

2014/15 Orphan Site Reclamation Fund Annual Report

BC Oil and Gas Commission



Table of Contents

| | |
|--|---|
| About the BC Oil and Gas Commission | 2 |
| Introduction to Orphan Site Reclamation Fund | 3 |
| OSRF Spending Breakdown | 3 |
| Well Decommissioning | 4 |
| Facility and Pipeline Decommissioning | 4 |
| Site Investigation | 5 |
| Site Remediation | 6 |
| Site Reclamation | 7 |
| Appendix 1 | 8 |

About the

BC Oil and Gas Commission

The BC Oil and Gas Commission (Commission) is the single window 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 First 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.



Mission

We regulate oil and gas activities for the benefit of British Columbians.

We achieve this by:

- Protecting public safety,
- Respecting those affected by oil and gas activities,
- Conserving the environment, and
- Supporting resource development.

Through the active engagement of our stakeholders and partners, we provide fair and timely decisions within our regulatory framework.

We support opportunities for employee growth, recognize individual and group contributions, demonstrate accountability at all levels, and instill pride and confidence in our organization.

We serve with a passion for excellence.

Vision

To provide oil and gas regulatory excellence for British Columbia's changing energy future.

Values

Respectful

Accountable

Effective

Efficient

Responsive

Transparent

Orphan Site Reclamation Fund Summary

In British Columbia oil and gas sites such as wells, facilities, pipelines and/or sites affected by oil and gas activities, where the operator is insolvent or cannot be located, may be designated as an orphan site by the BC Oil and Gas Commission.

Once sites have been designated as orphans, the Commission may use the Orphan Site Reclamation Fund (OSRF) to decommission and restore the site to obtain a Certificate of Restoration (CoR). The CoR provides assurance to stakeholders that the site has been restored in accordance with current standards and requirements, and that all known contamination risks or other hazards have been mitigated.

During the 2014/15 fiscal year, the OSRF spent \$1.3 million on orphan site decommissioning and restoration work. At the end of the fiscal year, the orphan fund balance consisted of \$4.2 million in current assets, with an estimated liability of \$7.5 million for future restoration of designated sites. Total oil and gas levies from the fiscal year was \$1.3 million.

The OSRF manages a total of 30 active orphan sites requiring decommissioning and/or restoration (not including Flathead Valley sites), and eight additional sites that have received CoR's. Of the active orphan sites, the Commission designated three additional sites at the end of the fiscal year.

OSRF Spending Breakdown

Work on orphan sites is completed under five main categories. Spending in the 2014/15 fiscal year has been broken down by costs associated with each category below:

| | |
|--|-----------|
| Well Decommissioning | \$650,000 |
| Facility and/or Pipeline Decommissioning | \$302,000 |
| Site Investigation | \$135,000 |
| Site Remediation | \$147,000 |
| Site Reclamation | \$64,000 |

Well Decommissioning

Orphan sites that have not been properly decommissioned require plugging, as well as cut and cap activities, as part of the closure process. Well decommissioning activities include the permanent plugging of the producing zone(s) within a well to prevent production fluid and gasses from travelling up the wellbore to the surface. Well decommissioning activities may also include repairing well integrity issues, such as surface casing vent flow and gas migration.

Three wells near Fort Nelson, B.C., WA# 4121 (c-022-K/094-I-12), WA# 4343 (b-008-K/094-I-12) and WA# 9702 (c-008-K/094-I-12), were decommissioned during the fiscal year. Three remaining wells require plugging.



WA# 4343 (b-008-K/094-I-12). Well was plugged in February 2015 and cut and capped (shown above) in March 2015.

Facility and Pipeline Decommissioning

Orphan sites with permitted surface and subsurface facilities require the safe removal and disposal of such facilities prior to completing any intrusive soil and groundwater quality assessments. Decommissioning activities also include the removal of all facility flow lines, piles, concrete and debris on site. Pipelines require proper purging before being removed to the site's boundary and are cut and capped below grade.

Three sites near Fort Nelson, B.C., that had facilities and/or pipelines decommissioned during this fiscal year: WA# 4121 (c-022-K/094-I-12), WA# 4343 (c-008-K/094-I-12) and WA# 9702 (b-008-K/094-I-12). Three orphan sites still require surface facility and/or pipeline decommissioning.

Site Investigation

A site investigation is required as part of the issuance of CoR. The CoR process is divided into two parts. Part I is the soil and groundwater investigation and, if required, site remediation to confirm that the soil and/or groundwater quality is suitable for final land use. Site remediation may also confirm that the site does not pose a significant risk to human health or the environment. Investigation at each site is subject to areas of potential environmental concern that are identified during a historical file review. Results of the investigation determine if the site is suitable for closure or if remediation is required.

File reviews were completed on two sites in the Buick Creek area, WA# 3995 (d-054-F/094-A-14) and WA# 4121 (a-075-F/094-A-14). Intrusive site investigations were completed at three sites, WA# 2884 (c-022-K/094-I-12), WA# 4343 (b-008-K/094-I-12) and WA# 9702 (c-008-K/094-I-12). One site, WA# 22305 (c-A088-K/094-H-01) received a CoR Part I approval.



WA# 2884(c-022-K/094-I-12).
Site investigation completed March 2015.

Site Remediation

If a site investigation identifies contamination, then remediation is required prior to the application and acceptance of a CoR Part I. Remediation may include the excavation, transport and subsequent disposal of contaminated soil at a licensed facility, or treatment of the soil and subsequent use as backfill for the excavation (concentrations of contaminants of concern are less than the applicable provincial standards).

Remediation was completed at WA# 20634 (d-A056-C/094-A-16) located approximately 70 kms northeast of Fort St. John, where contamination was identified in the drilling waste disposal area. Contaminated soils were excavated and transported to an oilfield waste disposal facility, and final confirmatory sampling indicated that the site contamination risks had been removed.



WA# 20634 (d-A065-C/094-A-16). Sump remediation completed February 2015.

Site Reclamation

Part II of the CoR process is to ensure the land has been properly reclaimed so it meets appropriate land use productivity standards. Surface reclamation commonly includes surface contouring, topsoil replacement, re-vegetation, and monitoring to return the site to pre-disturbance conditions. While no orphan sites have

received a CoR Part II in the 2014/2015 fiscal year, several sites were undergoing reclamation monitoring and should be ready for a CoR Part II in 2015/2016. Site reclamation, including site contouring, was completed at WA# 20634 (d-A056-C/094-A-16), located approximately 70 kms northeast of Fort St. John, directly following the remediation of the drilling waste disposal area.



Surface re-contouring of WA# 20634 (c-022-K/094-I-12) as part of initial reclamation.

More Information

For specific questions or enquiries regarding this document or the OSRF please contact ogc.communications@bcogc.ca. For general information about the Commission, please visit www.bcogc.ca or phone 250-794-5200.

Appendix 1

Table 1: Designated Orphan Sites

| Orphan Site Name and Location | Permit # | Site Status and Scope of Work | Orphan Site Name and Location | Permit # | Site Status and Scope of Work |
|-------------------------------------|----------|--|--|----------------|---|
| ORPHAN POCKETKNIFE d-033-I/094-G-06 | 1393 | Requires a file review and CoR Part I | ORPHAN BOUNDARY 16-03-086-14 | 6325 | CoR Part I in progress |
| ORPHAN WOLF d-014-G/094-A-15 | 2062 | CoR issued in 2011 | ORPHAN BOUNDARY 09-03-086-14 W6 | 6651 | CoR Part I in progress |
| ORPHAN SUNRISE 10-08-079-16 W6M | 2538 | CoR issued in 2013 | ORPHAN W. BEATTON b-041-L/094-H-02 | 6691 | CoR Part I in progress |
| ORPHAN SUNRISE 11-06-079-16 W6M | 2560 | CoR Part II in progress | ORPHAN W. BEATTON d-041-L/094-H-02 | 6727 | CoR Part I in progress |
| ORPHAN SUNRISE 11-09-79-16 W6M | 2564 | CoR issued in 2010 | ORPHAN E. RIGEL b-028-K/094-A-09 | 6870 | CoR Part II in progress |
| ORPHAN SUNRISE 11-04-079-16 W6M | 2569 | CoR issued in 2011 | ORPHAN FLATROCK 06-24-085-17 | 7683 | CoR Part I in progress |
| ORPHAN SUNRISE 07-12-079-17 W6M | 2772 | CoR issued in 2010 | ORPHAN PARADISE 05-21-085-15 | 9361 | CoR Part II in progress |
| ORPHAN SUNRISE A11-06-079-16 W6M | 2878 | CoR Part II in progress | ORPHAN ELLEH c-008-K/094-I-12 | 9702 | Decommissioning complete and CoR Part I in progress |
| ORPHAN SEXTET c-022-K/094-I-12 | 2884 | Decommissioning complete and CoR Part I in progress | ORPHAN COMOX c-042-I/092-F-11 | 14607 | CoR Part II in progress |
| ORPHAN SUNRISE 06-07-079-16 W6M | 2983 | CoR issued in 2011 | ORPHAN TH QUESNEL N. a-00-A/093-G-01 | 15594 | Requires a file review and CoR Part I |
| ORPHAN SUNRISE 10-05-079-16 W6M | 2998 | CoR issued in 2010 | ORPAHN DILLY b-040-K/094-P-12 | 20506 | CoR Part II in progress |
| ORPHAN SUNRISE 11-02-079-17 W6M | 3360 | CoR issued in 2011 | ORPHAN TSEA d-071-D/094-P-12 | 20522 | CoR Part II in progress |
| ORPHAN N. BUICK d-054-F/094-A-14 | 3995 | CoR Part I in progress | ORPHAN CRUSH d-B096-C/094-A-16 | 20629 | CoR Part I in progress |
| ORPHAN N. BUICK a-075-F/094-A-15 | 4121 | Requires decommissioning | ORPHAN CURRANT d-A056-C/094-A-16 | 20634 | Remediation complete and CoR Part II in progress |
| ORPHAN ELLA b-008-K/094-I-12 | 4343 | Decommissioning complete and CoR Part I in progress | ORPHAN PETITOT a-002-D/094-P-13 | 21051 | CoR Part II in progress |
| ORPHAN BUICK a-041-D/094-A-15 | 4446 | Legacy well and confirming environmental quality of site | ORPHAN DRAKE c-A088-K/094-H-01 | 22305 | CoR Part II in progress |
| ORPHAN LOUSIE b-070-L/094-P-03 | 4799 | Requires decommissioning | ORPHAN GUNNEL a-079-A/094-P-04 | 23749 | CoR Part I in progress |
| ORPHAN LOUISE d-071-I/04-P-04 | 5156 | Requires decommissioning | PIPELINE FROM b-050-C/094-A-14 to d-037-C/094-A-14 | P# 2790 | Requires confirmation of status and potential purging and abandonment |
| ORPHAN WENDY c-073-G/094-H-06 | 5625 | CoR Part I in progress | FLATHEAD VALLEY SITES | Not Applicable | Risk Management Planning |
| ORPHAN BOUNDARY 08-17-084-13 | 5712 | Legacy well and confirming environmental quality of site | | | |

