Notice of Abandonment and Abandonment Report eSubmission Permit Holder Guide

VERSION 1.0: October 2022

About the 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 roles include reviewing and assessing applications for industry activity, consulting with First Nations, ensuring industry complies with provincial legislation and cooperating with partner agencies. The public interest is protected by ensuring public safety, protecting the environment, conserving petroleum resources 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 individuals and communities 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 or 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.

Additional Guidance

As with all Commission documents, this document does not take the place of applicable legislation. Readers are encouraged to become familiar with the acts and regulations and seek direction from Commission staff for clarification.

The Commission publishes both application and operations manuals and guides. The application manual provides guidance to applicants in preparing and applying for permits and the regulatory requirements in the planning and application stages. The operation manual details the reporting, compliance and regulatory obligations of the permit holder. Commission manuals focus on requirements and processes associated with the Commission's legislative authorities. Some activities may require additional requirements and approvals from other regulators or create obligations under other statutes. It is the applicant and permit holder's responsibility to know and uphold all legal obligations and responsibilities. For example, Federal Fisheries Act, Transportation Act, Highway Act, Workers Compensation Act and Wildlife Act.

Throughout the document there are references to guides, forms, tables and definitions to assist in creating and submitting all required information. Additional resources include:

- Glossary and acronym listing on the Commission website.
- Documentation and guidelines on the Commission website.
- Frequently asked questions on the Commission website.
- Advisories, bulletins, reports and directives on the Commission website.
- Regulations and Acts listed on the Commission website.

In addition, this document references some application types and forms to be submitted outside of the Application Management System but made available on the Commission's website. Application types and forms include:

- Heritage Conservation Act, Section 12
- Road use permits
- Water licences
- Master licence to cut
- Certificate of restoration
- Waste discharge permit
- Experimental scheme application
- Permit extension application

Manual Revisions

The Commission is committed to the continuous improvement of its documentation. Revisions to the documentation are highlighted in this section and are posted to the Energy Professionals section of the Commission's website. Stakeholders are invited to provide input or feedback on Commission documentation to OGC.Systems@bcogc.ca or submit feedback using the feedback form.

Version Number	Posted Date	Effective Date	Chapter Section	Summary of Revision(s)
1.0	November 18, 2022	November 18, 2022	Various	This is a new document. Users are encouraged to review in full.

Table of Contents

Chapter 1: Introduction

1.1 Purpose

This document provides guidance to permit holders regarding Notice of Abandonment and Abandonment Reports, including zonal abandonment and cut and cap for surface decommissioning. Permit holders are expected to meet or exceed these guidelines in order to comply with the requirements outlined below.

Under sections 24 and 26 of the Oil and Gas Activities Act Drilling and Production Regulation requires a plugging program, Notice of Abandonment (NOA), to be submitted at least 7 days before commencement of any abandonment operations.

As per sections 36(1) of the Oil and Gas Activities Act Drilling and Production Regulation requires a permit holder to submit to the Commission, within 30 days of the end of each abandonment operation, with an attached downhole schematic diagram, in color.

1.2 Compliance

All submissions made to the Commission in support of an application or a regulatory requirement that include work relating to the practice of professional engineering or professional geoscience are expected to accord with the Professional Governance Act, [SBC 2018], c. 47 and the Bylaws of Engineers and Geoscientists British Columbia (EGBC). This includes any requirements relating to authentication of documents

1.3 Notification and Reporting

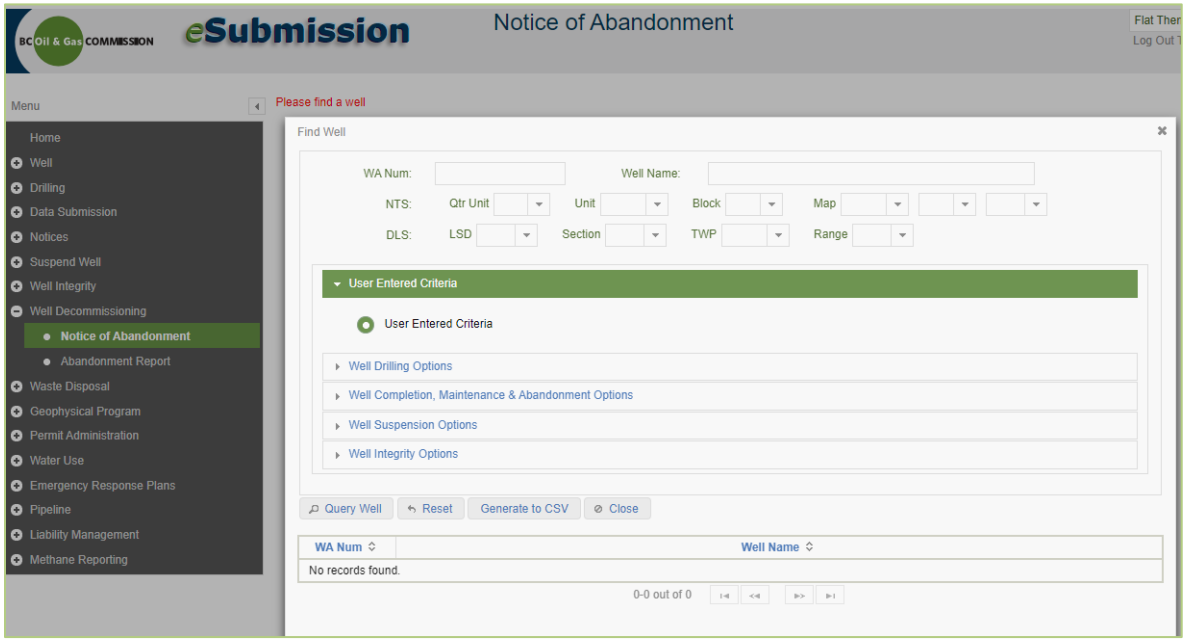
Under section 26 (1) (a) of the DPR, a permit holder must submit a Notice of Abandonment (NOA) and a plugging program to the Commission at least 7 calendar days before commencement of operations. This notification is to be submitted electronically through eSubmission and include a wellbore diagram, in color, and a complete program of activities to be undertaken. Permit holders may submit NOAs before the regulatory minimum 7 days to allow for modifications to be made, if necessary.

Under section 26 (1) (c) of the DPR, a permit holder must submit an Abandonment Report to the Commission within 30 days of the completion of activities. This Abandonment Report is to be submitted electronically through eSubmission and must include a completed copy of the Completion/Workover Report Form, a complete record of the daily reports including all significant operations undertaken, a downhole schematic illustrating the configuration of the well at the end of the operation, in color, and any other information respecting the work conducted. If the Abandonment Report includes surface decommissioning, a photograph of the cut & capped casing stub including identifying information welded thereon must be included in the Completion/Workover Report. The Report is submitted electronically through eSubmission.

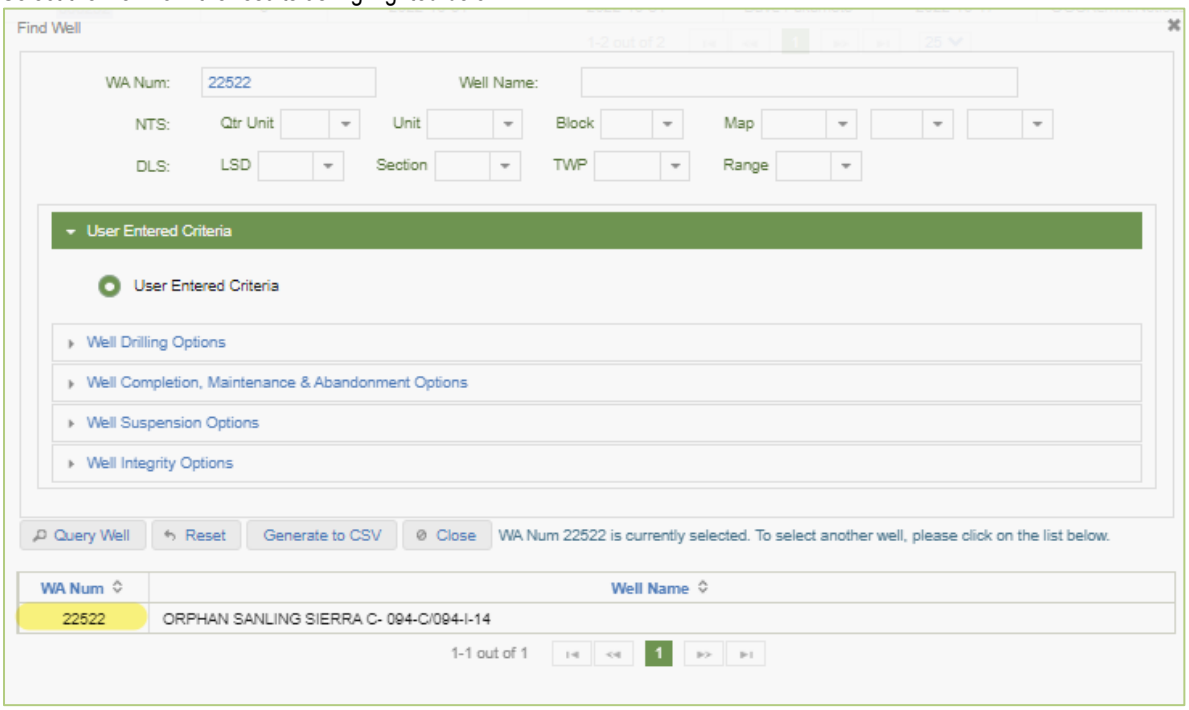
If a well is decommissioned prior to the release of the drilling rig, no advance notification is required, though permit holders are encouraged to consult with the Commission's Drilling and Production staff prior to completing downhole abandonment operations. If surface decommissioning, including the final cut and cap, is not completed and reported on the Summary Report of Drilling Operations (SRDO), the well is not considered to be decommissioned. In those cases, surface decommissioning activities must be reported separately as though the well were cased.

Chapter 2: Notice of Abandonment

To initiate a Notice of Abandonment for a well, the permit holder must select the Notice of Abandonment option from the Well Decommissioning section of the Navigation Menu. If there is no well in the Active Activity Bar, the Find Well application will prompt the user to find a well. Enter a WA Num and click on Query Well.

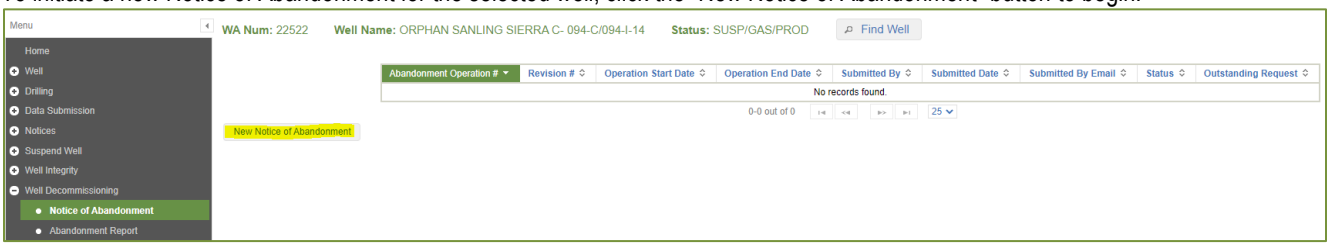


Select the well from the results as highlighted below.



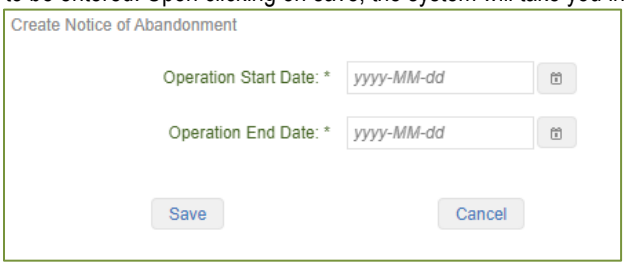
Previously created Notice of Abandonments for the well will appear in the table. A notice can be viewed by clicking on the row pertaining to the notice.

To initiate a new Notice of Abandonment for the selected well, click the “New Notice of Abandonment” button to begin.



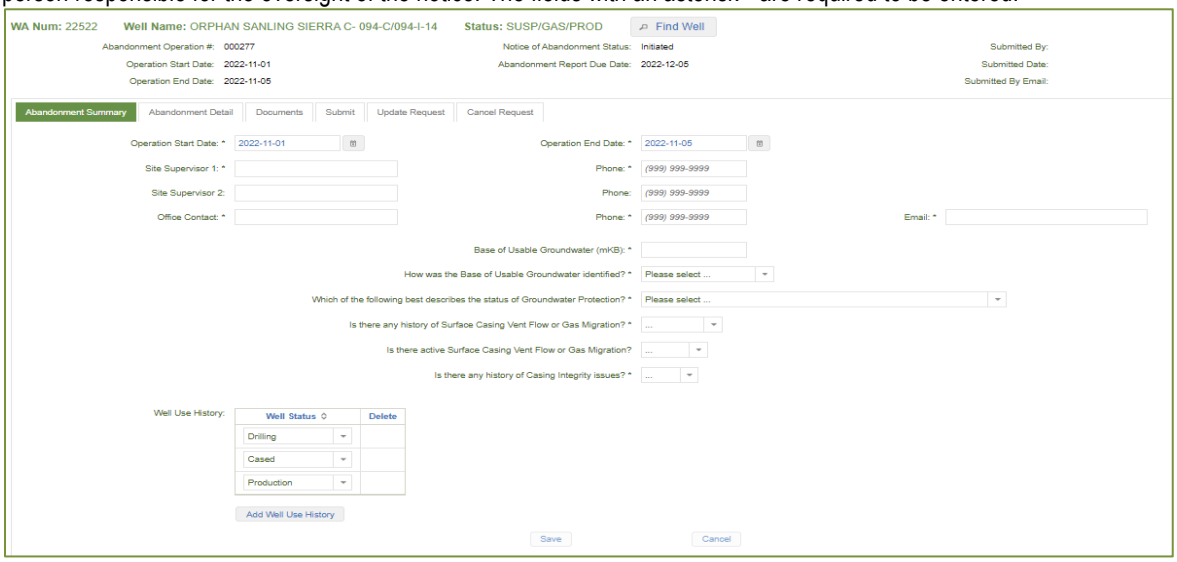
Wells that have a Well Status of Well Authority Granted (WAG), Cancelled (CANC), Drilling (DRILL), Drilling Suspended (DSUS), Certificate of Restoration (COR) or Abandoned (ABAN) where the Well is Surface Abandoned, the New Notice of Abandonment button will not be displayed.

Upon clicking on the New Notice of Abandonment, the system will prompt for the planned Operation Start Date and the Operation End Date to be entered. Upon clicking on save, the system will take you into the Notice of Abandonment.

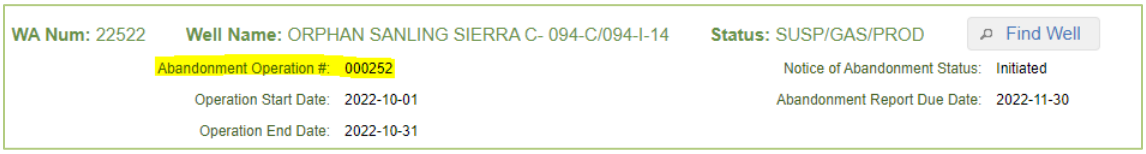


2.1 Notice of Abandonment – Abandonment Summary Tab

The Notice of Abandonment uses a tabbed page format to facilitate viewing and entering data. The contact information should reflect the person responsible for the oversight of the notice. The fields with an asterisk * are required to be entered.



A unique Abandonment Operation # will automatically be assigned to each Notice of Abandonment.



Base of Usable Groundwater (mKB): reference the Industry Bulletin 2016-09, Technical Guidance for Determining the "Base of Usable Groundwater," when determining the depth.

How was the Base of Usable Groundwater identified?: Select from the list of options.

Status of Ground Water Protection: Select from the list of options

Is there any history of Surface Casing Vent Flow or Gas Migration?: The field will be auto populated with a value of Yes if the well being abandoned has a Well Integrity submission with a Severity of Serious, Non Serious, or Unknown.

Is there any history of Surface Casing Vent Flow or Gas Migration?: Examples may include casing corrosion, deforming and breaking, no cement, cement patch or other remedial work due to casing integrity issues, non-routine zonal plugs due to casing integrity issues, Fish in hole leading to potential wellbore integrity issues.

Is there active Surface Casing Vent Flow or Gas Migration?: Answer relating to the current stat of the well.

Is there any history of Casing Integrity issues?: Known casing integrity issue.

Have all known Casing Integrity issues been successfully repaired?: The work completed meets the requirements of the Drilling and Production Regulations, Section 26, Plugging requirements for wells.

Well Use History: The field will be auto populated with well statuses with what is currently reported in BC Oil and Gas Commission internal system. If the well has been previously rig released the permit holder will be required to Add a Well Use History of "Cased" if not listed. There will be the option to add a Well Status if there is a missed Well Use History not listed or reported in the system.

2.2 Notice of Abandonment – Abandonment Detail Tab

The fields with an asterisk * are required to be entered.

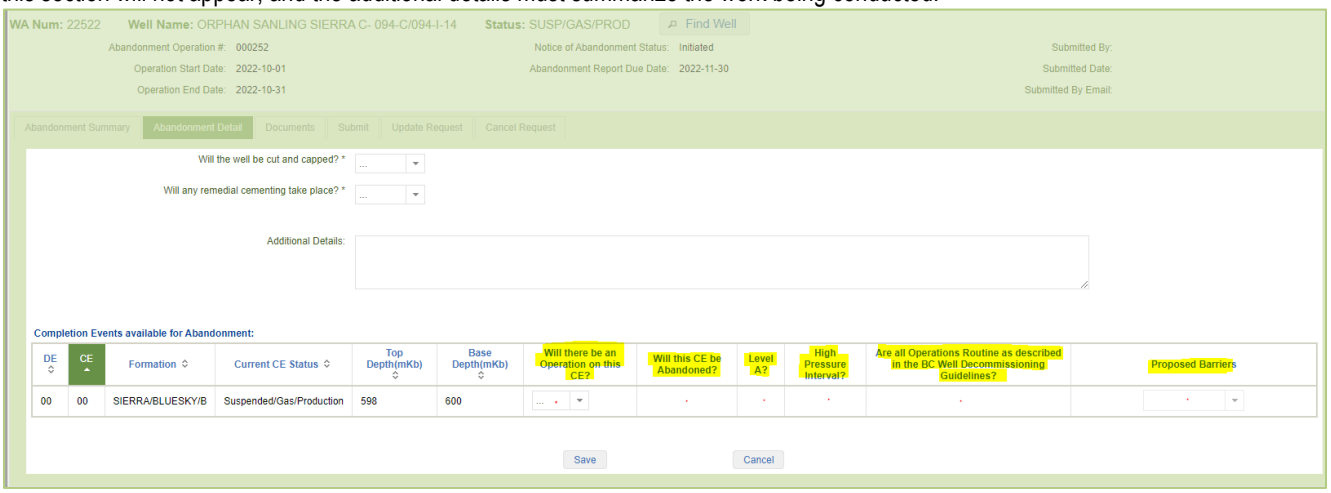
Will the well be cut and capped?: Will the well be cut and capped for this specific Notice of Abandonment?

Will any remedial cementing take place?: Required to answer Y or N. Reference the Well Decommissioning Guidelines.
Additional Details: Ensure that Additional Details include a description of the job summary. This is usually the summary that is in the program. The following shows examples of Additional Details::

- Abandon zone with bridge plug and cap with cement. Run a RBL to determine cement top. If required, remedial cement job for BGWP. Cut and cap well.
- Previously set Cadomin zone abandonment plug will be pressure tested and additional plug run. Proceed with Dunlevy and Bluesky abandonments. Logs will be run to determine SCVF source for remedial cementing.
- Displace/Circulate casing to fresh water. Abandon Montney perforations with a bridge plug and dump bailed cement. Conduct logging to determine SCVF source. Complete remedial cementing to repair SCVF.
- Displace casing to fresh water. Pressure test cement plug and dump bail additional cement. Abandon Dunlevy perforations

with a bridge plug and dump bailed cement. Complete remedial cementing to protect groundwater. Complete surface abandonment.

Completion Events available for Abandonment: The table will display a list of previously reported completion events for the well, if any exist, requiring the user to identify if an operation will be performed for this notice. Where the well is cased and not completed then this section will not appear, and the additional details must summarize the work being conducted.



Will there be an Operation on this CE?: Select yes or no for each CE. CEs indicated with a Yes will be required to answer the following additional questions.

Will this CE be Abandoned?: Select Yes or No.

Level A?: Select Yes or No. Reference the Well Decommissioning Guidelines for further information.

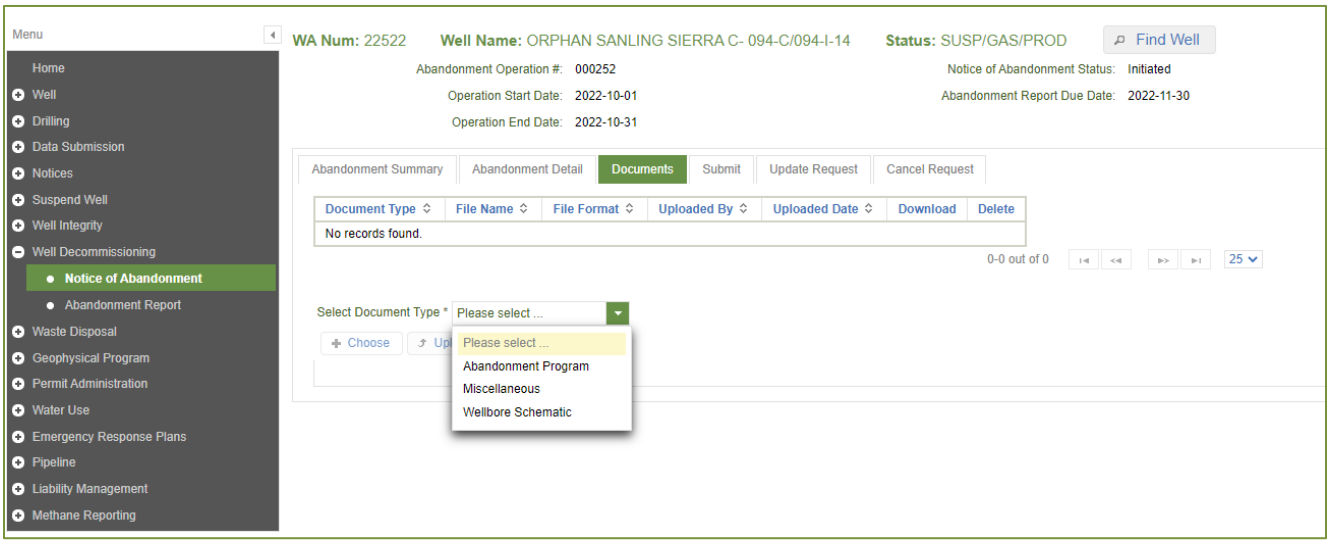
High Pressure Interval?: Select Yes or No. Reference the Well Decommissioning Guidelines for further information.

Are all Operations Routine as described in the BC Well Decommissioning Guidelines?: Select Yes or No. Reference the Well Decommissioning Guidelines for further information. Where the option NO is selected, further describe the operations in the Additional Details field.

Proposed Barriers: Select one option from the list. Where the type OTHER is selected, further describe the proposed barrier in the Additional Details field.

2.3 Notice of Abandonment – Documents Tab

The Documents tab allows permit holders to upload supporting documentation to a Notice of Abandonment. The Abandonment Program and a current Wellbore Schematic are both mandatory submissions. Miscellaneous documentation may include: a Qualified Professionals detailed Base of Usable Groundwater report, logs and any other reports that may be relevant relating to the scope of the job.



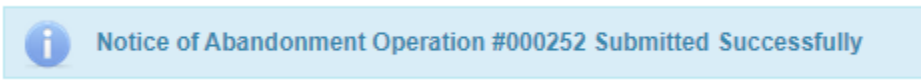
To upload a document, select the Document Type. Click on the Choose button to locate the document to be uploaded and click Open. The selected file name will be displayed, click on Upload to upload the document. Files must be of type .doc, .docx and .pdf only.

2.4 Notice of Abandonment – Submit Tab

The Submit Tab requires that the permit holder accept the statement of responsibility acknowledging that all information provided is accurate. Agreeing to accept responsibility for the application allows the permit holder to submit the Notice of Abandonment to the BC Oil and Gas Commission.

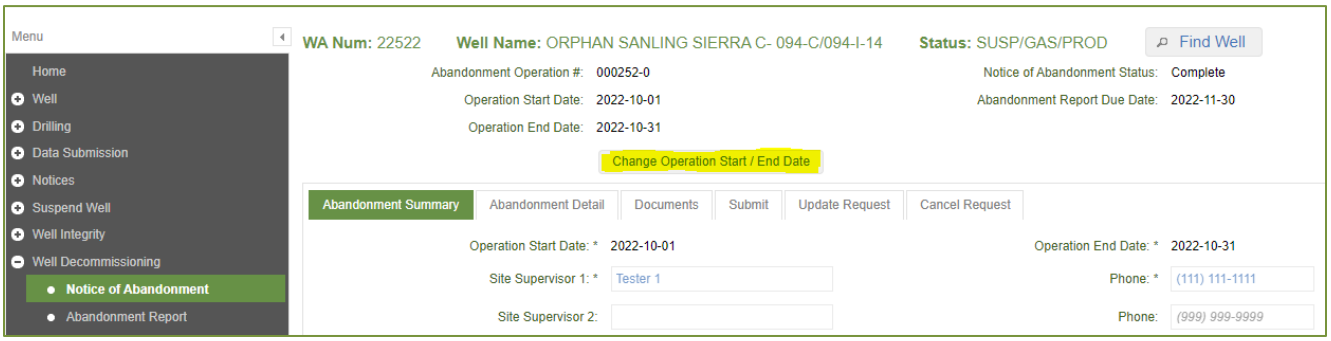
The option to Discard the submission is available only when the Notice is in a status of Initiated. Notices that have been submitted will require a Cancel Request to be initiated.

When the permit holder clicks the Submit to OGC button several completeness and data integrity checks will be conducted. If any error conditions are identified, the permit holder will be notified with error descriptions on the submit tab. If the Notice of Abandonment meets all data integrity and completeness requirements, the permit holder will be notified that the Notice of Abandonment has been successfully submitted and the status will change from Initiated to Under Review.

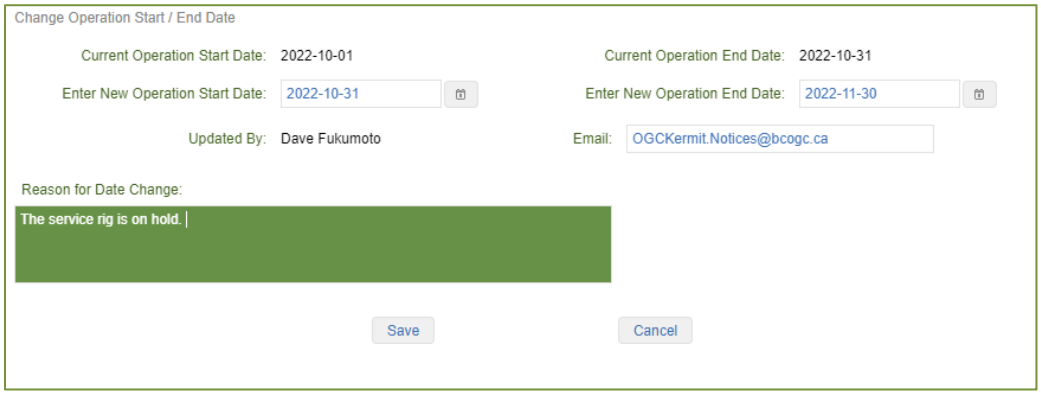


2.5 Notice of Abandonment – Updating Operation Start / End Date

Permit holders can update the Abandonment Start Date and the Abandonment End Date after the Notice of Abandonment has been submitted. Find the Notice of Abandonment and click on the Change Operation Start/End Date button near the top of the screen.

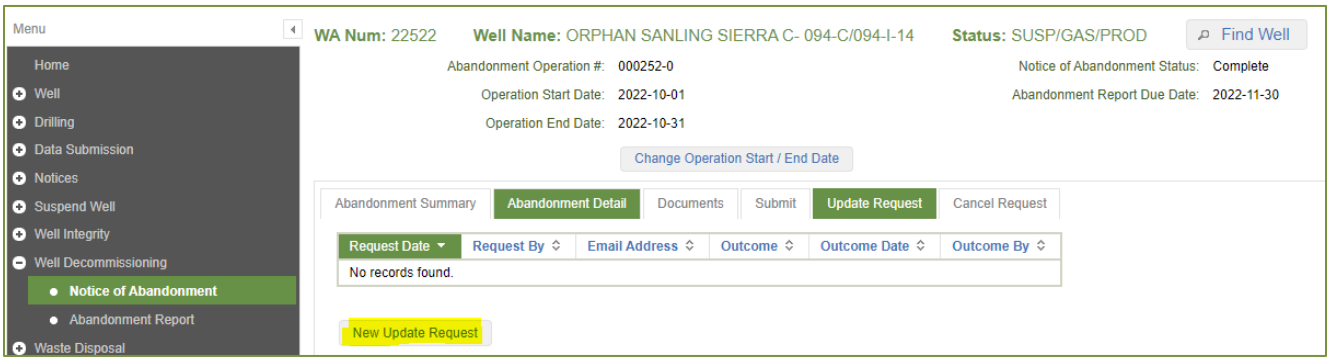


Enter the New Operation Start Date, Operation End Date and provide a reason for the Date change. Click Save to submit the date changes to the BC Oil & Gas Commission.



2.6 Notice of Abandonment – Update Request

After a Notice of Abandonment has been submitted to the Commission, it is no longer available for update in eSubmission. If an external permit holder identifies an error in a Notice of Abandonment after it has been submitted to the Commission, they can enter an Update Request. To enter an Update Request the permit holder will navigate to the Request Update tab. The permit holder may submit an update request when the Notice of Abandonment status is in Under Review.



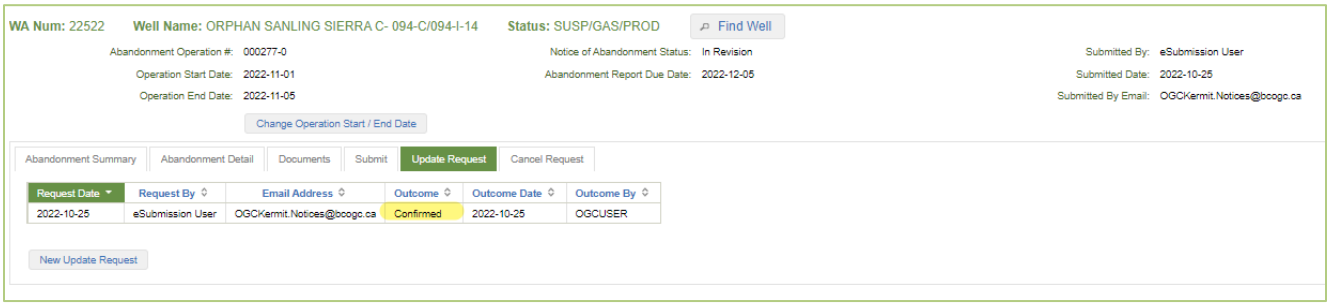
To enter an Update Request the permit holder will click the New Update Request button which will open the Update Request popup.

The permit holder must enter a reason for the Update Request and then click Save. The permit holder will then be notified that the Update Request has been successfully generated.

As illustrated below, this update request notified the permit holder that the request was successful.

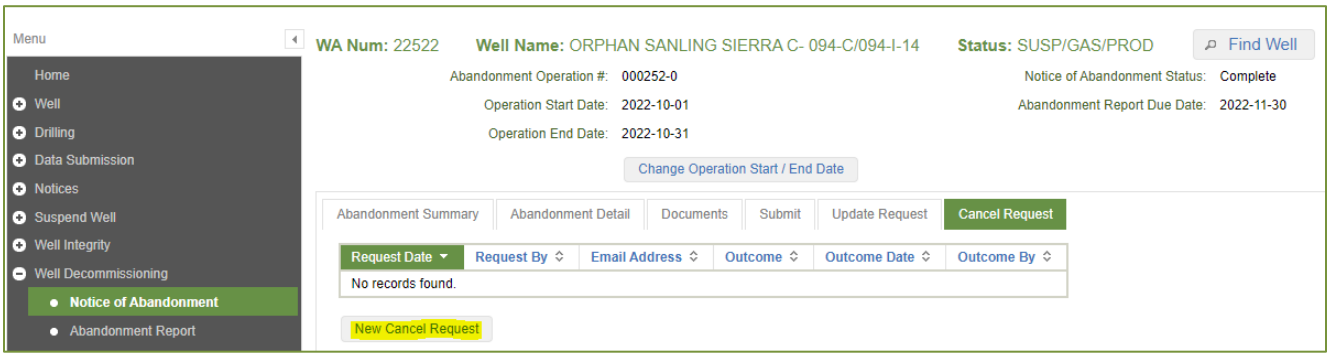
Saving an Update Request results in an email notification being sent to OGCDrilling.Production@bcogc.ca notifying the appropriate Commission staff that an Update Request requires their attention.

Commission staff will confirm the update request setting the Notice to a status of In Revision. An email will be sent to the eSubmission submitter notifying them that the Notice is available for edit.

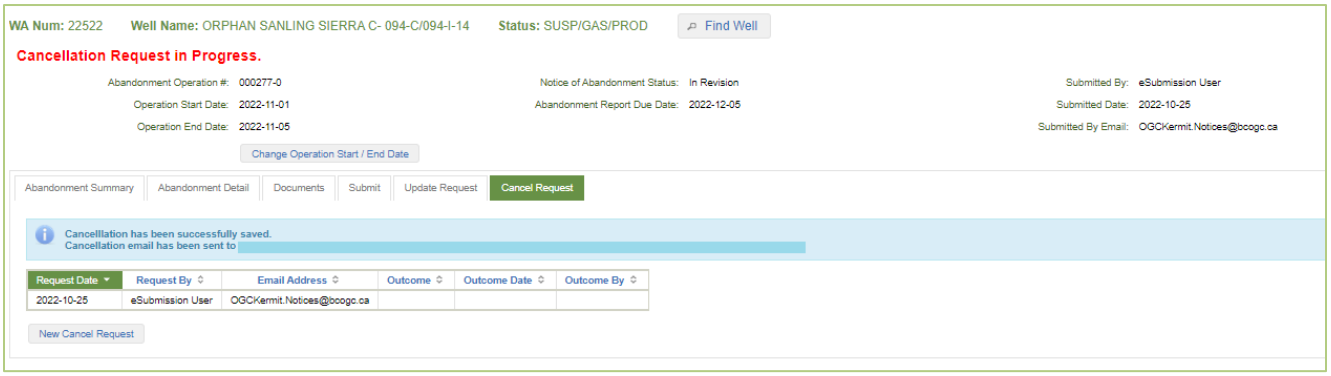


2.7 Notice of Abandonment – Cancellation

After a Notice of Abandonment has been submitted to the Commission, it is no longer available to be updated or discarded in eSubmission. If a permit holder would like to Cancel a Notice of Abandonment after it has been submitted to the Commission they must request that the notice be cancelled. To cancel a Notice of Abandonment, on the Cancel Request tab click on New Cancel Request as shown below.



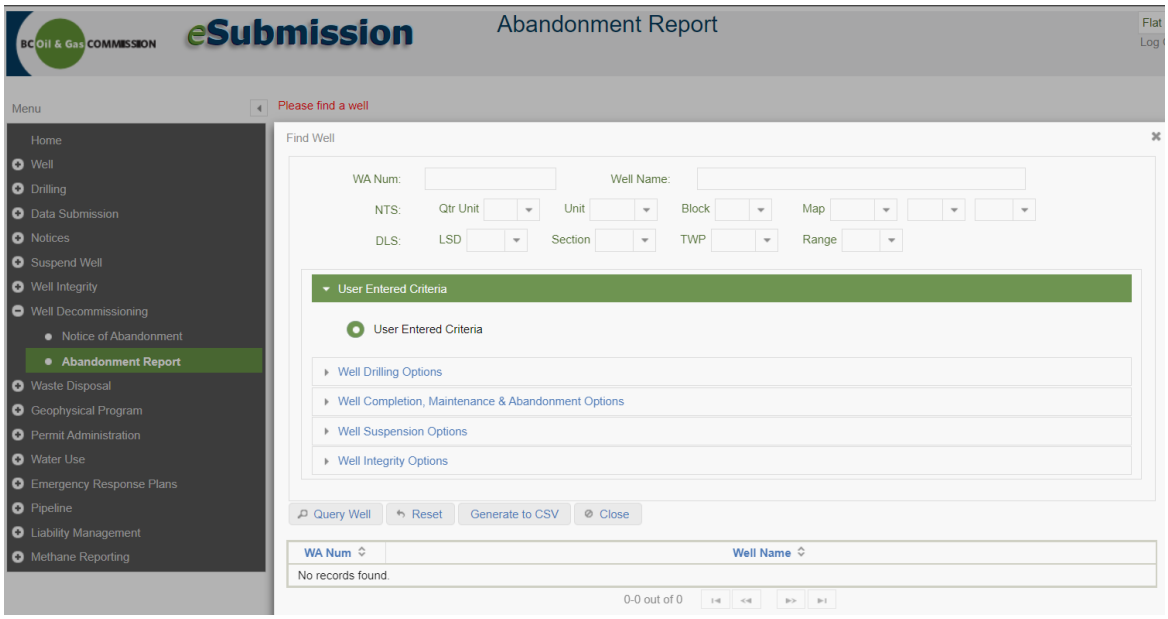
The user will be required to enter a reason for the cancellation and then click Cancel Notice of Abandonment.



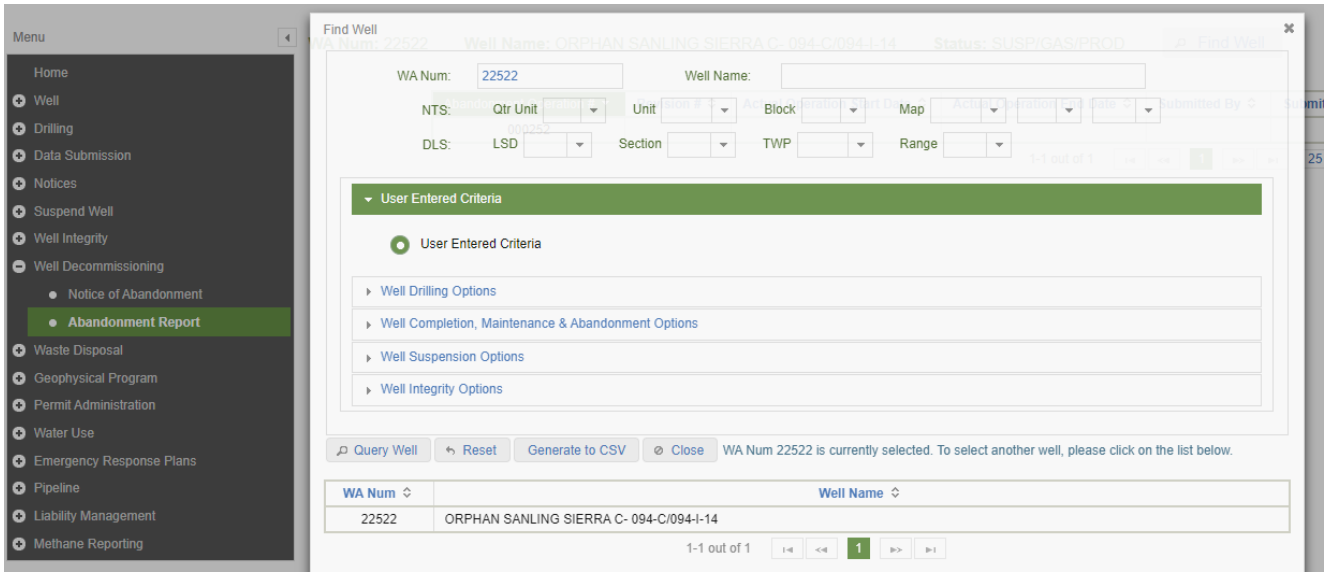
Commission staff will confirm the cancellation request setting the Notice to a status of Cancelled. An email will be sent to the eSubmission submitter notifying them that the Notice is now cancelled.

Chapter 3: Abandonment Report

An Abandonment Report submission is required for each Notice of Abandonment that has been submitted. To initiate an Abandonment Report for a well, the permit holder must select the Abandonment Report option from the Well Decommissioning section from the Navigation Menu. The Find Well application will prompt the permit holder to select a well, type in your WA Num and Query Well.



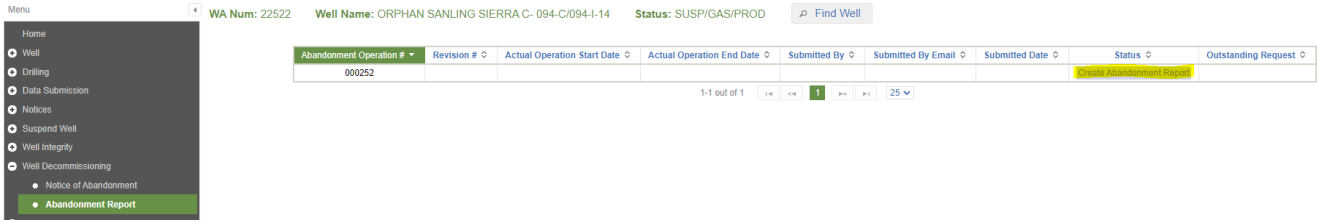
When the permit holder has searched for a well, it will show up on the Active Activity Bar, as shown below.



3.1 Abandonment Report – Lists Abandonment Reports for Well

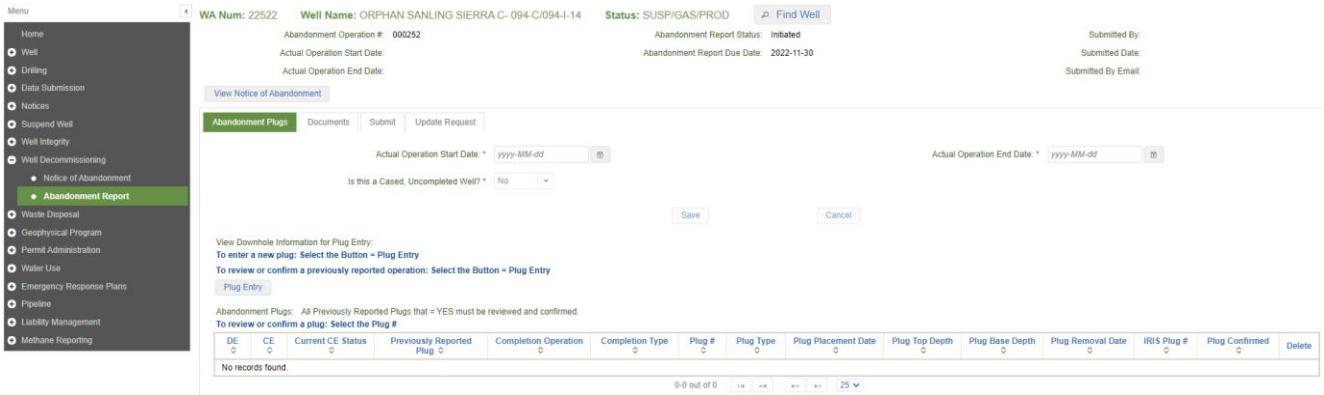
After selecting a well, permit holders will navigate to the List Abandonment Report screen.

If only the Notice of Abandonment exists, no abandonment report submitted against the notice, a link will be provided for the permit holder to create an Abandonment Report as highlighted below. If an Abandonment Report does exist, then the link will allow the permit holder to navigate to a selected Report (ex. Status = initiated).

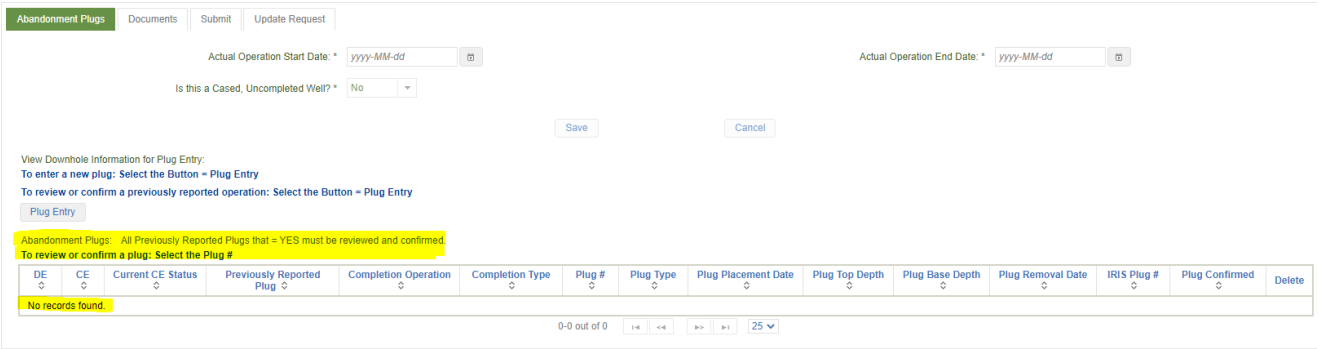


3.2 Abandonment Report – Abandonment Plugs Tab

The Abandonment Report screen has a section of summary information along the top. The Abandonment Report displays a row of tabs each displaying or requiring entry of well abandonment information.



The fields with an asterixis * are required to be entered. There is a requirement to confirm all previous reported abandonment plugs that would have been listed in the table below, if the Commission database has any plugs previous reported. The example below shows no previous reported abandonment plugs.



The following is an example of previous reported plugs listed under the following Abandonment Operation section that will need to be

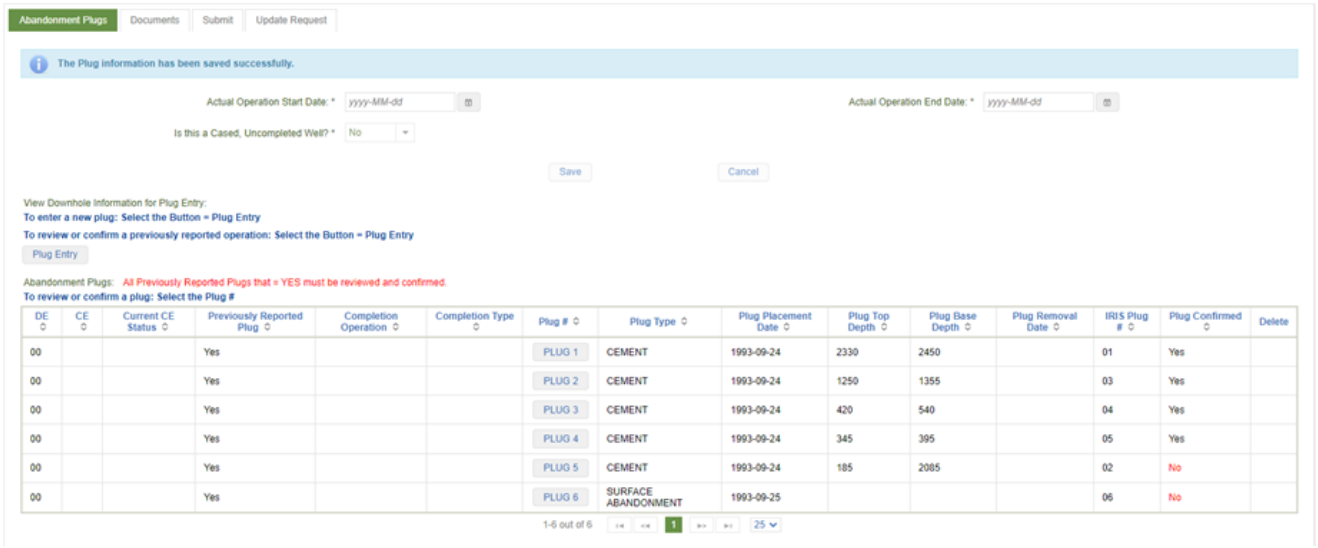
reviewed and confirmed. The permit holder will have to click in every previous reported plug entry until the Operation Confirmed is equal to "Yes".

Abandonment Operations: All Previously Reported Operations that = YES must be reviewed and confirmed.
To review or confirm a plug: Select the Operation then select the highlighted BUTTON = Enter Abandonment Plug for Selected Operation

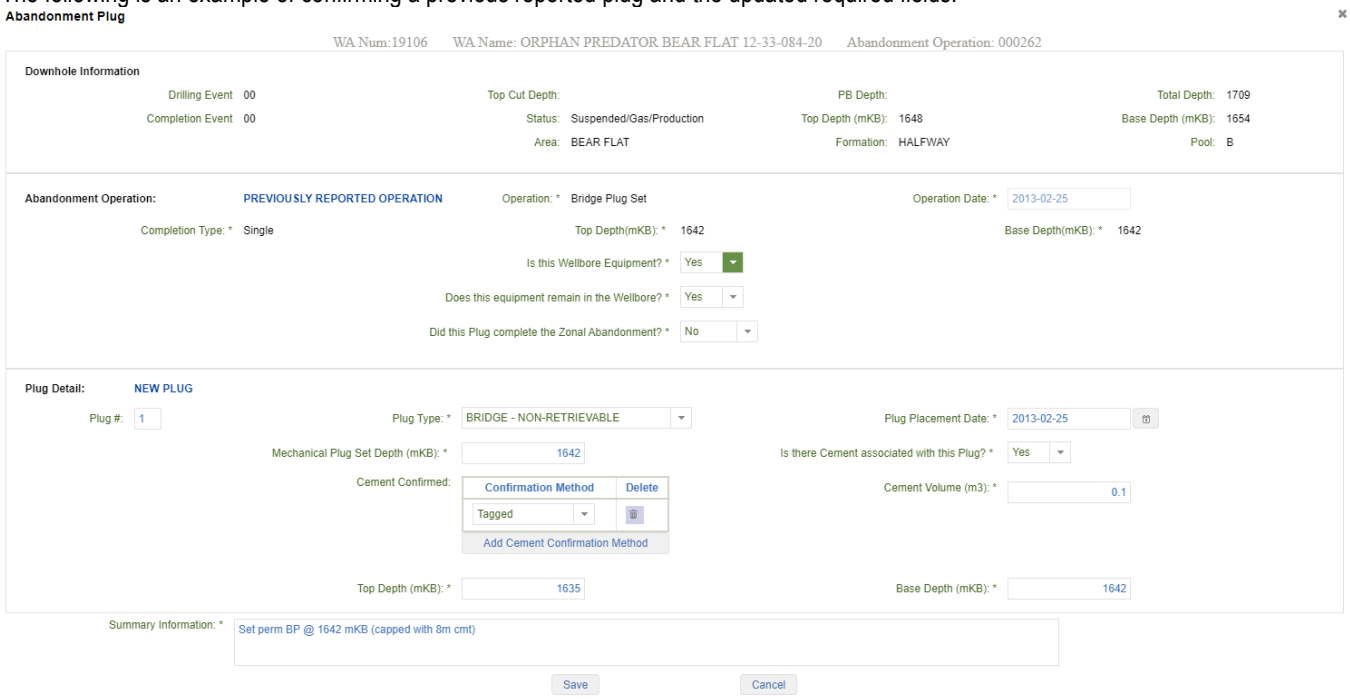
DE	CE	Previously Reported Operation	Completion Event Status	Pool	Completion Operation	Completion Type	Completion Date	Top Depth	Base Depth	Wellbore Equipment	Exist in Wellbore	Equipment Removal Date	Plug #	Operation Confirmed
00	00	Yes	Suspended/Gas/Production	BEAR FLAT/HALFWAY/B	Bridge Plug Set	SINGLE	2013-02-25	1642	1642					No
00	00	Yes	Suspended/Gas/Production	BEAR FLAT/HALFWAY/B	Bridge Plug Set	SINGLE	2005-02-12	1638.5	1640					No
00	00	Yes	Suspended/Gas/Production	BEAR FLAT/HALFWAY/B	Other	SINGLE	2013-02-24	1638.5	1640					No
00	02	Yes	Suspended/Undefined/Undefined	OTHER AREAS/BOUNDARY LAKE/13-33-084-20-W6M	Other	SINGLE	2013-03-01	1460.2	1460.2					No

Enter Abandonment Plug for Selected Operation

The following is an example of a re-entry well where a Surface Abandonment operation is reported against Drilling Event 00. The Permit holder when confirming the Surface Abandonment plug must answer "No" to the question "Does this plug exist in the Wellbore" with a "Plug Removal Date" as the re-entry date for Drilling Event 02. Enter the final Surface Abandonment operation under the shallowest completion event or if cased/not completed under Drilling Event 00. If you have any concerns, please contact the OGCDrilling.Production@bcogc.ca email address for assistance.

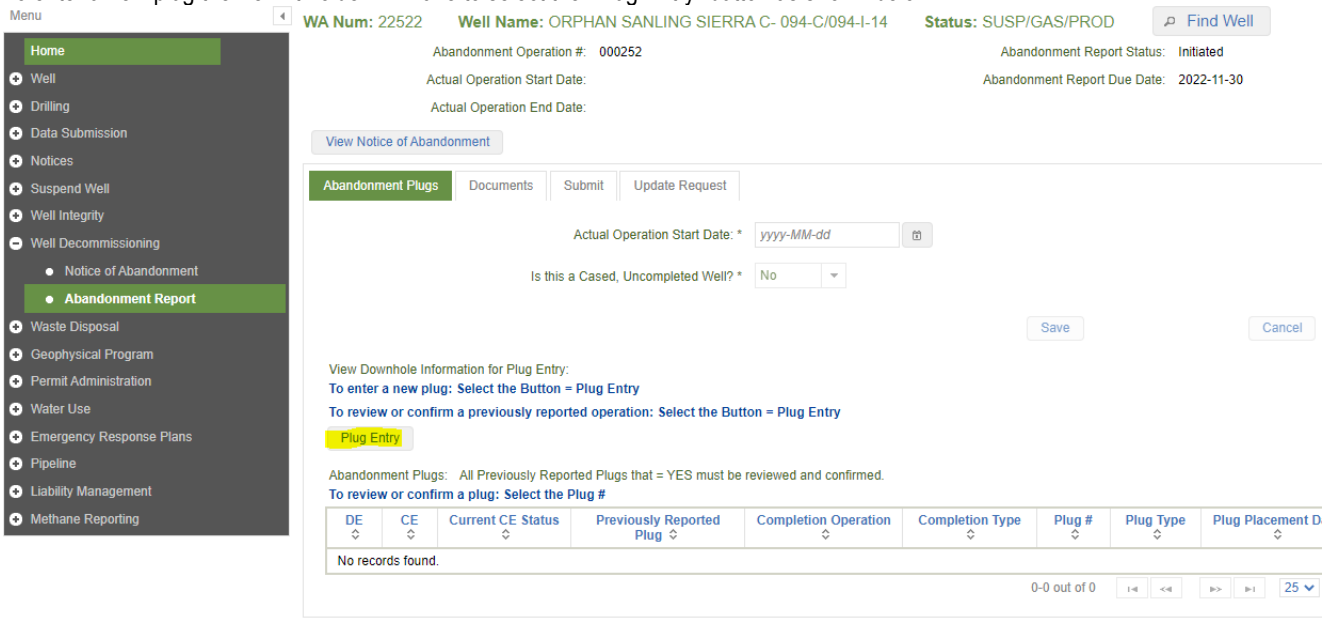


The following is an example of confirming a previous reported plug and the updated required fields:



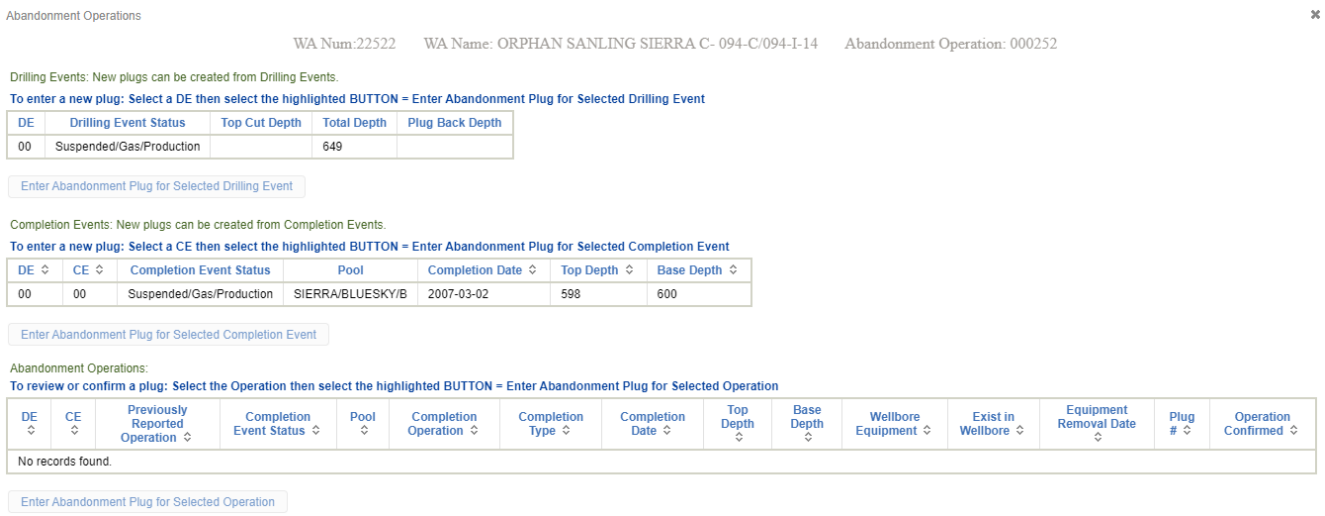
After reviewing and confirming one of the previous plugs the Abandonment Operations section will be updated to show "Yes". The remaining plugs will need to be confirmed.

To enter a new plug the Permit holder will have to select the "Plug Entry" button as shown below:

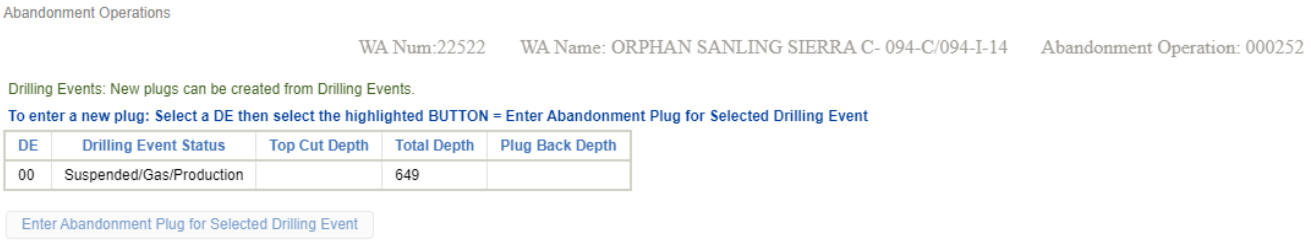


Once the Permit holder selects the "Plug Entry" button, the following screen displays the existing Drilling Event statuses and Completion Event statuses that are available for operation plugs. Select the correct completion event for each operational plug entry. If there are no previously reported completion events, then any new operation plugs would be reported to the Drilling Event screen.

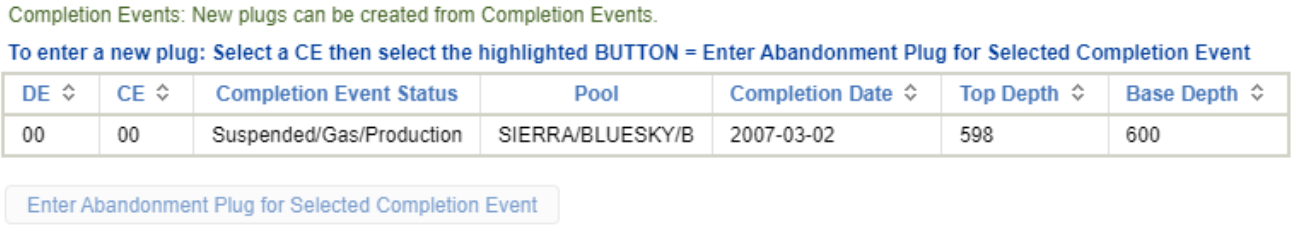
If there is a Surface Abandonment Operation completed, it should be reported to the highest (shallowest) Completion Event. In the example below shows the SIERRA/BLUESKY/B DE 00 CE 00 Completion event so the Surface Abandonment operation would be reported there. If there is no Completion Event on this well the Surface Abandonment Operations should be reported to the Drilling Event section, the uppermost table below.



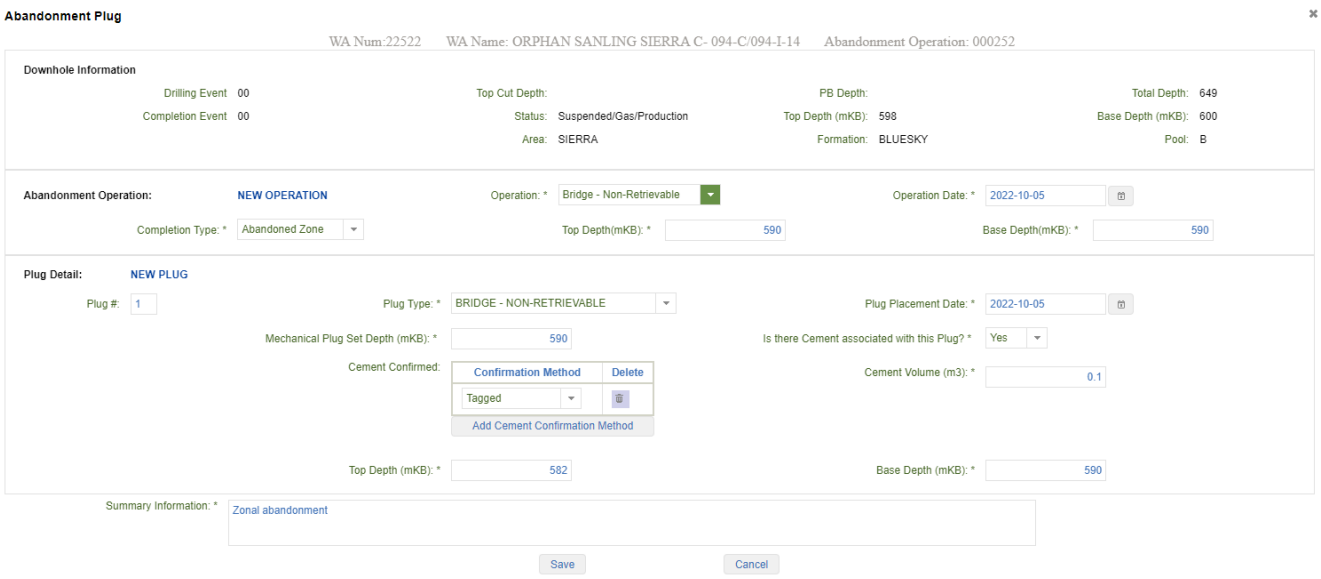
The following "Drilling Events: New plugs can be created from Drilling Events" section is used for any missed reported drilling event plugs not displayed in the "Abandonment Operations" table and for Surface Abandonment operations where the well is cased and not completed.



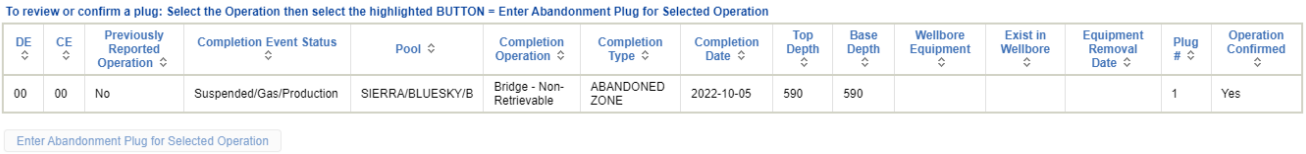
The following "Completion Events: New plugs can be created from Completion Events" section is to report any Abandonment Plugs that have not been previously reported. Please select the correct completion event the plug was set in.



The following is an example of entering a zonal abandonment against a completion event. The newly updated abandonment plug will be displayed under the Abandonment Plugs tab and can be selected to view the details of that plug. As per the following example the Completion Type has an option single or Abandoned Zone. Please ensure the correct type is selected.



The following "Abandonment Operations" section shows all reported abandonment plugs that can be reviewed or confirmed.



When reviewing and confirming Abandonment Operation plugs the question: "Did this Plug complete the Zonal Abandonment" meets the requirements of the Well Decommissioning Guidelines.

Does this Plug complete the Zonal Abandonment?

When an operation zonally abandons 2 formations the plug goes into the shallowest formation. Put the ABNZ status in each CE.

After you have filled out all the information for a new Plug Entry that will be a Completion Type of Abandoned Zone, ensure you provide detailed information for each plug in the Summary Information box.

Examples shown below are for Zonal Abandonment plugs.

Bride Plug Non-Retrievable	Unset packer and pull out of the hole with production string. Set BP at 769mKB, dump 8m cement on top of BP, top of cement at 761mKB. This is a Zonal Abandonment.
Bride Plug Non-Retrievable	Set BP at 1135mKB, dump 8m cement on top of BP, top of cement at 1127mKB. ABNZ for CE00 and CE02
Bride Plug Non-Retrievable	Remedial perf 239 - 240mKB. No bleed off. Decided to set BP. Set BP at 229mKB, dump 8m cement on top of BP, top of cement at 221mKB.
Bride Plug Non-Retrievable	Mar 1 - Remedial perf 684-687mKB, 680-681mKB and 679-680mKNB, no feed rates. Mar 2 - set BP at 675mKB, place 8m cement on top of BP
Bride Plug Non-Retrievable	Perf 358 - 359mKB. Pump 2.4m3, pressure up to max 3600kPa and do not establish flow or bubbles. Decision to set BP and cement above 2 lower sets of perfs shot today. Set BP at 349mKB, dump 8m cement on top of BP, top of cement at 341mKB.
Bride Plug Non-Retrievable	Set BP at 1130mKB. Pump cement plug, estimated top of cement at 1006mKB.
Bride Plug Non-Retrievable	Release from on/off connector leaving tubing fish downhole, top of fish at 1008mKB. Set BP at 1004mKB, dump 8.2m cement on top of BP, top of cement at 995.8mKB
Cement Squeeze	POOH tubing. Perform cement job, pump cement plug from 850-50mKB. Tag top of cement at 213mKB
Other	Dump 8.5m cement on top of BP, top of cement at 1038.5mKB.
Other	Pull tubing, capillary line parted, tubing stuck 8.5 - 789.6mKB. Injection line 202-795mKB. Instrument line 795-1205.5mKB, bird's nest (400 m of line) 1205.5-1255.5m. Squeezed cement, placed 6.8m3 cement below tubing on BP that was previously set. Cement plug 789.7-1255.5mKB.
Other	Place 8.5m cement cap on top of previously set non-functioning cement retainer at 1006mKB to abandon zone Bluesky. Top of cement at 997.5mKB

After you have filled out all the information for a new Plug Entry that will be a Completion Operation of Cement Squeeze, ensure you provide detailed information for each plug in the Summary Information box.

Remedial:

After you have filled out all the information for a new Plug Entry that will be a Completion Operation of Remedial, ensure you provide detailed information for each plug in the Summary Information box.

This is the information you should provide in the Summary Information box:

What are the perforated intervals?
Feed rate – how fast the water will feed into the perforations
What depth was the retainer set?
What are the pressure test results?
How much cement?
Cement returned
Cement on top of retainer – this will be the top interval
Did you run a bond log?

Remedial	Perf 455-457m. Set retainer at 450m, p-test from surface, pass. Sting into retainer, establish circulation to surface through perfs. circulate 1.5m3 cement through retainer, returns to surface. Pull out of retainer, circulate cement onto retainer. Pull to 400m, backwash clean. WOC, tag cement at 405m
Remedial	Remedial perf 566-568mKB, set cement retainer at 550mKB, squeeze 1m3 cement thru retainer into perfs, leaving cement on top of retainer. TOC at 497mKB.
Remedial	Remedial perf 1220-1234.9mKB, squeeze acid into perf interval, set cement retainer at 1229.5mKB, squeeze cement, tag top of cement at 1193.2mKB on Mar 29.
Remedial	Set cement retainer at 363mKB, attempt to break circulation on 365-366mKB, closed cement retainer valve. Spot 8m cement on top of retainer at 363mKB, TOC at 355mKB
Remedial	Balanced cement plugs from 1300 – 1510mKB and1510 – 1722mKB, tagged cement top at 1285mKB.
Remedial	Positive SCVF. Section mill casing 723-728mKB. Dec 2 - spot 3m3 continuous cement plug, squeeze cement, estimated cement top 503.55mKB. Dec 4 - tag top of cement at 516.86mKB. Continue to monitor scvf
Remedial	Come off seal latch assembly, POOH with tubing, leave on-off tools and packers tubing fish downhole, top of fish at 1708.7mKB. Set cement retainer at 1708mKB. Sept 10 - sting into retainer, sqeeze cement into Halfway perfs, leave cement on top of retainer. Est cement top at 1660mKB. Monitor SCVF.
Remedial	Remedial perf 1108-1112mKB, acidize remedial perfs, bradenhead cement squeeze remedial perfs, tag top of cement at 925mKB. Cement plug 925-1127mKB.

Other:

Example of wording for a fish	POOH with tubing, leaving permanent packer and BHA fish downhole, top of fish at 2163mKB. Fish is 17M long. Bottom of fish at 2180mKB.
Example of wording for a fish	Rotate tubing string off the packer, leave packer assembly downhole from 2994.4 – 3002.4mKB. POOH with tubing.
Example of wording for a fish	Attempt to come off on/off, no luck. Feb 22 - approval for commingled suspension due to stuck packer. Jet cut tubing at 1045mKB, leave packer assembly fish downhole. Fish 1045 - 1075mKB.
Example of wording for a fish	Sub gun left down hole. Find wording example
Example of wording for a fish	TCP perforating BHA left down hole. Find wording example
Example of wording for a fish	Jet cut off tubing at 1584mKB leaving **stuck packer** in hole. Tagged plunger at 97mKB and pushed it down to 1584.5mKB. Perforated tubing at 1578mKB.

3.3 Abandonment Report – Surface Abandonment

When entering a Surface Abandonment, new operation, for a completed well, please use the shallowest completion event. For cased, uncompleted wells, enter the new Surface Abandonment under the Drilling Event.

Under the Drilling Event "Enter Abandonment Plug for Selected Drilling Event" option for entering missing plugs not reported in the system.

Summary Information:

Here are some additional questions as a guide to providing detailed information:

How far down was the excavation?
Did you cut the conductor casing?
How far down were the surface and production casing cut off?
Did you use jet cutting and what is the name of the jet cutting company?
Did you install a vented cap? What type? Did you put the well surface location or the WA# on the cover plate?
Was a spring loaded centralizing cap used?
Did you backfill the area?
Wedding cake??

Comments for Surface abandonment.

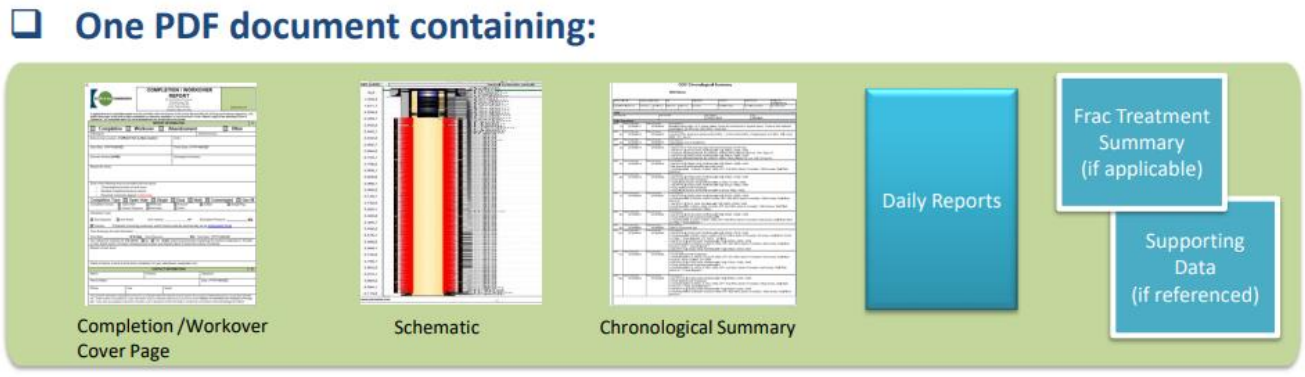
Cut window in surface casing, remove wellhead, excavate down 3m below ground level and cut surface and production casings 2m below ground level, installed bow spring cap, surface location on cover plate, backfill area. Photos included with report.
Excavate down 2.5m, cut surface and production casings 2.4m below ground level, install vented cap on casings with well authorization number on cap, backfill area, photos included with report.
Nu Wave jet cut. Hydro-vac around well head, jet cut off surface and production casings 2 meters below ground level, install spring loaded centralizing cap with well authorization number on top and backfill excavation. Photos attached.
Nu Wave jet cut. Remove wellhead, set jet cutting tool in wellbore, cut surface and production casings (no conductor barrel), install spring loaded centralizing cap with location on cap, photos included with report, backfill area.

3.4 Abandonment Report – Documents Tab

The Documents tab allows permit holders to upload supporting documentation to an Abandonment Report.

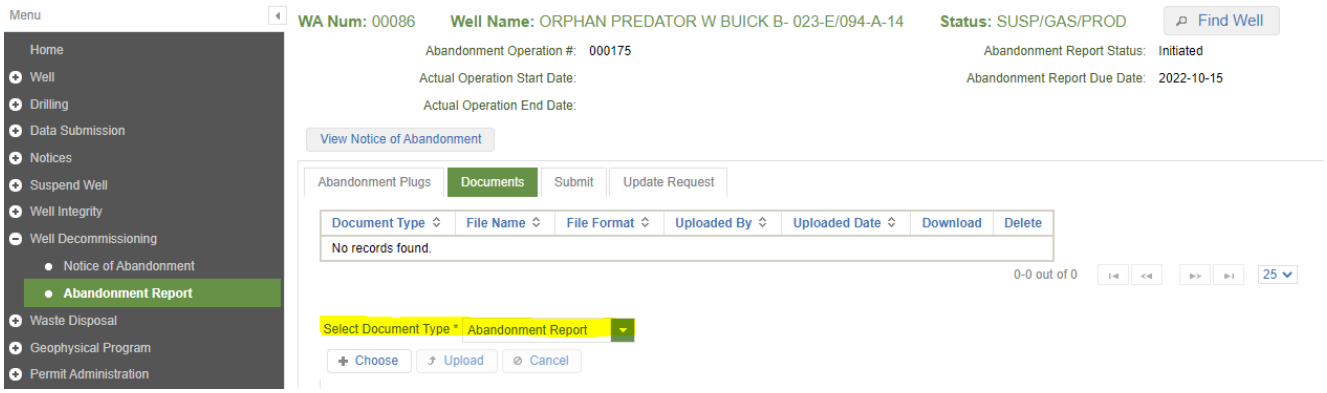
The Abandonment Report file must include the following in this order:

- Completion/Workover Report Form coversheet
- Chronological summary of work completed
- Daily reports detailing all significant operations
- Downhole schematic diagram in full colour
- Photos of the abandonment.



For surface abandonment operations, cut and cap, photos are to be included in the Abandonment Report.

A photos of the casing stub that clearly shows the correct well ID information as per Section 6.7 of the Well Decommissioning Guidelines.



3.5 Abandonment Report – Submit Tab

The Submit Tab requires that the permit holder accept the statement of responsibility acknowledging that all information provided is accurate. Agreeing to accept responsibility for the application allows the permit holder to submit the Abandonment Report to the Commission.

When the permit holder clicks the Submit to OGC button, a number of completeness and data integrity checks will be conducted by the Oil and Gas Commission. If any error conditions are identified, the permit holder will be notified with error descriptions on the submit tab.

If the Abandonment Report meets all data integrity and completeness requirements, the permit holder will be notified that the Abandonment Report has been successfully submitted and the status will change from Initiated to Under Review.

After the Abandonment Report is submitted to the Commission, it is no longer available for edit in eSubmission.

3.6 Abandonment Report – Update Request

After an Abandonment Report has been submitted to the Commission and the permit holder identifies an error in an, they can enter an Update Request.

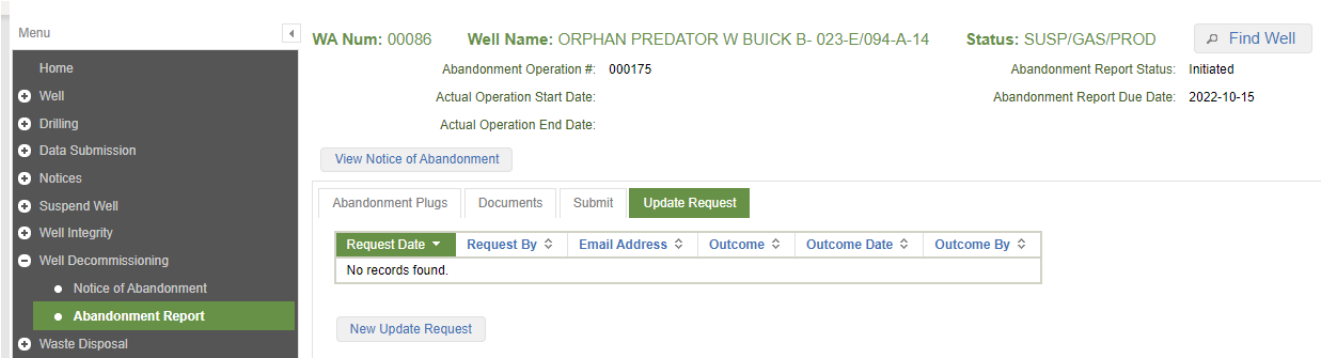
To enter an Update Request the permit holder will navigate to the Update Request tab and the New Request button which will open an Update Request popup.

The permit holder must enter a reason for the Update Request and then click Save. The permit holder will then be notified that the Update Request has been successfully generated.

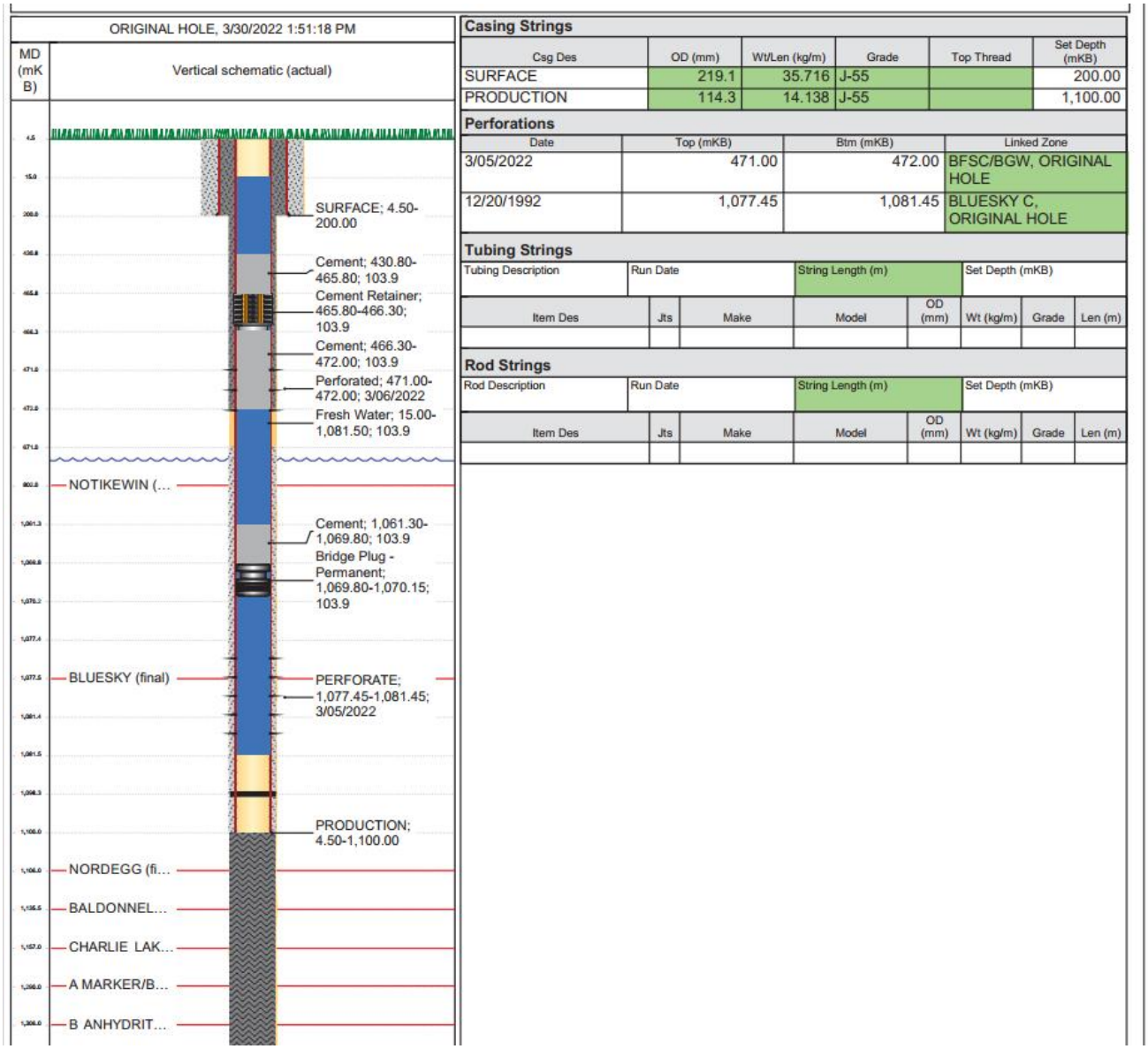
As illustrated below, this update request notified the permit holder that the request was successful.

Saving an Update Request results in an email notification being sent to OGCDrilling.Production@bcogc.ca, notifying the appropriate Commission staff that an Update Request requires their attention.

The email will include the Abandonment #, the WA# of the well being abandoned, the date of the update request, the full name of the permit holder making the update request, the email address of the permit holder making the update request and the reason for the update request.



Appendix A: Wellbore Schematic Examples



Casing Strings

Csg Des	OD (mm)	Wt/Len (kg/m)	Grade	Top Thread	Set Depth (mKB)
SURFACE	219.1	35.716	J-55		200.00
PRODUCTION	114.3	14.138	J-55		1,100.00

Perforations

Date	Top (mKB)	Btm (mKB)	Linked Zone
3/05/2022	471.00	472.00	BFSC/BGW, ORIGINAL HOLE
12/20/1992	1,077.45	1,081.45	BLUESKY C, ORIGINAL HOLE

Tubing Strings

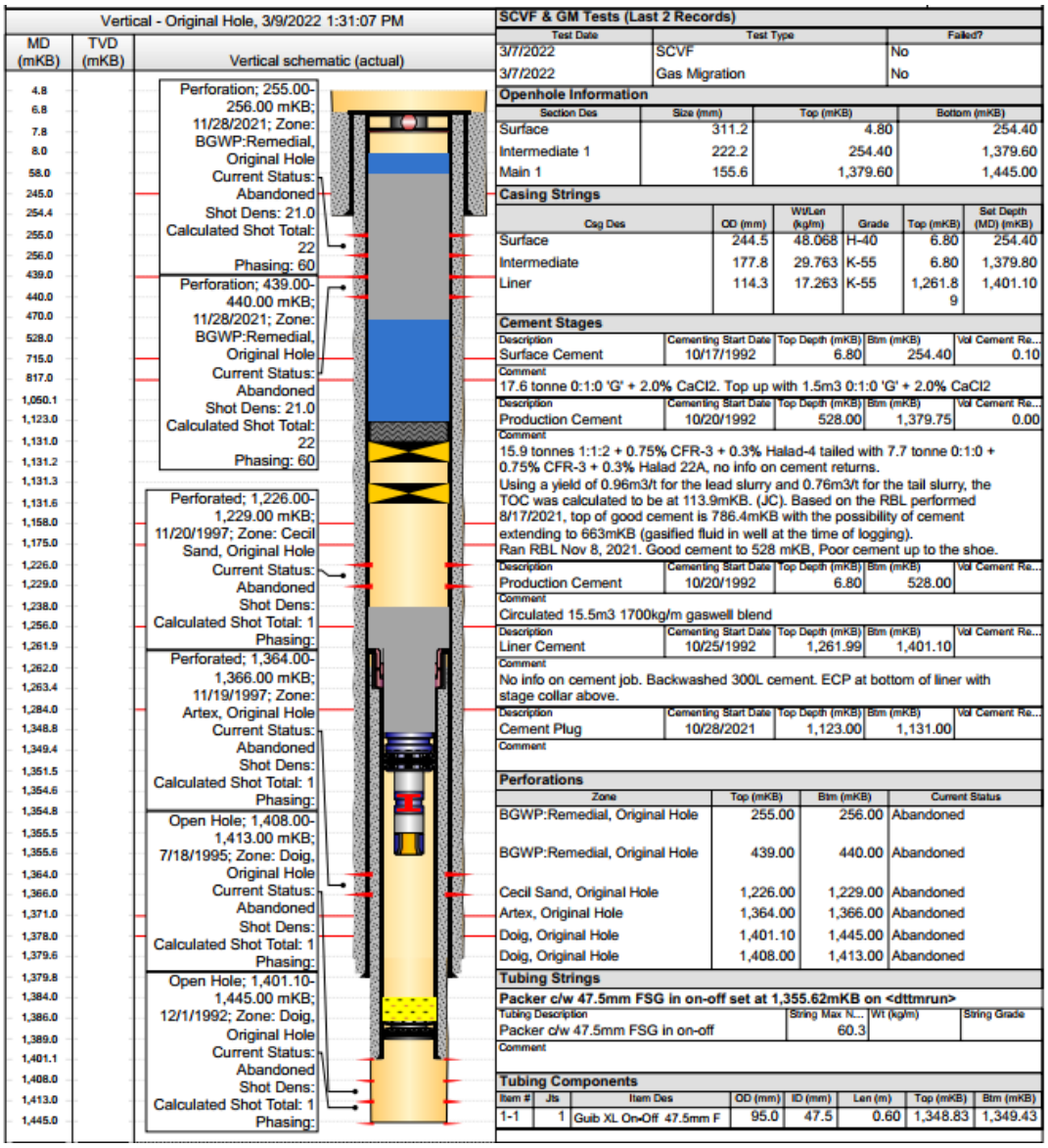
Tubing Description	Run Date	String Length (m)	Set Depth (mKB)

Item Des	Jts	Make	Model	OD (mm)	Wt (kg/m)	Grade	Len (m)

Rod Strings

Rod Description	Run Date	String Length (m)	Set Depth (mKB)

Item Des	Jts	Make	Model	OD (mm)	Wt (kg/m)	Grade	Len (m)



SCVF & GM Tests (Last 2 Records)

Test Date	Test Type	Failed?
3/7/2022	SCVF	No
3/7/2022	Gas Migration	No

Openhole Information

Section Des	Size (mm)	Top (mKB)	Bottom (mKB)
Surface	311.2	4.80	254.40
Intermediate 1	222.2	254.40	1,379.60
Main 1	155.6	1,379.60	1,445.00

Casing Strings

Csg Des	OD (mm)	Wt/Len (kg/m)	Grade	Top (mKB)	Set Depth (MD) (mKB)
Surface	244.5	48.068	H-40	6.80	254.40
Intermediate	177.8	29.763	K-55	6.80	1,379.80
Liner	114.3	17.263	K-55	1,261.89	1,401.10

Cement Stages

Description	Cementing Start Date	Top Depth (mKB)	Btm (mKB)	Vol Cement Re...
Surface Cement	10/17/1992	6.80	254.40	0.10

Comment: 17.6 tonne 0:1:0 'G' + 2.0% CaCl2. Top up with 1.5m3 0:1:0 'G' + 2.0% CaCl2

Description	Cementing Start Date	Top Depth (mKB)	Btm (mKB)	Vol Cement Re...
Production Cement	10/20/1992	528.00	1,379.75	0.00

Comment: 15.9 tonnes 1:1:2 + 0.75% CFR-3 + 0.3% Halad-4 tailed with 7.7 tonne 0:1:0 + 0.75% CFR-3 + 0.3% Halad 22A, no info on cement returns. Using a yield of 0.96m3/t for the lead slurry and 0.76m3/t for the tail slurry, the TOC was calculated to be at 113.9mKB. (JC). Based on the RBL performed 8/17/2021, top of good cement is 786.4mKB with the possibility of cement extending to 663mKB (gasified fluid in well at the time of logging). Ran RBL Nov 8, 2021. Good cement to 528 mKB, Poor cement up to the shoe.

Description	Cementing Start Date	Top Depth (mKB)	Btm (mKB)	Vol Cement Re...
Production Cement	10/20/1992	6.80	528.00	

Comment: Circulated 15.5m3 1700kg/m gaswell blend

Description	Cementing Start Date	Top Depth (mKB)	Btm (mKB)	Vol Cement Re...
Liner Cement	10/25/1992	1,261.99	1,401.10	

Comment: No info on cement job. Backwashed 300L cement. ECP at bottom of liner with stage collar above.

Description	Cementing Start Date	Top Depth (mKB)	Btm (mKB)	Vol Cement Re...
Cement Plug	10/28/2021	1,123.00	1,131.00	

Comment:

Perforations

Zone	Top (mKB)	Btm (mKB)	Current Status
BGWP:Remedial, Original Hole	255.00	256.00	Abandoned
BGWP:Remedial, Original Hole	439.00	440.00	Abandoned
Cecil Sand, Original Hole	1,226.00	1,229.00	Abandoned
Artex, Original Hole	1,364.00	1,366.00	Abandoned
Doig, Original Hole	1,401.10	1,445.00	Abandoned
Doig, Original Hole	1,408.00	1,413.00	Abandoned

Tubing Strings

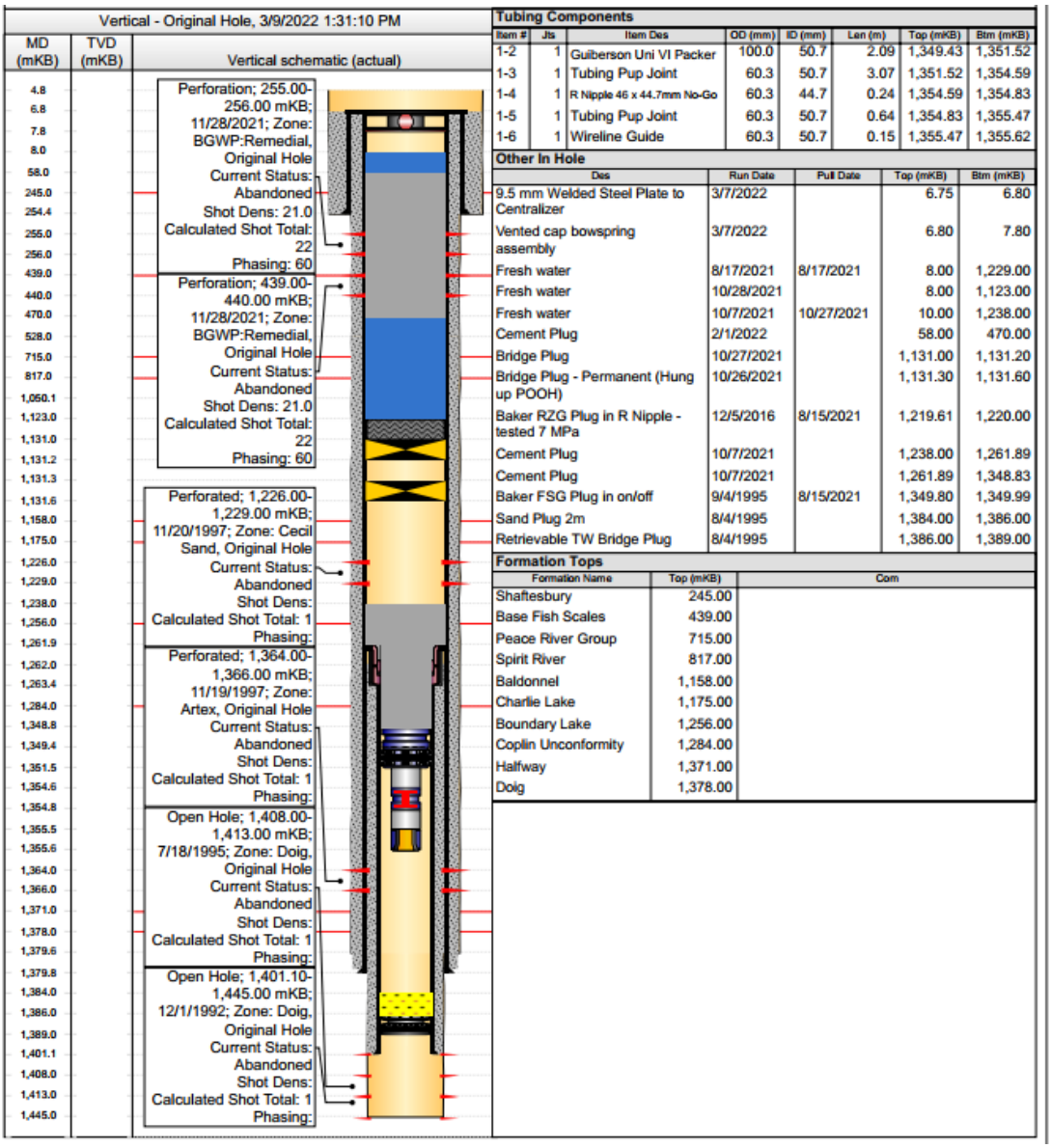
Packer c/w 47.5mm FSG in on-off set at 1,355.62mKB on <dttmrun>

Tubing Description	String Max N...	Wt (kg/m)	String Grade
Packer c/w 47.5mm FSG in on-off	60.3		

Comment:

Tubing Components

Item #	Jts	Item Des	OD (mm)	ID (mm)	Len (m)	Top (mKB)	Btm (mKB)
1-1	1	Guib XL On-Off 47.5mm F	95.0	47.5	0.60	1,348.83	1,349.43



Tubing Components

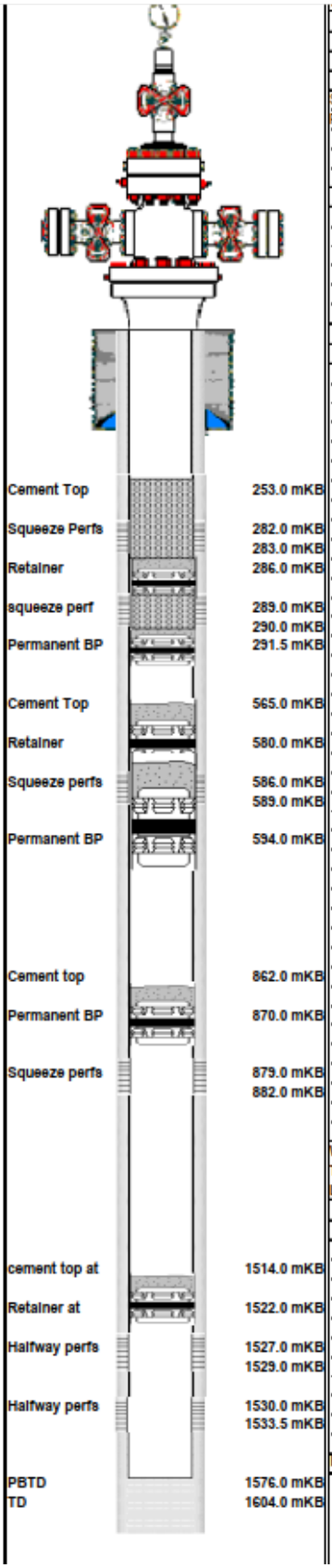
Item #	Jts	Item Des	OD (mm)	ID (mm)	Len (m)	Top (mKB)	Btm (mKB)
1-2	1	Guiberson Uni VI Packer	100.0	50.7	2.09	1,349.43	1,351.52
1-3	1	Tubing Pup Joint	60.3	50.7	3.07	1,351.52	1,354.59
1-4	1	R Nipple 46 x 44.7mm No-Go	60.3	44.7	0.24	1,354.59	1,354.83
1-5	1	Tubing Pup Joint	60.3	50.7	0.64	1,354.83	1,355.47
1-6	1	Wireline Guide	60.3	50.7	0.15	1,355.47	1,355.62

Other In Hole

Des	Run Date	Pull Date	Top (mKB)	Btm (mKB)
9.5 mm Welded Steel Plate to Centralizer	3/7/2022		6.75	6.80
Vented cap bowspring assembly	3/7/2022		6.80	7.80
Fresh water	8/17/2021	8/17/2021	8.00	1,229.00
Fresh water	10/28/2021		8.00	1,123.00
Fresh water	10/7/2021	10/27/2021	10.00	1,238.00
Cement Plug	2/1/2022		58.00	470.00
Bridge Plug	10/27/2021		1,131.00	1,131.20
Bridge Plug - Permanent (Hung up POOH)	10/26/2021		1,131.30	1,131.60
Baker RZG Plug in R Nipple - tested 7 MPa	12/5/2016	8/15/2021	1,219.61	1,220.00
Cement Plug	10/7/2021		1,238.00	1,261.89
Cement Plug	10/7/2021		1,261.89	1,348.83
Baker FSG Plug in on/off	9/4/1995	8/15/2021	1,349.80	1,349.99
Sand Plug 2m	8/4/1995		1,384.00	1,386.00
Retrievable TW Bridge Plug	8/4/1995		1,386.00	1,389.00

Formation Tops

Formation Name	Top (mKB)	Com
Shaftesbury	245.00	
Base Fish Scales	439.00	
Peace River Group	715.00	
Spirit River	817.00	
Baldonnel	1,158.00	
Charlie Lake	1,175.00	
Boundary Lake	1,256.00	
Coplin Unconformity	1,284.00	
Halfway	1,371.00	
Doig	1,378.00	



ELEVATIONS (meters)

KB ELEV	GL ELEV	KB TO THF	KB TO SCF	KB TO GL	PBTD
660.3	656	4	4	4.3	1576

CASING DESCRIPTION	OD (mm)	LANDED DEPTH	WEIGHT (kg/m)	TOP OF (mKB)
Surface casing	244.5	252	48.07	Surface
Production casing	177.8	1604	38.69	Surface

Perf Date	Zones	Top Shot	Bottom Shot	Status	Gun Data
2003-10-29	Halfway	1527.00	1529.00	Abandoned	
	Halfway	1530.00	1533.50	Abandoned	
	Squeeze perfs	879.00	882.00	Abandoned	
	Squeeze perfs	586.00	589.00	Abandoned	
	Squeeze perfs	289.00	290.00	Abandoned	
	Squeeze perfs	282.00	283.00	Abandoned	

DOWNHOLE DESCRIPTION FROM BOTTOM UP (Tubing String)

ITEM #	DESCRIPTION	LENGTH	TOP OF (mKB)
			-

WEIGHT OF TUBING STRING (daN)		TOTAL STRING LENGTH	0.00
TENSION/COMPRESSION (+/- daN)		STRETCH/SLACKOFF (+/- m)	
LANDED STRING WEIGHT (daN)	-	TUBING BOTTOM (mKB)	4.00

WELL HEAD DESCRIPTION

ITEM #	DESCRIPTION	SERIAL #	MWP	SIZE

REMARKS