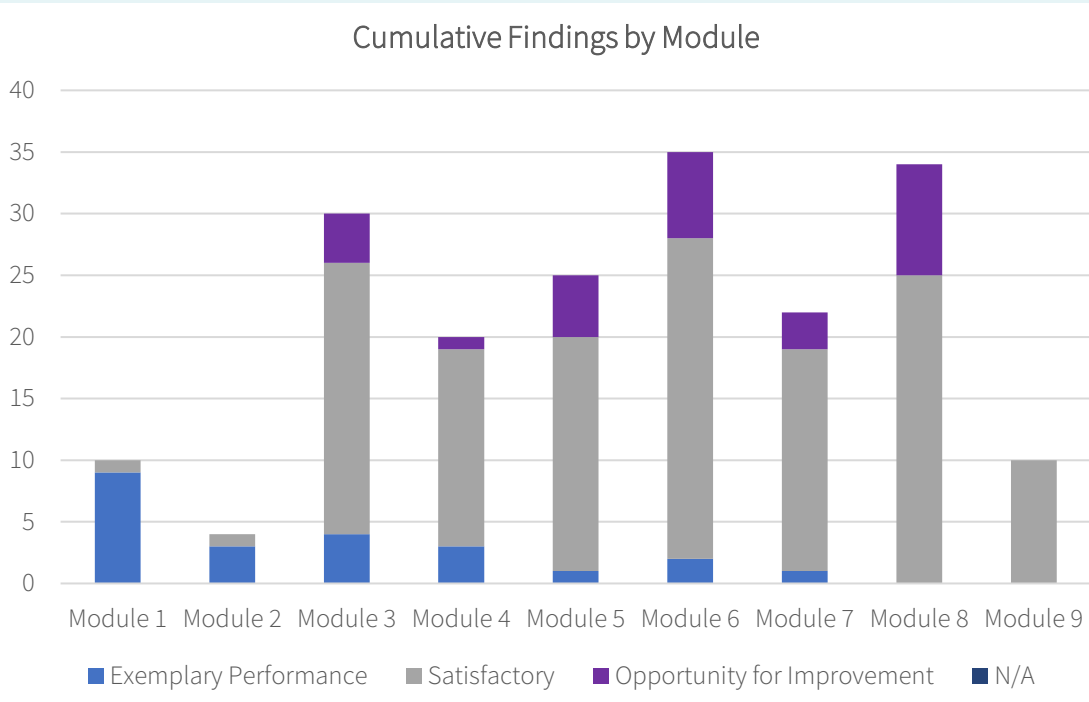Legend: Exemplary Performance, Satisfactory, Opportunity for Improvement, N/A
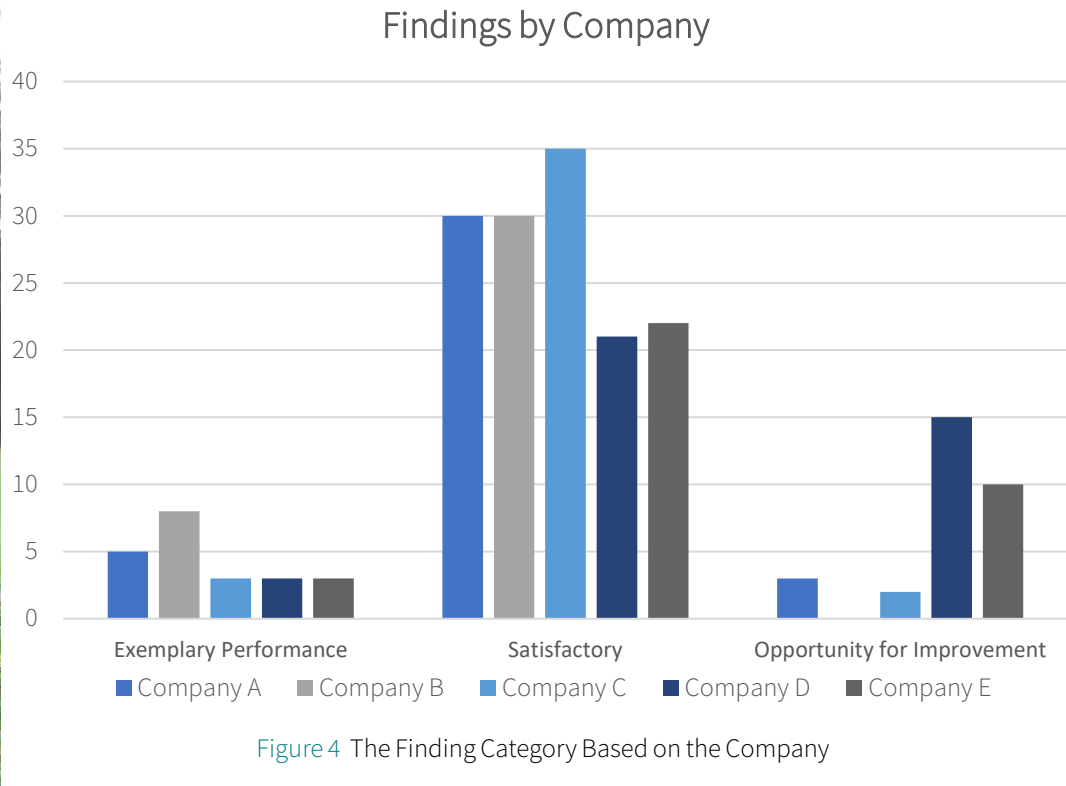
Figure 3   The Cumulative Findings by Module

Figures 2 through 4 represent the findings of the audit.

Audit Results Continued

View of intact orange no work zone fencing adjacent to workspace

Figure 4 The Finding Category Based on the Company

Sorting by cumulative response for each question (Table 5), illustrates an overall trend of strengths and a few weaknesses.

Module 5 - Question 1b, contained the highest number of OI scores. This question focused on the permit holder's documentation and fulfilling their required permit conditions by submitting outstanding archaeology reports.

The greatest number of EP scores were found in Module 1 - Question 1, Module 1 - Question 2, and Module 4 - Question 3. The score for Module 1 was based on the ability to provide the most appropriate persons for the audit interview. Module 4 question 3, was based on the capability of orientating multiple contractors to the location of archaeology sites and the permit conditions associated with managing them.

Highest Number of OI Scores:

Module 5 - Question 1b

Highest Number of EP Scores:

Module 1 - Question 1
Module 1 - Question 2
Module 4 - Question 3

	EP	S	OI	IR	NC	N/A
Module 1: Process Creation and Management						
Question 1.	5	-	-	-	-	-
Question 2.	4	1	-	-	-	-
Module 2: Previous Audit						
Question 1.	2	1	1	1	-	1
Module 3: Risk and Risk Management						
Question 1.	-	5	-	-	-	-
Question 2.	-	-	-	-	-	-
a.	2	1	2	2	-	-
b.	-	5	-	-	-	-
c.	-	4	1	1		
Question 3.	-	5	-	-	-	-
	2	2	1	-	-	-
Module 4: Communication						
Question 1.	-	5	-	-	-	-
Question 2.	-	5	-	-	-	-
Question 3.	3	1	1	-	-	-
Question 4.	-	5	-	-	-	-
Module 5: Record and Document Control						
Question 1.	-	5	-	2	-	-
	1	4	-	1	-	-
	-	1	4	5	-	-
Question 2.	-	4	1	1	-	-
Question 3.	-	5	-	-	-	-
Module 6: Compliance Process and Knowledge						
Question 1.	-	4	1	-	-	-
Question 2.	2	2	1	-	-	-
Question 3.	-	5	-	-	-	-
Question 4.	-	4	1	1	-	-
a.	-	3	2	1	-	-
Question 5.	-	5	-	-	-	-
a.	-	3	2	1	-	-
Module 7: Project Specific Questions						
Question 1.	1	3	1	1	-	-
Question 2.	-	5	-	2	-	-
Question 3.	-	5	-	1	-	-
Question 4.	-	3	-	-	-	2
Question 5.	-	2	2	-	-	1
Module 8: Document Review						
a. AIF	-	4	1	-	-	-
b. Archaeology Assessment Report	-	4	1	-	-	-
c. BCER-Issued Development Permit		4	1	-	-	-
d. BCER- Issued Mitigation Approval Letter		3	2	-	-	-
e. Project/Construction Plan		3	2	-	-	-
f. Section 12.4 Permit	-	1	-	-	-	4
g. Archaeology Monitoring Report	-	1	1	-	-	3
h. Stop Work/ Chance Find Document		4	1	-	-	-
i. Post-Construction Inspection and Related Document(s)	-	1	-	-	-	4
Additional Information						
Module 9: Field Questions						
Question 1.	-	5	-	-	-	0
	-	2	-	-	-	3
Question 2.	-	3	-	-	-	2

Table 5 Cumulative Results by Individual Questions

Discussion

Management systems consist of several components that work together, and the AAP is designed so components can be examined independently to evaluate the overall strength of the system. The audit findings reflect the assessed risk for management system failure or success based on deficiencies or best practices noted during the audit.

A major challenge for every AAP is to ensure the appropriate interviewees are identified by the audited permit holders and they are present for the interview. Ideally, this would include the person in charge of compiling and delivering the construction package to the field crew and the construction supervisor responsible for the project(s) under audit. Understandably, these people may no longer be with the company, but a successor holding lateral and current positions is expected to be briefed by the permit holder and present for interview.

In 2023, four audited permit holders were able to provide the personnel original to the project, with the remaining permit holder presenting persons currently filling positions equal to or lateral to the original personnel. This permit holder was not affected by auditee representatives as they were involved with the audited project and were able to answer the necessary questions. The results were equally comparable to the other auditees as they relate to current processes and the evaluation risk.

Audited permit holders received individual results reports on the successes and opportunities for improvement within their management systems, detected during the audit.

The auditees were provided with a 10-business day response period to comment on the results or provide additional requested information. During the comment period, three permit holders indicated they had reviewed the draft individual results. One permit holder requested further clarification and two permit holders replied detailing their intentions to implement procedures suggested in the audit results letter. Two permit holders neither submitted nor responded to the BCER's request for supplemental information.

View of archaeology site adjacent to a cleared workspace

Information Requests

Each of the auditees had at least one IR finding. The greatest number of IR findings were found for Module 5, Question 1b. The question was related to fulfilling the reporting requirements. Many of the permit holders had outstanding reporting that had not been properly tracked and submitted. This is consistent with the 2021 AAP where the highest IR findings were related to how post-construction inspections were tracked. This may indicate permit holders require additional support or clarification regarding best management practices for these specific aspects of the management system.

Module 5, Question 1b "Have all outstanding reports indicated in the audit selection letter been submitted?" was both a question with high IR findings and the question with the highest number of OI findings, suggesting, there is an overall weakness in the permit holder's management system and tracking permit conditions over time.
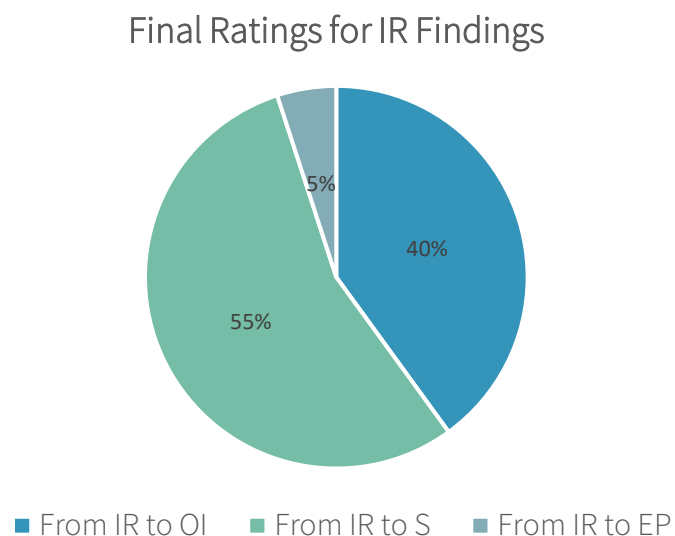
Many questions resulted in requests for additional information to clarify responses or provide documentary evidence.

Information Request (IR) findings accounted for roughly 10.5 per cent of the cumulative scoring.

For questions that were initially assigned an IR finding, 55 per cent resulted in a Satisfactory (S) score once the applicable information was received.

The remaining IR findings resulted in an Opportunity for Improvement (OI) score (40 per cent) and an Exemplary Performance (EP) score (five per cent). Figure 5 shows the final ratings for IR findings.

Final Ratings for IR Findings

Legend: ■ From IR to OI   ■ From IR to S   ■ From IR to EP

Figure 5 Final Ratings for IR Findings

Opportunities for Improvement

Opportunities for improvements (OI) were found in numerous areas for all but one permit holder. The number of OI findings ranged from one permit holder receiving two OI findings, to one permit holder receiving OI findings in 15 audited areas (illustrated in Figure 6). Overall, cumulative OI findings were identified in seven of the nine modules. Module 1 and module 9 had no OI findings.

The question with the highest OI findings was module 5 question 1b, relating to records and document control. This directly correlates with the module with the highest number of cumulative OI findings being Module 8, which is related to document review. This suggests most of the permit holders would benefit from a document management system to help remain compliant with permit conditions and avoid risk while streamlining the overall workflow and productivity of the management system.

Overall, the number of OI findings have decreased since the 2021 audit indicating the permit holders are preparing the applicable documentation and supplying the appropriate staff to answer the audit questions.
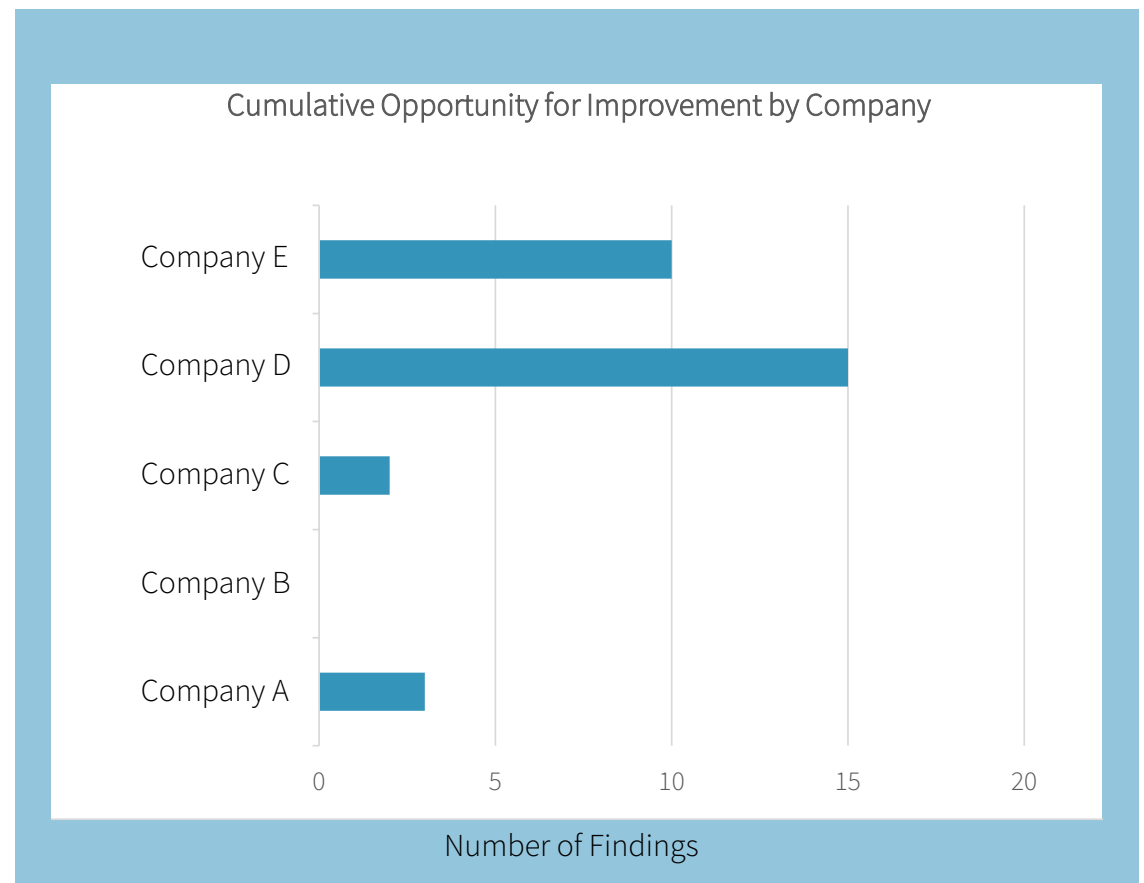

Figure 6 Cumulative Opportunity for Improvement Findings by Company

The following list includes some of the findings and observations that are considered weaknesses in archaeology management systems as observed in the 2023 AAP:

• Two permit holders did not have a system in place to ensure the flagging or fencing was properly set up prior to construction.

• Four permit holders were unable to fulfill their reporting requirements prior to the Information Request deadline.

• Two permit holders had no process to track post construction requirements.

• One permit holder submitted the documents related to a different project rather than the selected project.

View of archaeological area of potential

Recognized Best Practices 2023

Below is a list of commendations awarded to companies participating in the 2023 audit.

Permit holders included the AIA Report, Flagging Report, Permit, AIF and Mitigation approval letter in their construction packages. Two Permit holders asserted this practice.
A specific person or position is accountable for archaelogy management. Who works directly with the archaeologist at a field level. One permit holder asserts this practice.
A specific person reviews the plans and conducts a tour where the archaelogy sites are prior to work being conducted in the area. Three permit holders assert this practice.
The crews receive a PowerPoint presentation on archaeological chance finds prior to construction. One permit holder asserts this practice.
If additional areas that require management are noted, but not included in the permit condition, apply additional mitigation measure to ensure avoidance. One permit holder asserts this practice.
The permit holder has a chance find procedure handout which includes an employee sign off area. One permit holder asserts this practice.
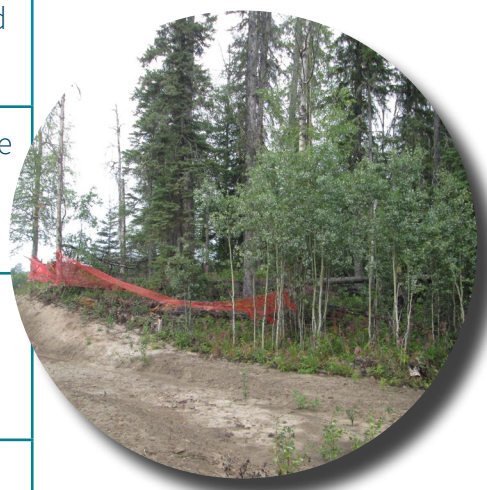
Archaeology site with orange no work zone fencing, located adjacent to constructed well location

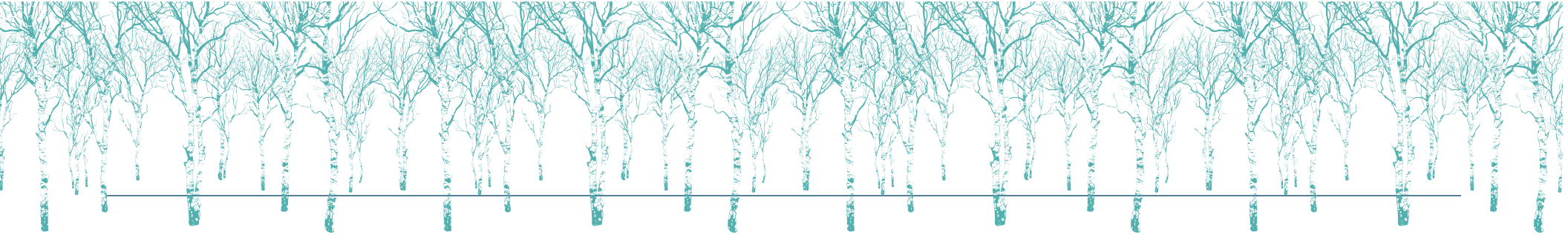# Recommendations, Conclusion & Future Audits

Recommendations and Conclusion

To help mitigate the risk of non-compliance with respect to the Heritage Conservation Act and the Energy Resources Activity Act in relation to archaeology resources, the following recommendations are suggested for permit holders based on the 2023 AAP results:

1. Create and implement a simple document (eg. brochure, pamphlet) outlining chance find process. Ensure it is noted to contact the BCER Heritage Conservation team directly in case of a chance find.

2. Create a document management system to help remain compliant with permit conditions and avoid risk while streamlining the overall workflow and productivity of the management system.
    a. Create a documented process to track archaeology requirements when files are transferred to the operations and maintenance team.
    b. Create a documented process to track archaeology requirements when assets are purchased.
    c. Create a documented process to track and document post construction inspections of archaeology sites.
    d. Create a documented process to track permit conditions.
    e. A single position responsible for the coordination and tracking the archaeological requirements through the life cycle of the project. One company has indicated this best practice was being implemented.

3. Develop training which will inform staff about the legislation and penalties associated with disturbing archaeology sites. This could be included with the chance find document recommended above. Recommend a documented process regarding the audit of the construction packages before they are sent out to crews in the field.

4. Document a formalized process to ensure the field tour of the archaeological sites is completed before crews commence work in close proximity to archaeological sites.

5. Create a filing system for communications associated with the archaeological requirements. Ensure the archaeology mitigation approval letter is filed and available.

6. Document internal process for tracking the completion of archaeological site flagging or fencing.

To help mitigate the risk of non-compliance, practice these six suggested recommendations.

Recommendations and Conclusion Continued

The results of the 2023 AAP audit indicate the permit holders have practices that address most aspects of archaeology resource management.

Permit holders that scored the highest utilized a solid archaeology management system with effective tracking and document control. These permit holders ensured accountability for, and management of, archaeological resources by assigning responsibility to a specific person or position within the company while ensuring there are documented processes and procedures in place. The permit holders who implement recommendations from previous audit reports have a stronger more robust management system than those who do not utilize the recommendations.

Permit holders that scored the lowest were those which could not demonstrate or describe their communication system or document tracking for archaeology assessments and reporting.

Nearly all audit findings for improvement related to archaeology are traced back to weaknesses in communication and document control, and therefore these are considered the most important aspects of the archaeology audit.

Future Audits

Future audits will continue to incorporate components to address archaeology report submissions. Additionally, future audits will include a component to address how archaeology concerns are considered during maintenance and integrity activities. This includes how the locations of sites and area, or archaeological potential are communicated after the construction phase is complete.

During the 2023 audit, the process regarding how these concerns were addressed and communicated varied significantly between permit holders.

Cumulative Best Practices (2008 - 2023)

Below is a list of the cumulative best management practices observed in previous audits:

1. An on-site construction supervisor provides field orientation for construction crews prior to project start-up when archaeologically sensitive areas exist within a development.

2. Specific individuals are responsible for ensuring all regulatory and legislated archaeological requirements are met for each development.

3. Transfer and receipt of required paper documentation to construction crews is completed prior to project commencement. The documents include archaeology reports and BCER-accepted site mitigation strategies if applicable.

4. Development of a written archaeology resource management plan and formalized standard operating procedures. The management plan fully addresses and includes the following:
   • Relevant legislative and regulatory requirements.
   • Processes for ensuring the completion of archaeological assessments and the timely submission of archaeological reports to the BCER.
   • Checklists to ensure all archaeological requirements are completed prior to construction activities.
   • Processes for fulfilment of requirements surrounding archaeological assessment and site avoidance requirements should range from high level planning to individual task assignments.
   • A briefing of staff, contractors and land agents to ensure familiarity with the contents of the management plan.

5. Create or refine existing tracking systems to include project status and archaeology report submission dates. Emphasis placed on tracking and ensuring information regarding archaeology assessments and site management is accurately visually related to field staff.

6. Contact the BCER periodically to reconcile records for regulatory obligations.

7. Develop a communication record, summarizing dates and information exchange. A project communication record serves as a valuable reference for project details and transactions. As well, it is the basis for development or improvement of data distribution processes, as the record illustrates where a breakdown in communication may have occurred.

8. Implement and distribute an archaeological Chance Find Procedure to create awareness of steps to take should artifacts be identified during construction. Training is then provided to crews regarding this procedure. Participation in the training is tracked.

9. Implement a formal post-construction field inspection procedure to ensure mitigation strategies have been followed.

10. Include the AIA Report Flagging Report, Permit, AIF, and Mitigation Approval Letter to the construction crews.

11. If additional areas of archaeological potential are noted during the fencing/flagging stage, they are also mitigated through fencing/flagging.

Glossary of Terms and Abbreviations

Glossary of Terms

Applicant - An energy resource permit holder that has applied to the BCER for a development permit.

Archaeology - Is the study of human activity through the recovery and analysis of what people leave behind.

Archaeology Professionals - An experienced archaeologist who holds a permit under Section 12.2 of the HCA, for the purpose of conducting archaeological impact assessments, and the archaeologists working under the direction of the HCA permit holding archaeologist.

Archaeological Site - Is a location where archaeological remains have been found. These remains can be stone tools, rock art, cairns, burials, and other evidence of past human activities.

Document - A piece of written, printed or electronic matter that provides information or evidence or that serves as an official record.

ISO 9001 - International Organization for Standardization quality management system requirements. The ISO 9001 sets out requirements aimed primarily at giving confidence in the products and services provided, thereby improving customer satisfaction.

ISO 14001 - International Organization for Standardization environmental management system requirements. The ISO 14001 sets out requirements aimed at managing an organization's activities, products, and services in such a way that the environmental conditions with which they interact show a net gain in resilience, diversity, and capacity.

Management System - Is a set of interrelating or interacting elements to establish policies, objectives and processes to achieve those objectives.

Permit Holder - An energy resource company that holds a permit for an energy development. Each development activity requires a permit to be issued by the BCER.

Record - A thing constituting a piece of evidence about the past, especially an account of an act or occurrence kept in writing or some other permanent form.

Abbreviations

AAP	Archaeology Audit Program	**ISO**	International Organization for Standardization
AIF	Archaeology Information Form	**Manual**	Archaeology Audit Program Procedure Manual
AIA	Archaeology Impact Assessment	**NC**	Non-conformance
AOA	Archaeology Overview Assessment	**NTS**	National Topographic System
B.C.	British Columbia	**OI**	Opportunity for Improvement
BCER	BC Energy Regulator	**PFR**	Preliminary Field Reconnaissance
EP	Exemplary Performance	**S**	Satisfactory
HCA	Heritage Conservation Act	**S12.2**	Section 12.2 of the HCA
HCP	Heritage Conservation Program of the BCER	**S12.4**	Section 12.4 of the HCA
IR	Information Request		

View of archaeological site adjacent to pipeline right-of-way

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