

# BC Oil and Gas Commission Certificate of Restoration Report 2020/21

April 1, 2020 to March 31, 2021



## ABOUT THE BC OIL AND GAS COMMISSION

The BC Oil and Gas Commission (Commission) is the provincial regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Commission's core services include reviewing and assessing applications for industry activity, consulting with Indigenous Nations, cooperating with partner agencies, and ensuring industry complies with provincial legislation and all regulatory requirements. The public interest is protected by ensuring public safety, respecting those affected by oil and gas activities, conserving the environment, and ensuring equitable participation in production.



### 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, and
- 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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## PURPOSE

This document provides a transparent record of annual progress and statistics on the restoration of former oil and gas well sites based on data from the BC Oil and Gas Commission (Commission) Certificate of Restoration (CoR) process. The vast majority of sites restored under the CoR program are located in northeast B.C. and the statistics reflect the annual progress of remediation and reclamation activities since 2006 when the Certificate of Restoration requirements were defined as a two-part process. The first part, known as "CoR Part 1", focuses on environmental quality which involves site investigation or assessment (Step 4, Figure 1) for potential contamination related to the industrial activity and, where necessary, evaluation of any remediation measures (Step 5, Figure 1) that have been implemented. The second part of the process, known as "CoR Part 2", focuses on surface reclamation (Step 6, Figure 1) which often involves decompaction, contouring, topsoil replacement and re-establishing vegetation to promote an ecologically suitable outcome for the surface lands.



**Figure 1:**  
Restoration and the CoR Process



# THE CERTIFICATION OF RESTORATION PROCESS

The Certificate of Restoration requirements were first established in 1973 but since then have evolved in response to legislative and regulatory changes; related programs and initiatives; process enhancement needs; new technical guidance and industry best practices; plus other factors. The Commission issues a Certificate of Restoration under the Oil and Gas Activities Act (OGAA). It provides a record the Commission has reviewed information related to the site assessment, remediation and reclamation of a former oil and gas activity site and has made a determination the site has been remediated and reclaimed to promote successful regrowth and regeneration in accordance with applicable provincial regulations.

Recently, remediation and reclamation requirements have been defined in the Dormancy and Shutdown Regulation (DSR) along with timelines for decommissioning, assessing, remediating, and reclaiming dormant sites. The CoR process supports these new [DSR](#) requirements.



# SITE ASSESSMENT AND REMEDIATION (CoR Part 1)

## SITE RESTORATION UNDER THE CoR PROCESS

Site restoration activities must be conducted within the timelines specified in regulation such as the Dormancy and Shutdown Regulation or, in some instances, as otherwise ordered by the Commission. As described above, the CoR Process involves the site assessment, remediation, and reclamation stages of the full restoration process. The CoR process and CoR Audit Program described below apply to permitted activities under the Oil and Gas Activities Act including orphan sites. Additional details regarding site remediation and reclamation and the restoration certification process are documented in the [Commission's Site Remediation and Reclamation Manual](#).

## SITE ASSESSMENT

Site Assessment entails the required investigation of former oil and gas activity sites in order to:

- Identify any areas of the site that are of potential environmental concern where contamination related to the former activity may be more likely to be present.
- Sample the identified locations to determine the presence or absence of contamination.
- Determine – if any contamination is identified – the extent and evaluate whether human or environmental receptors (including plants, soil fauna, wildlife, livestock, surface water, and groundwater) may be impacted.

## SITE REMEDIATION

Remediation of a site entails the measures taken to remedy potential impacts associated with identified contamination and includes the use of risk assessment approaches to demonstrate potential impacts posed by contaminants have been mitigated in accordance with applicable regulations.

Under the Dormancy and Shutdown Regulation, a site is considered remediated when the Commission is satisfied the site and any neighbouring lands to which contamination has migrated have been remediated to provide a permanent solution to the maximum extent practicable, having regard to the following factors:

- (a) the risks to human health and the environment posed by contamination at the site and any neighbouring lands to which contamination has migrated from the site;
- (b) the local background concentration of any substances at the site and any neighbouring lands to which contamination has migrated from the site;
- (c) the potential effects on the environment of remediation to the standards referred to in paragraph (a) or (b);
- (d) the technical feasibility, risks and costs associated with remediation to the standards referred to in paragraph (a) or (b).

## ASSESSMENT AND REMEDIATION DOCUMENTATION AND REPORTING

Documentation and reports related to site assessment and remedial actions must be completed by registered professionals and technologists working within their areas of expertise under an Act of the B.C. legislature. These reports are submitted with a CoR Part 1 application. Table 1 provides information regarding the number of CoR Part 1 submissions received during 2020/21 and previous fiscal years.

Each submission is reviewed by professional staff at the Commission to determine if assessment and remediation activity meets the regulatory requirements. Upon reviewing submitted information, the Commission may request or order a permit holder to provide additional information, conduct further environmental investigation, or take other actions in order to determine the adequacy and effectiveness of site assessment and/or remediation.

It is important to note the Ministry of Environment and Climate Change Strategy also maintains authorities related to environmental protection under the Environmental Management Act, and those provisions continue to apply. Thus, despite any decision made by the Commission regarding the acceptability of remedial activity, a permit holder continues to be liable for any contamination related to their operations at a site.

## SITE RECLAMATION (CoR PART 2)

Site reclamation submissions require a qualified professional assessment of the effectiveness of surface reclamation activities in restoring site productivity to promote future regeneration. Upon review and acceptance of a reclamation submission as part of a CoR Part 2 application, the Commission will issue a Certificate of Restoration for the oil and gas activity site. Due to the time necessary for a determination on the success of the apparent trajectory of vegetation re-establishment and other factors, reclamation submissions are commonly made one or more years after assessment and remediation reporting has been submitted.



Table 1 provides information regarding the number of CoR Part 2 submissions received during 2020/21 and previous fiscal years.

Table 1. Annual Site Assessment and Reclamation CoR Application Submission statistics

Fiscal Year	Assessment/Remediation Submissions received (CoR Part 1)	Reclamation Submissions Received (CoR Part 2)
2006/07	16	0
2007/08	100	11
2008/09	98	16
2009/10	115	26
2010/11	103	93
2011/12	169	98
2012/13	221	135
2013/14	143	106
2014/15	231	107
2015/16	116	126
2016/17	118	107
2017/18	133	155
2018/19	102	108
2019/20	210	134
2020/21	375	175
<b>TOTAL</b>	<b>2,250</b>	<b>1,397</b>



# AUDIT PROCEDURES

Sites to be audited are selected and assessed in accordance with the roles, responsibilities and procedures detailed in the [Restoration Verification Audit Procedure Manual 2020](#).

The audit program is conducted annually and includes a thorough review of files and documentation, followed by field verification of the selected sites. The audit program currently focuses on the site remediation component of the Restoration Process (see Figure 1). Field verification may include soil sampling at areas of potential environmental concern such as well centre, product storage areas, drilling waste disposal areas, flare pits, and electromagnetic (EM) survey anomalies.

Restoration verification for 2012 through 2020 statistics are provided in Table 2.

Per the Restoration Verification Audit Program Procedure Manual, the potential audit grades are fully acceptable, acceptable, and unacceptable with descriptions as follows:

- Fully Acceptable: The audit field assessment supports the CoR application, confirming there are no identified non-conformities at the site. The application addressed all areas of potential environmental concern, considered all potential contaminants of concern and demonstrated conformance with the numerical standards or accepted risk-based closure requirements.

- Acceptable: The application shows non-conformities in documentary support (i.e., administrative errors or emissions), or the audit field assessment did not fully align with the submitted documentation (e.g. an Area of Potential Environmental Concern (APEC) wasn't sampled for all relevant parameters and when assessed during the field audit, was found not to have contamination present), but no areas were identified in the verification audit that exceed accepted risk-based closure requirements. Operators (former permit holders) may be required to take corrective action as determined by the Commission.

- Unacceptable: The audit field assessment does not support the submitted documentation and the identified non-conformity indicates potential for unacceptable on-going risk to either human health or the environment. Operators (former permit holders) are contacted to take corrective action(s) as determined by the Commission.



## AUDIT PROCEDURES

Table 2. Restoration Verification Audit Program (RVAP) Grades

AUDIT YEAR	DESKTOP AUDITS #	FIELD AUDITS #	FULLY ACCEPTABLE	ACCEPTABLE	NOT ACCEPTABLE
2012	6	6	6		
2013	9	9	7	1	1
2014	10	10	8	2	
2015-2017	15	15	6	9	
2018	10	10	5	4	1
2019	10	10	7	3	
2020	10	0			

Note: the 2017 audit was a combined audit that included sites from the 2015, 2016, and 2017 years

Note: as field audits were not completed in 2020 due to COVID 19, audit grades could not be assigned per the RVAP procedure.



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