

November 30, 2021

Project No. 1811034602-1005

Imperial Oil Limited
505 Quarry Park Blvd SE
Calgary, Alberta, T2C 5N1

**THIS REPORT CONTAINS PROVISIONS
LIMITING LIABILITY, THE SCOPE OF THE
REPORT AND THIRD PARTY RELIANCE**

These documents and the information contained therein are confidential property of Imperial Oil and any disclosure of same is governed by the provisions of each of the applicable provincial and territorial freedom of information legislation, the Privacy Act (Canada) 1980-81-82-83, c.111, Sch. II "1", and the Access to Information Act (Canada) 1980-81-82-83, c.111, Sch. I "1", and, as such, legislation may be amended from time to time.

**2021 MONITORING WELL DECOMMISSIONING REPORT
FORMER SERVICE STATION
2410 MIRAMICHI AVENUE, BATHURST, NEW BRUNSWICK
PID 20033593**

Golder Associates Ltd. (Golder) was retained by Imperial Oil Limited (Imperial) to decommission the groundwater monitoring wells at the former service station at 2410 Miramichi Avenue, Bathurst, New Brunswick (the Site). This follows the submission of a Remedial Action Plan (Golder 2019) and a Closure Report and Record of Site Condition (Golder 2021) to the New Brunswick Department of Environment and Local Government (NB DELG) in June 2021. Golder received notice of Site closure from the NB DELG on October 14, 2021.

Under these conditions, no further monitoring of the Site is required, and the remaining monitoring wells must be decommissioned as a condition of closure. The Site location and Site plan with historical facilities are presented in Figures 1 and 2. Site photographs are presented in Appendix A.

Scope of Work

- Decommission up to four groundwater monitoring wells at the Site.

Methodology

- Groundwater monitoring wells at the Site were decommissioned using a mobile CME 55 track-mounted drill rig operated by Lantech Drilling Ltd. of Dieppe, New Brunswick. The monitoring well protective steel covers and polyvinyl chloride (PVC) casings were removed with the drill rig winch and the boreholes were over-drilled with hollow stem augers. Boreholes were backfilled with bentonite chips to approximately 0.3 metres below ground surface (mbgs) followed by sand to surface.

Results

Monitoring Well Decommission (Date; No. of wells)

- November 11, 2021; four groundwater monitoring wells (04MW-4, 04MW-6, MW20-01 and MW20-02) were decommissioned with the drill rig (Figure 3).

Closure

We trust the information presented in this report meets your current requirements. Please contact the undersigned at (902) 466-1668 if you require additional information.

Yours truly,

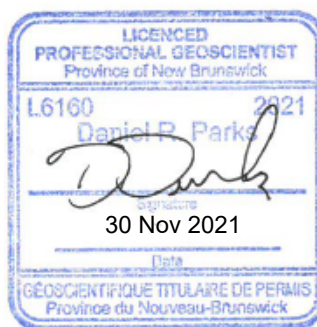
Golder Associates Ltd.



Jane Bosch, Dipl. EVT.
Environmental Technician



Chris Vettorazzo, B.Eng.
Project Manager



Dan Parks, B.Sc., P.Geo.
Project Director

APEGNB Permit to Practice L6160

JB/CV/DP/hf

Attachments: References
Limitations of Liability, Scope of Work and Third Party Reliance
Figures
Appendix A: Site Photos

[https://golderassociates.sharepoint.com/sites/35220g/1000 to 1095/1005/11 - well decommissioning/decom report/1005_well decom report.docx](https://golderassociates.sharepoint.com/sites/35220g/1000%20to%201095/1005/11%20well%20decommissioning/decom%20report/1005_well%20decom%20report.docx)

References

Golder (Golder Associates Ltd.). 2019. Remedial Action Plan, Former Service Station, 2410 Miramichi Avenue, Bathurst, New Brunswick. May 2019.

Golder. 2021. Re: Submission for Site Closure, 2410 Miramichi Avenue, Bathurst, New Brunswick. Site PID NO: 20033593; Remediation File Number: 6515-1-0544. June 28, 2021.

Limitations of Liability, Scope of Work and Third Part Reliance

This report has been prepared and the work referred to in this report has been undertaken by Golder Associates Ltd. for Imperial Oil Limited. It is intended for the sole and exclusive use of Imperial Oil Limited, its affiliated companies and partners and their respective insurers, agents, employees and advisors (collectively, "Imperial Oil"). Any use, reliance on or decision made by any person other than Imperial Oil based on this report is the sole responsibility of such other person. Imperial Oil and Golder Associates Ltd. make no representation or warranty to any other person with regard to this report and the work referred to in this report, and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, or reliance on, any decision made or any action taken based on this report or the work referred to in this report.

The investigation undertaken by Golder Associates Ltd. with respect to this report and any conclusions or recommendations made in this report reflect Golder Associates Ltd.'s judgement based on the site conditions observed at the time of the site inspection on the date(s) set out in this report, and on information available at the time of preparation of this report. This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report.

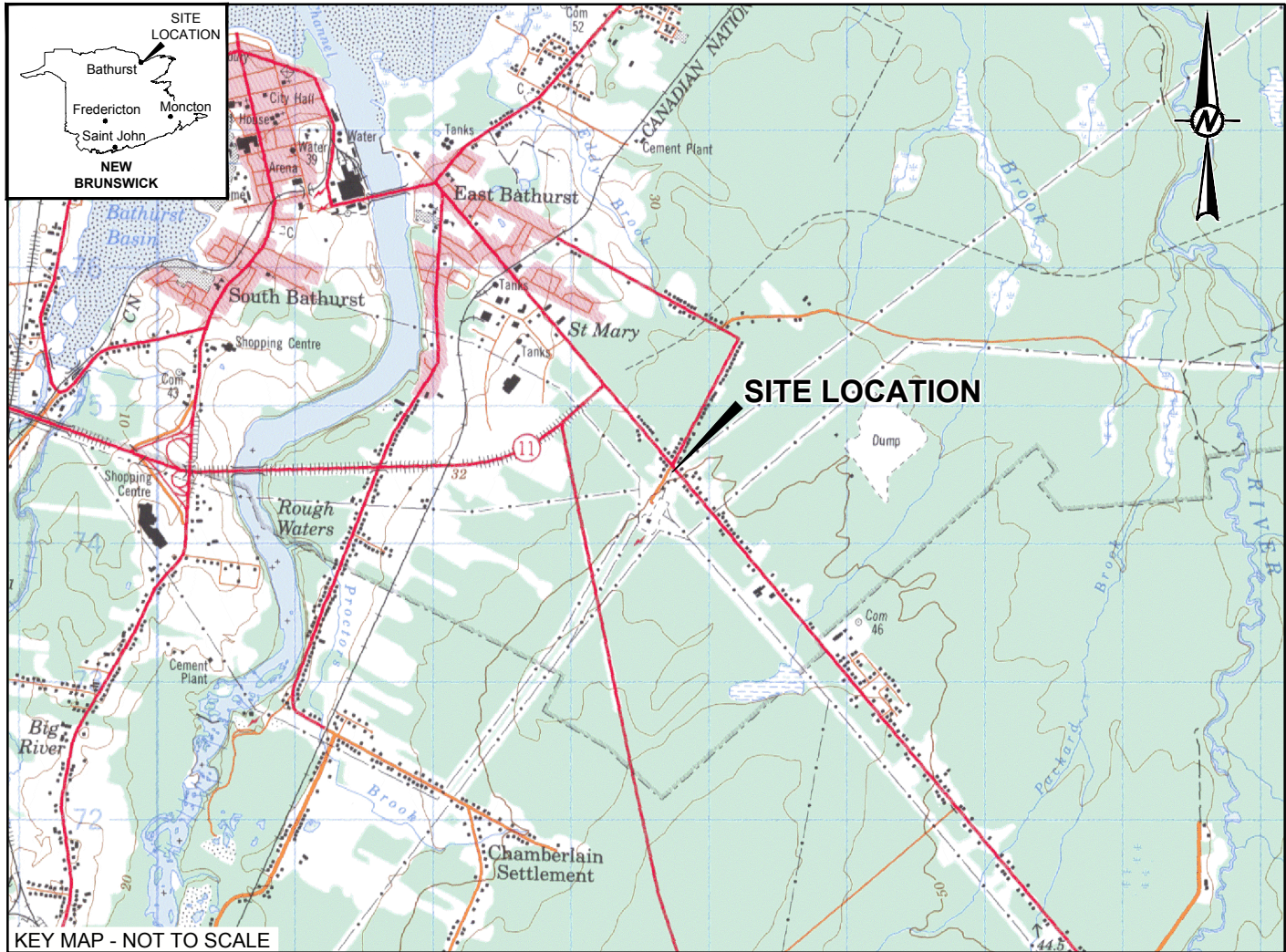
Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by the investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by Imperial Oil, copying or distribution of this report, use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Golder Associates Ltd. Nothing in this report is intended to constitute or provide a legal opinion.

Figures

Path: \\golder\gds\calgary\calum\cad\imperial_oil\downstream\BATHURST_NB_2410_MIRAMICHI_AVENUE\99_PROJECTS\B11034602\2_PRODUCTION\1005-11_DECOM\DWG3 | File Name: 1811034602_1005-HS-0001.dwg | Last Edited By: LMoran | Printed By: LMoran | Date: 2021-11-29 | Time: 11:54:58 AM



LEGEND

--- PROPERTY BOUNDARY

LIST OF APPLICABLE ABBREVIATIONS

PID PARCEL IDENTIFIER

REFERENCE

ORIGINAL DRAWING OBTAINED FROM CONESTOGA-ROVERS AND ASSOCIATES LTD.; DWG No.: 810742-C(JOLICOEUR003)GN-FR002; SCALE: 1:750; DATE: FEBRUARY 8, 2013.

BING IMAGERY SUPPLIED BY AUTODESK AND MICROSOFT © 2021 MICROSOFT CORPORATION AND ITS DATA SUPPLIERS.

TOPOGRAPHIC MAP 21P/12 OBTAINED FROM Canmatrix. © 1993 HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. PROJECTION: TRANSVERSE MERCATOR; DATUM: NAD83; COORDINATE SYSTEM: UTM ZONE 20.



CLIENT
IMPERIAL OIL LIMITED

CONSULTANT



YYYY-MM-DD 2021-11-29

DESIGNED JBosch

PREPARED APaull

REVIEWED CVettorazzo

APPROVED DParks

PROJECT
FORMER SERVICE STATION
2410 MIRAMICHI AVENUE
BATHURST, NEW BRUNSWICK

TITLE
SITE LOCATION PLAN

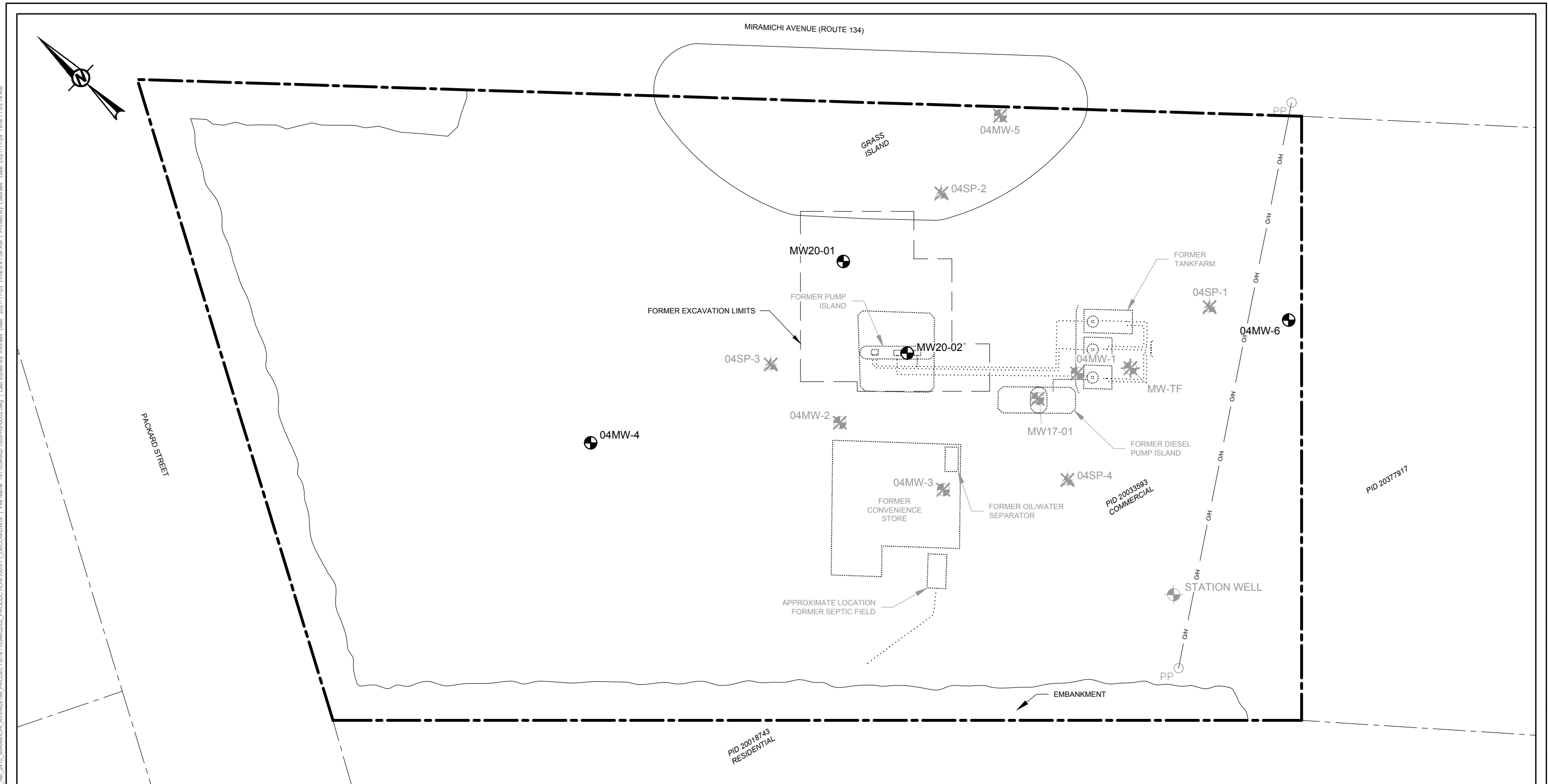
PROJECT NO.
1811034602

PHASE-TASK
1005-11






REV.
0

FIGURE
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3/B



LEGEND

-  PROPERTY BOUNDARY
 EXCAVATION LIMITS (FORMER)
 FORMER FACILITY
 OVERHEAD POWER LINE
 UNDERGROUND PIPELINE (FORMER)



- BOREHOLE LOCATION COMPLETED AS A
MONITORING WELL
- BOREHOLE LOCATION COMPLETED AS A
MONITORING WELL (DECOMMISSIONED)
- BOREHOLE LOCATION COMPLETED AS A
MONITORING WELL (DESTROYED)
- SOIL VAPOUR PROBE LOCATION
(DESTROYED)
- WATER WELL (FORMER)
- POWER POLE

LIST OF APPLICABLE ABBREVIATIONS

PID	PARCEL IDENTIFIER
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REFERENCE

ORIGINAL DRAWING OBTAINED FROM CONESTOGA-ROVERS
AND ASSOCIATES LTD.; DWG No.:
810742-C(JOLICOEUR003)GN-FR002; SCALE: 1:750; DATE:
FEBRUARY 8, 2013.

CLIENT
IMPERIAL OIL LIMITED

CONSULTANT



GOLDER
MEMBER OF WSP

YYYY-MM-DD 2021-11-29

DESIGNED J Bosch

PREPARED APaull

REVIEWED CVetton

PROJECT
FORMER SERVICE STATION
2410 MIRAMICHI AVENUE
BATHURST, NEW BRUNSWICK

TITLE

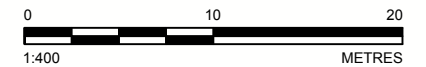
SITE PLAN WITH HISTORICAL FACILITIES

PROJECT NO.
1811034602

PHASE-TASK
1005-11

REV.
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FIGURE 2



APPENDIX A

Site Photographs



Photo 1 – View facing north from the southern portion of the Site prior to monitoring well decommissioning. Blue casings for monitoring wells MW20-01 and MW20-02 are visible (November 11, 2021).



Photo 2 – View facing southeast toward location of decommissioned monitoring well 04MW-6 (November 11, 2021).

CLIENT
Imperial Oil Limited

CONSULTANT



GOLDER
MEMBER OF WSP

DATE November 2021

PREPARED JB

REVIEWED CV

PROJECT
Former Service Station, 2410 Miramichi Avenue, Bathurst, New Brunswick

TITLE
Appendix A: Site Photographs

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Photo 3 – View facing north from the southern portion of the Site following well decommissioning (November 12, 2021).



Photo 4 – View facing southeast from the northwestern portion of the Site following well decommissioning (November 12, 2021).

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CONSULTANT



DATE November 2021

PREPARED JB

REVIEWED CV

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