

Archaeology Audit Program

2021 Report



Role of the BC Oil and Gas Commission

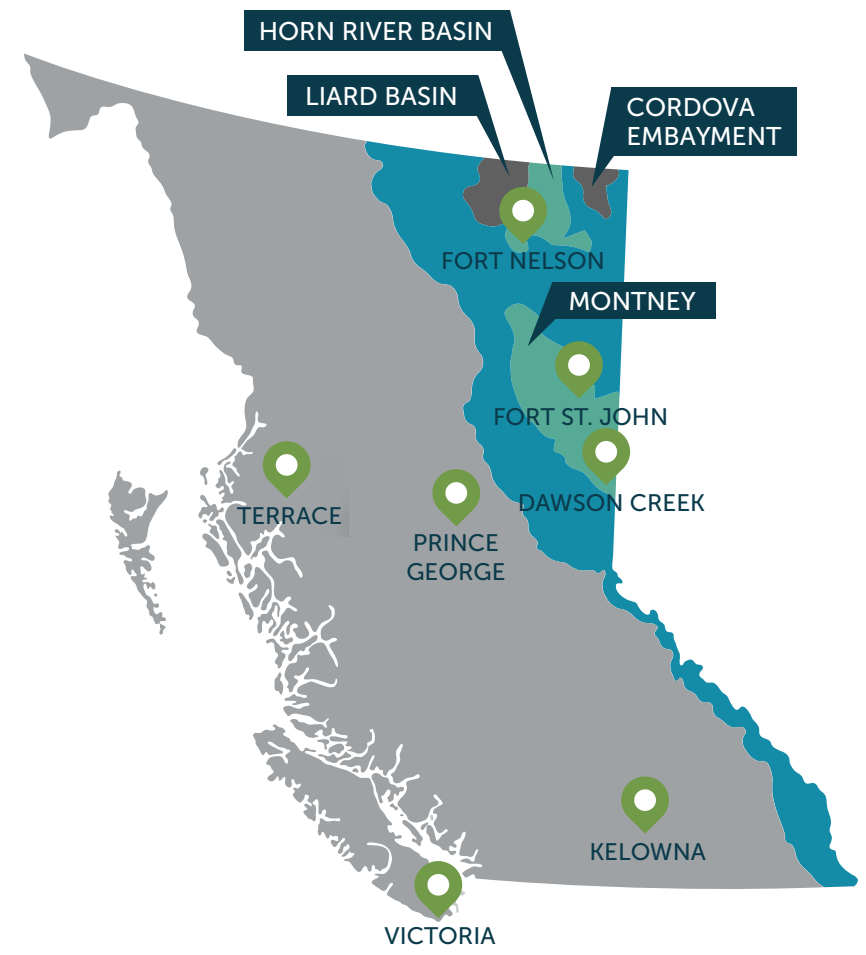
The [BC Oil and Gas Commission](#) (Commission) protects public safety and safeguards the environment through the sound regulation of oil, gas and geothermal activities in B.C.

From exploration through to final reclamation, we work closely with communities, First Nations, and land owners, and confirm industry compliance with provincial legislation.

We are committed to advancing reconciliation and establishing close working relationships with Indigenous peoples throughout the energy life cycle.

With more than 20 years' dedicated service, the Commission is committed to safe and responsible energy resource management for British Columbia.

For general information about the Commission, please visit [bcogc.ca](#) or phone 250-794-5200.



The Commission's workforce consists of over 280 employees operating out of seven locations - Fort Nelson, Fort St. John, Dawson Creek, Terrace, Prince George, Kelowna and Victoria, with the largest number of employees concentrated in Fort St. John, the heart of oil and gas activity in the province. The offices in Fort Nelson and Dawson Creek ensure the Commission's presence in the communities of the Horn River Basin and Montney gas plays respectively.

Vision

Safe and responsible energy resource development for British Columbia.

Mission

We provide British Columbia with regulatory excellence in responsible energy resource development by:

- Protecting public safety.
- Safeguarding the environment.
- Respecting those who are affected.

Values

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.

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

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

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

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Introduction

The [Commission](#) introduced the Archaeology Audit Program (AAP) in 2008 to assess oil and gas companies' ([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 the management of archaeology resources by permit holders. It is the permit holders' responsibility to ensure all legal and regulatory obligations are met.

Oil and gas applicants are expected to engage [archaeology professionals](#) to evaluate archaeology conflicts within their proposed development areas. It is the Commission's expectation 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 Commission.

To assist permit holders in achieving best practices when managing archaeology resources, the Commission provides support throughout the entire lifecycle of each project. The AAP is engaged at the post-construction phase of the project, when the Commission evaluates the effectiveness of the permit holder's performance by auditing their archaeology [management system](#).

The AAP has two primary objectives:

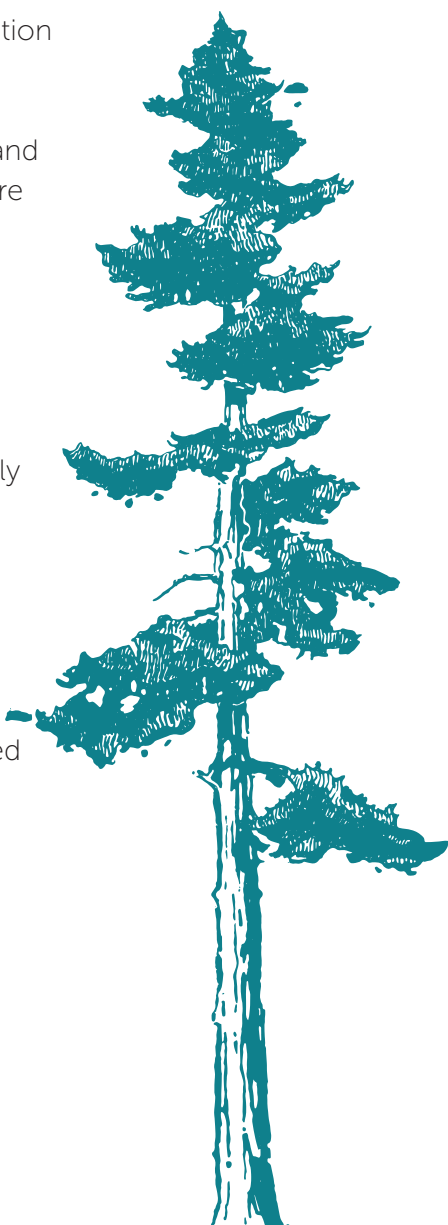
1. To ensure the permit holder's management systems are adequate for meeting legislative and regulatory obligations.

Through an interview, document review and field examination process, the annual archaeology audit 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 industry permit holders are operating.

2. To gather baseline data to establish procedures for best management practices for archaeology resource management within the oil and gas sector of B.C.

Innovative and successful practices are highlighted annually in the Archaeology Audit Report within the context of cumulative recommendations for improvement. The Archaeology Audit Report recommendations should be used by all companies as best management practices to continually improve their processes.

This report details the results of the 2021 AAP for 10 audited permit holders (auditees) and includes recommendations for all permit holders based on observed best practices and noted opportunities for improvement regarding best management practices for archaeology resource management within the oil and gas sector of B.C.



Audit Process

The [2021 Archaeology Audit Program Procedure Manual](#) (Manual) is a complete guide for the audit process and is available on the Commission's website. It should be referenced for complete methodology and sampling details to supplement this report. The manual is updated prior to each new audit year and details sampling rationale and provides proven best management practices for auditees to review.

The AAP is a systematic process which relies on the principles of independence and objectivity. Specifically, the following principles guide the conduct of the 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.
- Confidential 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.

The 2021 AAP team consisted of a Lead Auditor from the Commission's Heritage Conservation Program (HCP) staff, and three additional audit team members. The audit team has extensive experience in reviewing and advising on the work of both oil and gas permit holders and archaeologists working in the province of B.C. Additionally, ISO 9001 and 14001 lead auditor training is provided to Commission HCP staff.

Audit Sampling and Process

Each audit cycle considers changing trends in the oil and gas industry to ensure all aspects and types of development are considered. Previous audit results help focus the Commission's resources on permit holders who have scored poorly in the past. Permit holders selected for audit, but who have produced exemplary audit results in past audits, may be exempt from the current audit and replaced through random selection. Projects are selected at the discretion of the audit team prior to or during the audit process. The projects must be manually selected due to a number of variables that cannot be controlled through a random selection process, including archaeological values, small sample size, and accessibility.

The parent sample for the 2021 AAP was chosen from a total population of 5,906 applications approved from 2017-2020 (including 2,303 applications for amendments) applied for by 118 companies¹. Projects constructed in 2020 were selected and evaluated for archaeological concerns, reducing the total to 26 permitted projects from 13 proponents. One constructed project from each of 10 proponents was selected for the 2021 Archaeology Audit.

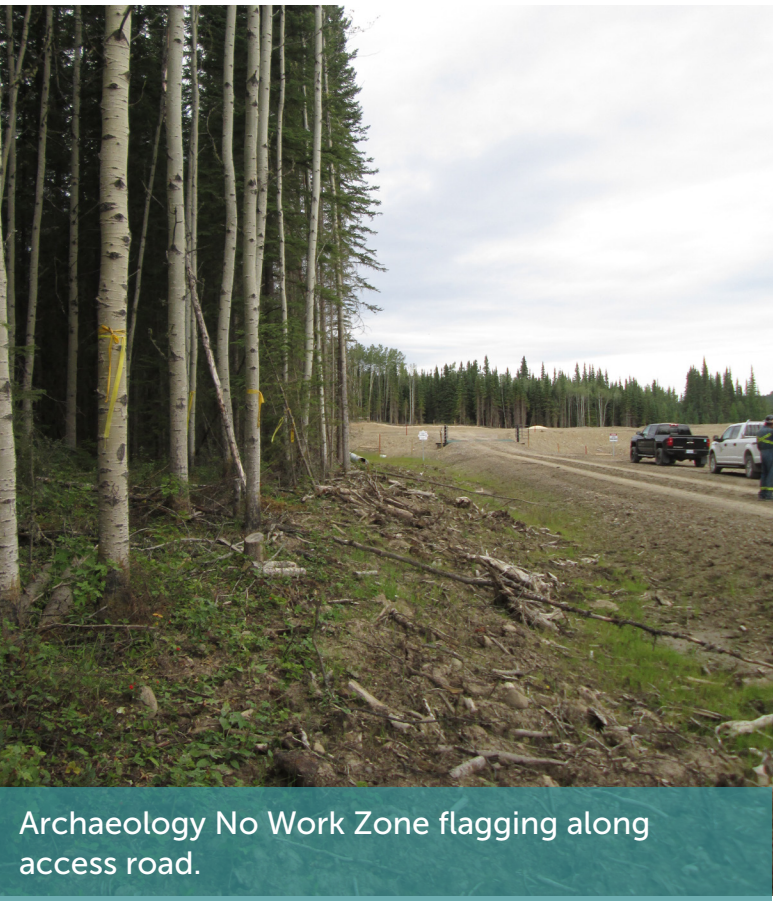
After the selection of the auditees for the 2021 AAP, one of the selected proponents notified the Commission's Archaeology Audit Team that the proponent had inadvertently provided notice of construction commencement to the Commission, and the selected development had not been constructed. It was determined that an alternative development from the same selected proponent would replace the initial development. Therefore, the final audit sample included nine projects constructed in 2020, and one project constructed in 2019, from 10 proponents.

¹The total number of companies includes duplicate entries as a result of permit holder name change(s) or subsidiary corporations.

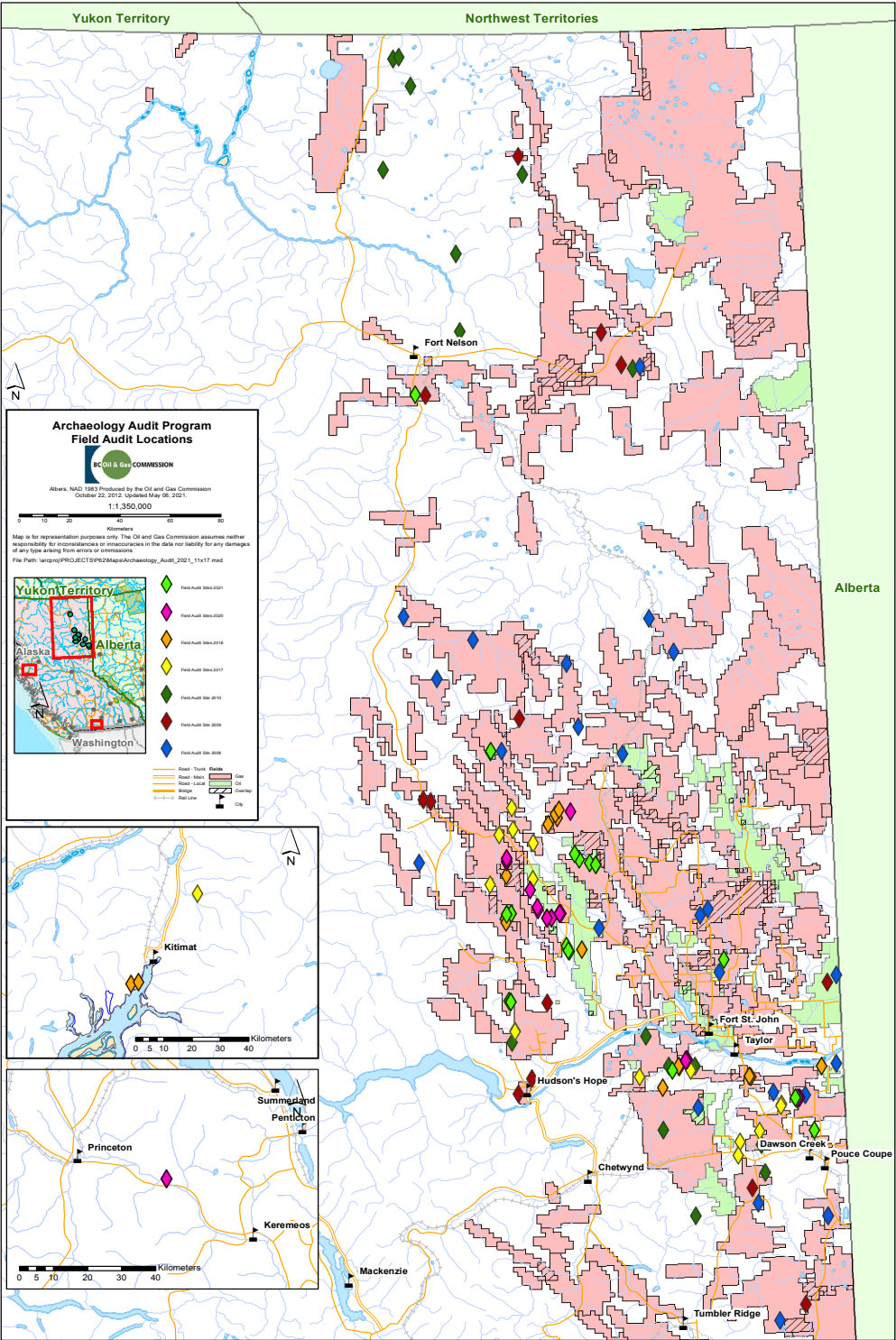
Audit Sampling and Process

Figure 1 illustrates the distribution of field audit sites conducted to date through the AAP. Due to access limitations, not all 23 archaeology sites and areas of archaeological potential associated with the 10 constructed projects from the 2021 AAP were able to be inspected as a part of the audit. However, all are illustrated on Figure 1 to best represent the scope of the 2021 AAP.

Figure 1 Cumulative Map of Archaeology Audit Program Locations



Archaeology No Work Zone flagging along access road.



Audit Methods

The 2021 AAP examined nine (9) 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. Table 1 outlines the criteria measured, corresponding functional objective, and method in which the data was collected for each module.

Table 1 2021 Audit Modules and Functional Objectives

	Module	Criteria Measured	Functional Objective
Interview	Module 1	Process Creation and Management	Supports adherence to legislation and regulatory requirements through established processes.
	Module 2	Preview 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	Project Specific Questions	To establish how the permit holder’s management system was implemented in a construction context.
Document Review	Module 8	Document Review	To establish if the appropriate documents were provided for the audit.
Field Inspection	Module 9	Field Inspection(s)	To observe and determine if the management system functioned successfully in the field.



Fallen tree on top of archaeology site fencing.

Audit Review

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 at the time of selection for the audit. Audit interviews were conducted remotely using Microsoft Teams video conferencing platform. Interviews were recorded for accuracy purposes and referenced as needed during evaluation and scoring of the audit.

Document Review

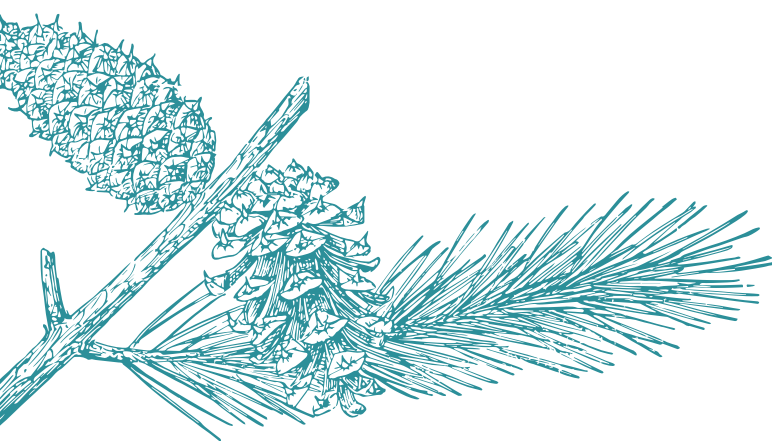
A list of required documents for the audit was provided to auditees at the time of selection for the audit. These documents, specific to the audited project, were required to be submitted prior to the audit interview. Scores were determined on the ability to submit the appropriate required documents within the specified time frame.

Field Inspection

Field Inspection questions and scoring criteria were created by the AAP team prior to the selection of auditees. Auditees were supplied the field inspection questions at the time of selection for the audit. Participation in the field inspection by the auditees was not required due to COVID-19 restrictions and did not affect the audit score.

Findings Determination Process & Scoring

The scoring criteria for the audit interview, document review and field inspection were created by the AAP team prior to the selection of auditees. 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. Table 3 details the audit questions and corresponding modules under each question asked.



Wooden stakes with flagging, at the edge of a No Work Zone.



Pipeline right of way which avoided an archaeological area of potential in adjacent forested area.



Table 2 Findings Categorization

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 specific management plan to manage archaeological resources or ensure compliance with legal and regulatory requirements.
Information Request	(IR)	This rating is assigned when additional information is requested from the client to clarify the answer provided during the audit interview.
Non-Conformance	(NC)	Audit determined regulatory, legal, or other requirements were not met.

Table 3 Audit Module Questions

Module 1: Process Creation and Management
1. Can you describe your role and the work you do for the company?
2. Were you the field supervisor for the audited project?
Module 2: Previous Audit
1. Have recommendations from the audit report been implemented?
Module 3: Risk and Risk Management
1. At what point in your project planning and execution process is an archaeologist engaged in a review of the project?
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?
Module 4: Communication
1. Are field supervisors included in discussions about potential archaeological mitigation to ensure the mitigation will be feasible in the field during construction?
2. Is there a documented meeting held to discuss archaeological concerns between office staff preparing the construction package, the field supervisor and the archaeological contractor? At what point in the planning/execution stages does this discussion take place?
3. To account for the involvement of different contractors and field crews, is each crew specific to each construction activity oriented on the specific location of archaeology sites? (ex. Loggers vs pipeline crews)
a. If No, How do you manage for the risk to archaeological site impact if crews are unaware of the site locations?
4. Do you discuss archaeology concerns specific to each day at the kick-off/tail-gate meeting every morning?
a. 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?
a. What documents are on file to prove permit conditions have been met?
b. After receiving our selection letter have all outstanding reports been submitted?
2. AIA reports are often subject to revision during the Commission review process prior to mitigation acceptance. How do you track these revisions and ensure the approved version is on file with construction for review?
3. How is it confirmed in the field that the construction package is complete and is this process tracked and signed off on?

Module 6: Compliance Process and Knowledge
1. Do you have an archaeology chance find procedure? Do crews receive training on archaeological chance finds and is this training tracked?
a. What is the process if the construction crew identifies artifacts during construction?
2. What is the process for potential non-compliance in relation to archaeology brought to your attention during construction?
3. Is there a post construction inspection conducted to confirm mitigation strategies (ex. site avoidance, directional drill) were followed?
a. Is there a specific person responsible for the inspection?
b. Are post construction inspections tracked?
c. Can you show me how post construction inspections are tracked?
4. 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?
Module 7: Project Specific Questions
The specific questions to be asked were tailored to each permit holder and file.
Module 8: Document Review
1. Was the required document submitted prior to the audit interview and congruent with the Commission copy (if applicable)?
a. AIF
b. Archaeological Assessment Report (AIA, PFR, AOA)
c. Commission-issued Development Permit
d. Commission-issued Mitigation Approval Letter
e. Project/Construction Plans
f. Section 12.4 Permit (if applicable)
g, Monitoring Report (if applicable)
h. Stop-Work/Chance Find document(s)
Module 9: Field Inspection
1. Have mitigation recommendations been followed?
2. Do field observations match information presented in applicable documentation?
3. If the Construction supervisor attends the site visits, are they able to lead the audit team to the sites?

Audit Results

Table 4 shows the cumulative results by individual audit question, while Figure 2 shows the cumulative results by module. Cumulative scoring by findings category, displayed by percentage, are shown in Figure 3 and Figure 4. Table 5 depicts the cumulative findings by individual audited company.

Table 4 Cumulative Results by Individual Questions²

	EP	S	OI	NC	N/A	IR
Module 1: Process Creation and Management						
Question 1	5	5	0	0	0	0
Question 2	8	1	1	0	0	0
Module 2: Previous Audit						
Question 1	0	7	1	0	2	0
Module 3: Risk and Risk Management						
Question 1	0	10	0	0	0	0
Question 2	-	-	-	-	-	-
a.	3	5	2	0	0	1
b.	3	5	2	0	0	0
c.	0	7	3	0	0	1
Question 3	0	10	0	0	0	0
a.	1	6	3	0	0	1

Exemplary Performance (EP), Satisfactory (S), Opportunity for Improvement (OI), Information Request (IR), Non-Conformance (NC)

²Table 4 depicts the cumulative results for individual questions, inclusive of the revised finding given for questions initially given an IR finding. The number of IR findings for each question is included for illustrative purposes only.

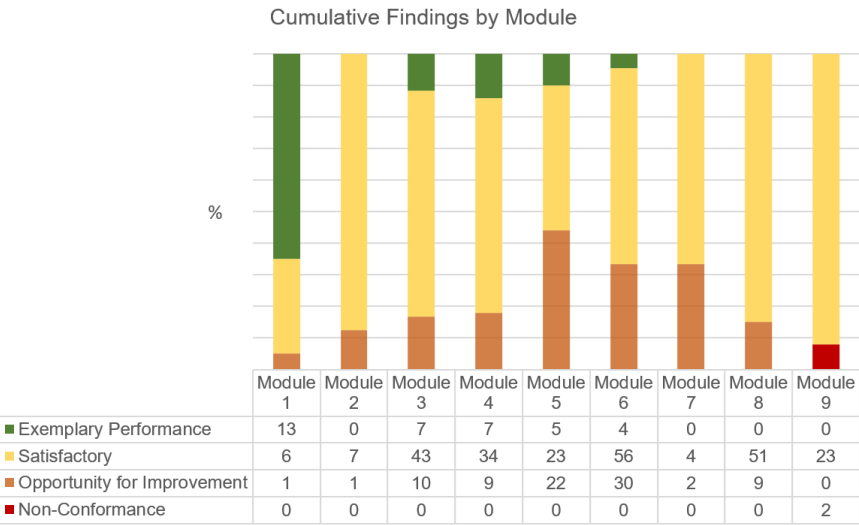
	EP	S	OI	NC	N/A	IR
Module 4: Communication						
Question 1	1	7	2	0	0	0
Question 2	0	6	4	0	0	1
Question 3	4	6	0	0	0	0
a.	0	0	0	0	10	0
Question 4	2	5	3	0	0	0
a.	0	10	0	0	0	0
Module 5: Record and Document Control						
Question 1	0	5	5	0	0	1
a.	0	6	4	0	0	2
b.	3	5	2	0	0	1
Question 2	1	3	6	0	0	2
Question 3	1	4	5	0	0	1
Module 6: Compliance Process and Knowledge						
Question 1	2	1	7	0	0	3
a.	0	7	3	0	0	0
Question 2	0	7	3	0	0	0
Question 3	0	7	3	0	0	0
a.	0	9	1	0	0	0
b.	0	6	4	0	0	0
c.	0	7	3	0	0	4
Question 4	0	10	0	0	0	0
a.	2	2	6	0	0	0

	EP	S	OI	NC	N/A	IR
Module 7: Project Specific Questions ³						
Question 1 ⁴	0	4	2	0	4	0
Module 8: document Review						
Question 1	-	-	-	-	-	-
a. AIF	0	10	0	0	0	0
b. Archaeology Assessment Report	0	10	0	0	0	0
c. Commission-issued Development Permit	0	9	1	0	0	0
d. Commission-issued Mitigation Approval Letter	0	9	1	0	0	0
e. Construction Plans	0	9	1	0	0	0
f. Section 12.4 Permit (if applicable)	0	0	0	0	10	0
g. Archaeology Monitoring Report (if applicable)	0	0	0	0	10	0
h. Stop Work/Chance Find Document	0	4	6	0	0	0
Module 9: Field Inspection						
Question 1	0	9	0	1	0	0
Question 2	0	9	0	1	0	0
Question 3	0	5	0	0	5	0

³Six auditees answered project specific questions under Module 7. No project specific questions were determined for four auditees at the time of the audit.

⁴One cumulative score is assigned for the project specific questions under Module 7.

Figure 2: Cumulative Findings by Module



HCP audit team member conducting field inspection of constructed road, adjacent to an archaeology site.

Figure 3: Cumulative Scoring by Findings Category

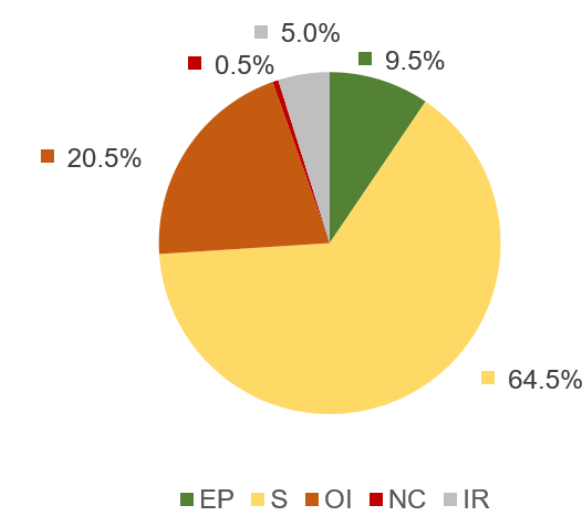


Figure 4: Cumulative Scoring by Findings Category, with revised IR scores

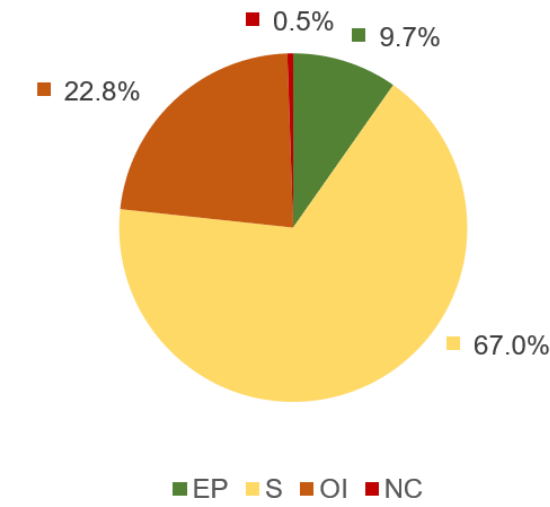


Table 5: Cumulative Findings by Individual Company⁵

	EP	S	OI	NC	IR	N/A
Company A	1	19	17	0	1	4
Company B	6	24	7	0	1	4
Company C	3	29	5	0	2	4
Company D	4	23	11	0	0	3
Company E	1	26	8	0	5	6
Company F	3	25	9	0	3	4
Company G	4	27	7	0	3	3
Company H	3	28	3	2	1	5
Company I	10	25	1	0	2	5
Company J	1	21	16	0	0	3

Exemplary Performance (EP), Satisfactory (S), Opportunity for Improvement (OI), Information Request (IR), Non-Conformance (NC)

⁵Table 5 depicts the cumulative findings by company inclusive of the revised finding given for questions initially given an IR finding. The number of IR findings for each audited company is included for illustrative purposes only.

Highest Number of OI Findings:

- Module 6, Question 1
- Module 6, Question 4a
- Module 5, Question 1 & 1a
- Module 5, Question 2
- Module 5, Question 3

Highest Number of EP Findings:

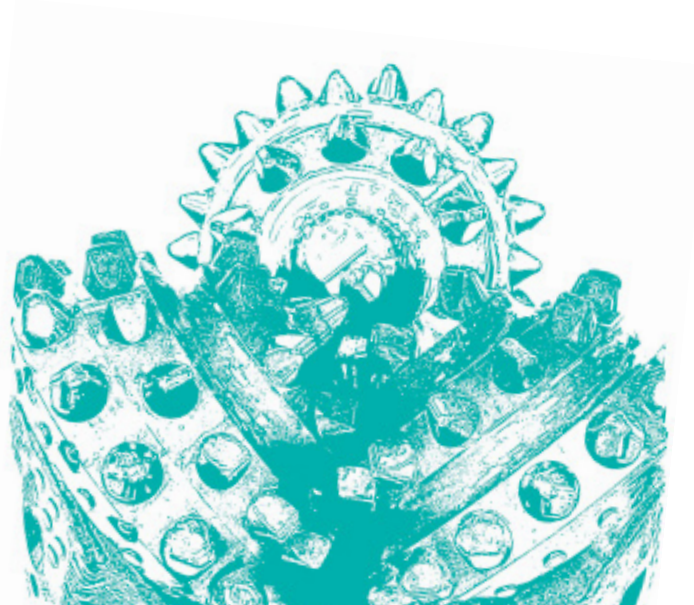
- Module 1, Question 1 & 2
- Module 3, Question 2a & 2b
- Module 4, Question 3
- Module 5, Question 1b

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. The results of the 2021 AAP demonstrated an overall satisfactory score by cumulative findings (Figure 3 & 4) and an overall satisfactory score by module (Figure 2).



View of wellsite.





Information Requests

A number of questions resulted in requests for additional information in order to clarify responses or to provide documentary evidence. Information Request (IR) findings accounted for five per cent of the cumulative scoring. For questions that were initially assigned an IR finding, half (50 per cent) resulted in an Satisfactory (S) score once the applicable information was received. The remaining IR findings resulted in an Opportunity for Improvement (OI) score (44 per cent) or an Exemplary Performance (EP) score (six per cent). Figure 5 shows the final ratings for IR findings.

Eight of the 10 auditees had at least one IR finding. The greatest number of IR findings were found for Module 6, Question 3C and Module 6, Question 1. The question with the highest number of IR findings was related to how post-construction inspections were tracked. The second question was regarding auditees having an archaeological chance find or stop-work procedure in the event artifacts are identified during construction. Notably, the questions with the highest number of IR findings during the 2020 AAP were also related to how post-construction inspections were tracked and chance find procedure.

It is of interest the same two questions appear as the highest number of IR findings for two consecutive audit cycles. This may be due to unclear wording of the specific question, resulting in permit holders’ inability to prepare accordingly for the audit question. Alternatively, it may indicate that permit holders require additional support or clarification regarding best management practices for these specific aspects of the management system. As Module 6, Question 1 was both a question with high IR findings and the question with the highest number of OI findings, it suggests an overall weakness of the management system and an area in which it may not be clear to permit holders on how to implement or incorporate the best management practice.

Figure 5: Final Ratings for IR Findings

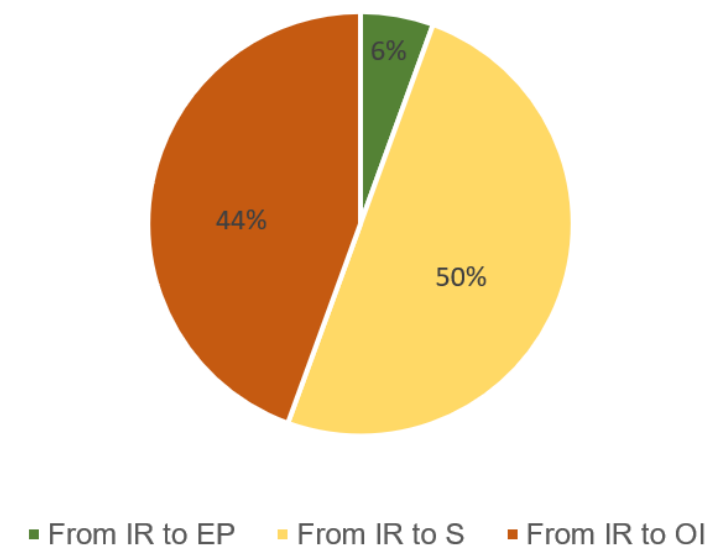
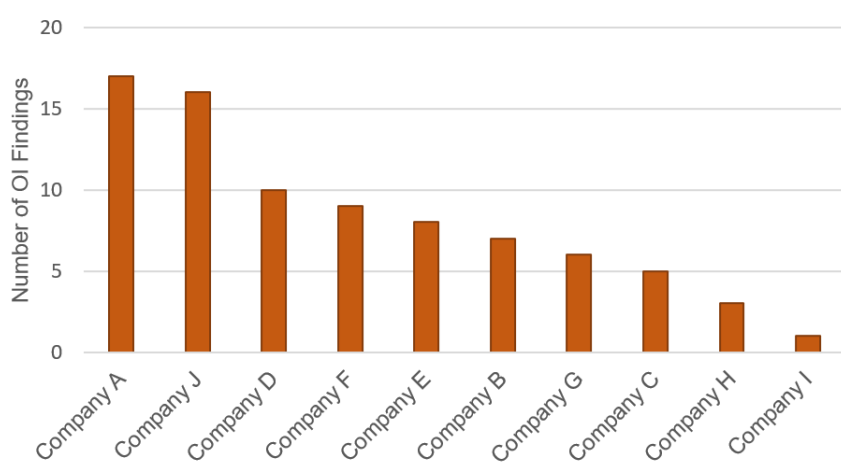


Figure 6: Opportunity for Improvement (OI) Findings by Company



Opportunities for Improvement

All audited permit holders received at least one opportunity for improvement (OI) finding. The quantity of OI findings by company ranged from one at the low end to 17 at the high end and are illustrated in Figure 6. Overall, cumulative OI findings were identified in eight of the nine modules. Module 9 had no OI findings.

Modules with the highest percentage of cumulative OI findings, indicating management system weaknesses, are Module 5, Record and Document Control, and Module 6, Compliance Process and Knowledge (See Figure 2). Similarly, the questions with the highest number of OI findings were questions asked under Module 5 and Module 6. The questions with the highest number of OI findings were Module 6, Question 1, and Question 4a; Module 5, Question 1 & 1A, Question 2 and Question 3.

Absence of a satisfactory, written procedure specific to archaeology chance finds and training related to archaeological chance finds resulted in an OI finding for Module 6, Question 1; this question produced the highest number of OI findings. Similarly, a high number of OI findings was noted regarding training for staff on the legislation protecting archaeology sites and the penalties associated with site disturbance. Questions related to record and document control similarly had a high number of OI findings and included questions about tracking archaeology-specific permit conditions and how document revisions are tracked to ensure the correct copy or version is on file for construction.

Of note, as stated in the Manual, it is expected permit holders are familiar with the requirements and expectations of the AAP, prepare the applicable required documentation, and supply the appropriate staff to answer audit questions. It is a requirement of the AAP the field supervisor for the audited project, or a lateral replacement if that individual no longer works for the permit holder, attends the audit interview. One permit holder did not provide the field supervisor or a suitable lateral replacement, for the audit interview, which resulted in an OI finding for Module 1, Question 2.



The following list includes some of the findings and observations that are considered weaknesses in archaeology management systems as observed in the 2021 AAP:

- Seven permit holders did not have a satisfactory, written procedure specific to archaeological chance finds.
- Six permit holders indicated their crews and staff members were uninformed or untrained regarding the legislation protecting archaeology sites and the penalties associated with their disturbance.
- Six permit holders did not have a formal process for tracking revisions to archaeology-specific documents prior to or during construction.
- Five permit holders did not have a formal process to ensure the final construction package was complete and did not have a sign-off process between the staff preparing the construction package and the construction supervisor.
- Five permit holders had no formal process for tracking archaeology-specific permit conditions.
- Four permit holders were unable to satisfactorily communicate what documents were on file to prove permit conditions were met.

Exemplary Performance & Recognized Best Practices

The greatest number of Exemplary Performance (EP) findings were found in Module 1, Question 1 & 2; Module 3, Question 2a & 2b; Module 4, Question 3; and Module 5, Question 1b. The question with the highest number of EP findings was related to the attendance of the original field supervisor for the audit interview. Many permit holders also received EP scores for providing field orientations for construction crews. Two questions were related to archaeology site flagging with EP findings indicating an archaeology site flagging document was provided and complete, and there was an internal position responsible for tracking the completion of archaeology site flagging. Finally, up to date report submissions for permit holders resulted in a high cumulative EP finding for the related question.

Below is a list of recognized best practices and EP findings during the AAP as practiced by permit holders and observed in the 2021 audit.

- Permit holders are aware of the requirements and expectations of the AAP and provide the appropriate individuals who can speak to management system processes for the audit interview. Eight permit holders provided the field supervisor for the audited project for the audit interview.
- Report submissions are up to date prior to selection for the audit; three permit holders had no outstanding archaeology reports.
- A flagging report is completed by the archaeology consulting company and the report is filed with the project documents; three permit holders asserted this practice.
- An internal position is responsible for tracking the completion of archaeology site flagging; three permit holders asserted this practice.
- There is a formalized process for the construction supervisor to review the contents of the construction package and there is formal documentation of the review in which the supervisor signs off on; one permit holder asserted this practice.
- Each crew specific to each construction activity receives an orientation on the specific location of archaeology sites in relation to the project and how they are indicated (ex. flagging) in the field; four permit holders asserted this practice.
- A written procedure specific to archaeological chance finds with a documented procedure for training should artifacts be identified during construction is utilized; two permit holders asserted this practice.
- Training to staff and crews is provided on the legislation protecting archaeology sites and the penalties associated with the disturbance of archaeology sites. Two companies provided specific training and reference materials for crews and staff and engaged in conversations regarding legislation.

Non-Conformances

The AAP is not intended to be a compliance audit, however, it is the duty of the audit team to notify Commission enforcement staff of any potential breaches of permit condition, legislation, or policy. Two non-conformance scores were noted for one permit holder, during the field inspection (Module 9). The file for the development has been forwarded to Commission Compliance and Enforcement staff for further review. While recommendations are provided to audited permit holders to improve management practices or controls, recommendations are provided for guidance only and are not binding on the auditee. After review, however, the Commission auditor may require the permit holder to develop an audit action plan should it be determined regulatory requirements were not met. Commission staff will work with the permit holder to ensure all noted deficiencies are resolved.

Recommendations

The following recommendations are proposed for permit holders based on the 2021 AAP results:

1. Upon receipt of the audit selection letter, permit holders should contact the Commission to discuss scheduling.
2. Permit holders should review required audit documents and ensure the proper documentation is available at time of audit.
3. Permit holders should be able to provide personnel suitable to answer archaeology field process questions, such as the field supervisor for the audited project.
4. Implement a document tracking system and assign specific personnel to track archaeology-specific permit conditions and report submissions to fulfil regulatory obligations.
5. Permit holders should formalize processes for record and document control and develop a process to track communications, information exchanges and document transfers internally and with external contractors.
6. Implement a formal post-construction field inspection procedure to ensure mitigation strategies have been followed. This should be documented and filed for future reference.
7. Implement a Chance Find Procedure and include contacting Commission Heritage Conservation Program staff as the priority step. This procedure should be distributed to field staff, and orientation and training should be signed off by employees and tracked.



Fencing around an avoided archaeology site.

Conclusion & Future Audits

The results of the 2021 AAP indicate the majority of auditees have practices that address many aspects of successful archaeology resource management systems. Cumulative scoring indicated an overall satisfactory score. Two non-conformance findings were identified for one permit holder; the file has been forwarded to Commission Compliance and Enforcement for further review.

Permit holders that scored the highest were able to demonstrate a stable archaeological management system through effective communication and document control and tracking throughout the lifecycle of the development project. Similarly, auditees which scored the highest demonstrated a sufficient understanding of regulatory requirements and utilized formalized processes, such as training and use of an archaeological Chance Find Procedure to communicate applicable knowledge to field staff and contractors.

As observed in previous audits, permit holders which score the highest number of OI findings demonstrate an inability to describe their communication processes or sufficiently track documents such as archaeological assessments and reporting. Similarly, low scoring permit holders often do not assign specific management systems accountabilities or responsibilities to internal personnel. Results from the 2021 AAP indicate that Module 5 (Record and Document Control) and Module 6 (Compliance Process and Knowledge) were the lowest scoring modules. Therefore, future audits should continue to employ these modules to understand how permit holders transfer information between relevant parties to support project success and regulatory compliance and how permit holders determine and maintain the appropriate level of knowledge for the processes that ensure compliance with regulatory requirements and legislation.

Future audits will continue to gather baseline data for the purpose of establishing procedures for best management practices for archaeological resource management within the oil and gas sector of B.C. Identified best practices will continue to be incorporated into future audit questions and scoring standards, to further the goal of continual improvement. It is recommended all permit holders refer to the below list of cumulative best practices identified from previous audit cycles and evaluate their current archaeology management system to incorporate best practices and processes.

The AAP itself will remain subject to internal review and revision in order to incorporate improvements to the program based on past audit experiences and trends in heritage resource management. The APP will be supplemented by a program of archaeological field inspections to be completed by the Commission’s Heritage Conservation Program.

Cumulative Best Practices (2008-2021)

Develop a written archaeology resource management plan with formalized standard operating procedures. The management plan fully addresses and includes the following: <ul style="list-style-type: none">• Relevant legislative and regulatory requirements;• Processes for ensuring the completion of archaeological assessments and the timely submission of archaeological reports to the Commission;• Checklists to ensure all archaeological requirements are completed prior to construction activities;• Processes for fulfillment of requirements surrounding archaeological assessment and site avoidance requirements;• A briefing of staff, contractors and land agents to ensure familiarity with the contents of the management plan.
Contact the Commission periodically to reconcile records and outstanding reporting to fulfil regulatory obligations.
Complete transfer and receipt of required documentation to construction crews prior to project commencement. The documents include archaeology reports and Commission-accepted site mitigation strategies, if applicable.
Develop a communication record, summarizing dates and information exchanges. A project communication record serves as a valuable reference for project details and transactions. It is the basis for development and improvement of data distribution processes, as the record illustrates where a breakdown in communication may have occurred.
Create a tracking system to track overall project status and archaeology report submission dates. Assign responsibility to specific personnel to ensure all regulatory and legislated archaeological requirements are met for each development.
An on-site construction supervisor provides a field orientation for ground crews prior to project start-up when archaeologically sensitive areas exist within a development.
Implement a formal post-construction field inspection procedure to ensure mitigation strategies have been followed.
Implement and distribute an archaeological Chance Find Procedure, should artifacts be identified during construction. Training is provided to crews regarding this procedure, and training tracked and signed off.
Provide training to staff and field crews on the legislation protecting archaeology sites and the penalties associated with the disturbance of archaeology sites.

Glossary of Terms & Abbreviations

Glossary of Terms

Applicant	An oil and gas company that has applied to the Commission for a development permit.
Archaeology	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	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.
Heritage Conservation Act	Is the provincial legislation that protects heritage property in British Columbia. Under the HCA, archaeology sites are protected against any damage. This protection applies to all sites, regardless of whether they are located on Crown or private lands. The HCA also defines what permits are required in order to study or modify archaeology sites within B.C.
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	A set of interrelating or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives.
Permit Holder	An oil and gas company that holds a permit for an oil and gas development. Each development activity requires a permit to be issued by the Commission.
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	Archaeological Audit Program
AIF	Archaeological Information Form
AIA	Archaeological Impact Assessment
AOA	Archaeological Overview Assessment
B.C.	British Columbia
Commission	BC Oil and Gas Commission
EP	Exemplary Performance
HCA	Heritage Conservation Act
HCP	Heritage Conservation Program of the BC Oil and Gas Commission
IR	Information Request
ISO	International Organization for Standardization
Manual	Archaeology Audit Program Procedure Manual
NC	Non-conformance
NTS	National Topographic System
OI	Opportunity for Improvement
PFR	Preliminary Field Reconnaissance
S	Satisfactory

This report was published in April 2022 and is updated annually.

For more information contact:
Megan Charters
Manager, Heritage Conservation Program
BC Oil and Gas Commission
Megan.Charters@bcogc.ca
[250-794-5319](tel:250-794-5319)

