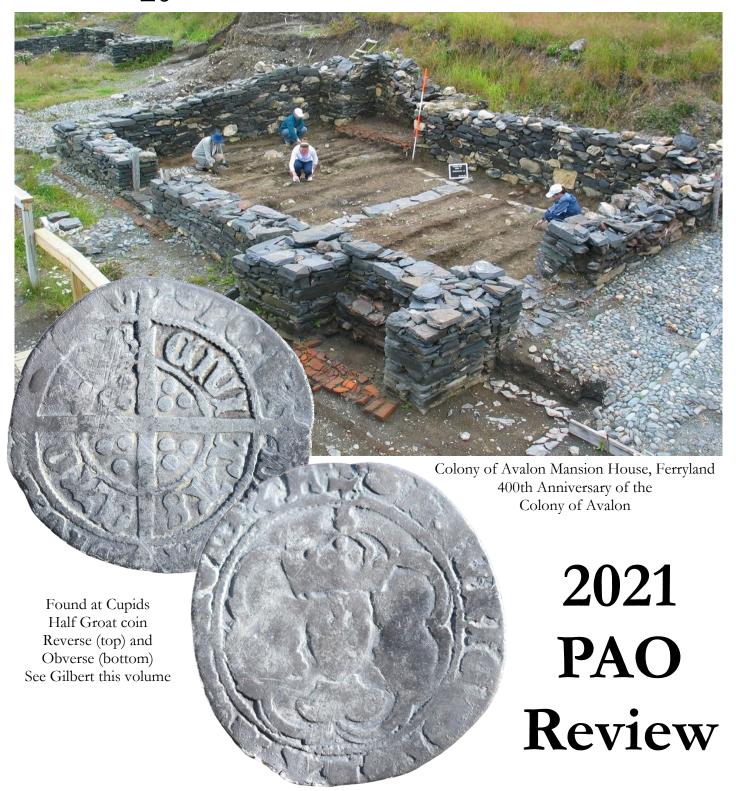
## 20th Anniversary Edition of the PAO Review!



Provincial Archaeology Office Tourism, Culture, Arts and Recreation Government of Newfoundland and Labrador

## Halfway Rock, Southwest Arm, Trinity Bay

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Figure 1: Halfway Rock (DaAj-08) looking east.

irst recorded by Steve Hull in 2016, the site of Halfway Rock (DaAj-08) is located on an historic cart path/road connecting the communities of Little Heart's Ease, Batt's Cove and Claypitts with Butter Cove, Gooseberry Cove, Fox Harbour (Southport) and Heart's Ease (Hull 2016). Little Heart's Ease resident Lester Green previously informed Hull and other staff at the Provincial Archaeology Office of this outcrop of rock containing a series of inscribed names, initials, dates, and glyphs, some of which originate from the 19th century. Five years after the initial recording, members of

the Newfoundland Historic Petroglyphs Project along with Lester Green revisited the site to conduct photogrammetry and Highlight-Reflectance Transformation Imaging (H-RTI) on the inscriptions to further contextualize this landmark once associated with the comings and goings of past residents of Southwest Arm, Trinity Bay.

Upon arrival at the site in June 2021, we conducted a careful visual inspection/assessment of the outcrop, took measurements of the current exposed surface area, recorded its location via handheld GPS, completed a photographic record, collected fallen



Figure 2: Cleaning the rock surface in preparation for further recording using photogrammetry and H-RTI.

rock samples for geological identification and brushed debris from the inscribed surface in preparation for photogrammetry and H-RTI (Figures 1 and 2). As previously noted by Hull (2016:4), the exposed surface area upon which the inscriptions were carved measures a little longer than it is wide (1.2m by 1m). This measurement varied somewhat compared to that recorded in 2021 (1.8 by 1.4m) and may suggest recent removal of moss and peat along the exposed borders of the outcrop, either intentionally or accidentally, or perhaps natural weathering events. In fact, the geology of the site, natural weathering processes, environmental change, vegetation growth, and human intervention all contribute to the deterioration process at Halfway Rock.

The purplish rock upon which these inscriptions were carved has been macroscopically identified as mudstone or fine sandstone (personal communication Susan Strowbridge, Department of Geology, MUN 2021). There were many areas that showed evidence of cracking and spalling where the delaminated rock surface lay at the base or loosely hanging onto

the face of the outcrop; this was most likely due to freeze-thaw action. Other environmental changes such as an increase in acid rain and pollutants will cause further deterioration over time. Rainwater carries with it pollutants that can chemically and mechanically erode the stone surface, cause joint expansion, and create permanent weakness to the rock surface (Busher O'Sullivan 2019:19).

Alongside these environmental factors, vegetation and microflora can inhibit the documentation process but also pose a serious threat to the stability of the outcrop. The entire periphery of Halfway Rock is covered in moss, peat and tree roots, potentially obscuring additional inscriptions. This is both a blessing and a curse. The moss and peat could protect underlying inscriptions from the elements in the short term but it can also lead to significant degradation of the rock over time as increased moisture levels and root growth can cause cracks and fissures (Dandridge 2006:19). There are also patches of lichen visible over the entire rock face, appearing as circular grey-blue patches. Lichen is of particular concern as it can

break down rock both chemically and physically. Lichen produces acids and other by-products that can have an altering effect on the surface and throughout the rock matrix (Dandridge 2006:19; Busher O'Sullivan 2019:19).

Computational photographic survey of the rock outcrop involved capturing 101 overlapping photographs, in numerous passes, to produce scaleable photogrammetric 3D models of the rock surface from which quantitative measurements of the individual inscriptions could be derived. Models were processed using the software Agisoft Metashape (Agisoft 2021). Qualitative information about the texture of the rock surface was captured by undertaking several H-RTI passes across the outcrop to produce polynomial texture maps which improve the visibility and legibility of the detail of individual inscriptions using highlights and shadows (Earl et al. 2010). RTI Builder and RTI Viewer (culturalheritageimaging.org) softwares were used to process and visualize the H-RTI models. Together, these complementary techniques (see Porter et al. 2016 and Solem et al. 2020) produced digital models and images that were imported into a Geographic Information System (GIS) to produce interpretive line drawings of the visible carvings (Figures 3 and 4).

Construction of the original cart path/road connecting the communities of Fox Harbour, Heart's Ease, and Clay Pitts of the Southwest Arm area dates to the mid-1840s. The communities of Fox Harbour and Heart's Ease received grant money based on a petition presented by Reverend H. Lind to the House of Assembly for funds in 1846 for road construction (Journals of the Legislative Council of the Island of Newfoundland 1848). The cart path/road between Fox Harbour and Clay Pitts began shortly after settlement of the latter community by two families from Gates Coves, the Vardy's and Benson's, in the mid-1850s. In 1860, the Statutes of Newfoundland records funds of £4 allocated for roadwork between Gooseberry Cove and Clay Pitts. Records from the Yearbook and Almanac of Newfoundland between the 1870s and 1920s records the road committee members responsible for the construction and maintenances of the same cart path/road (Yearbook and Almanac of Newfoundland 1872-1926).

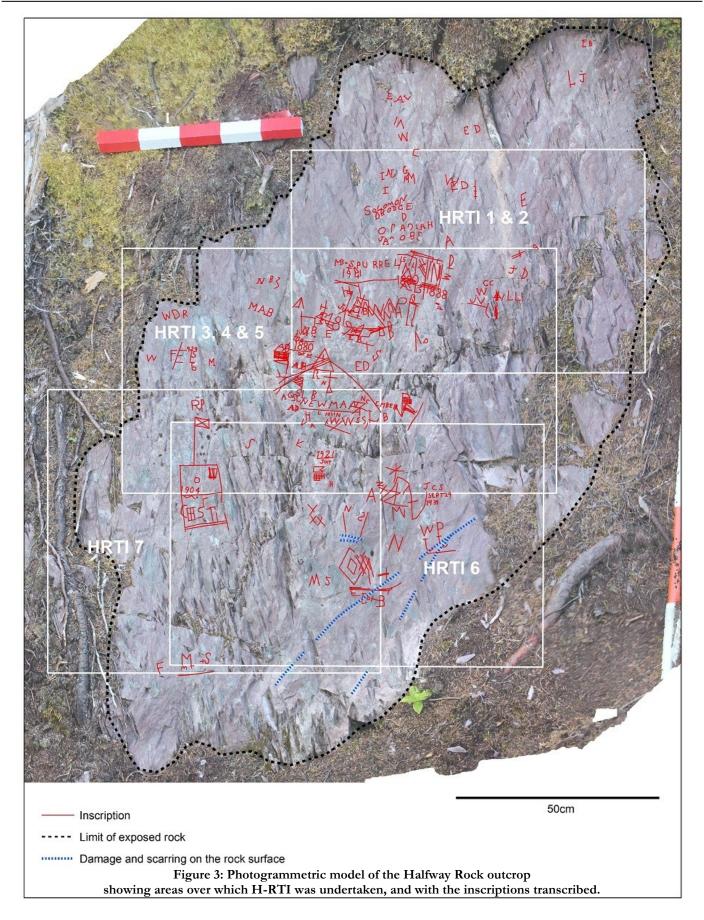
The route served as a means of communication and interaction between several hundred residents, be it for familial, social, economic, educational, or religious purposes. It is notable, however, that the five inscriptions which reference months of the year suggest greater traffic during the summer and fall, between June and November (see Figures 5f and h, and 6e). Reduced traffic during the winter months is also suggested by the quote below, demonstrating that many residents in Southwest Arm lived in the wooded and sheltered interiors from late fall to early spring (see Smith 1987a-b for seasonal transhumant practices).

In the mid-1850s, George Vardy, one of the most educated and influential men in Random Sound, lobbied government officials for the construction of a schoolhouse at Heart's Ease. The Journal of the House of Assembly of Newfoundland 1860-61 announced:

"This year I have to report a new station being occupied at Heart's Ease, where a school-house has been built, and a master engaged. In the General Table will be found a return of this school. The settlement being small and the people in the habit of going into the woods in the winter season, the school can only be a humble one, but I presume, the master is engaged partly for the purpose of leading religious services on Sunday in a locality that can seldom have the visits of a clergyman."

This schoolhouse (and chapel) served the entire region from 1860-1880s with an average of about 30 students per year. George Vardy, the school master, walked daily between Clay Pitts and Heart's Ease until the mid-1870s (Journals of the House of Assembly of Newfoundland 1865-1874). It's also worth noting that work on the first Anglican church began in 1880 at the Crossroads in Gooseberry Cove to replace the 'chapel' at Heart's Ease (personal communication Les Dean, 2022). The addition of the Heart's Ease schoolhouse and later the Anglican church at Gooseberry Cove would have increased pedestrian and wheeled traffic along the road. Educational and religious services may have incentivized some residents to live in their communities year-round.

In the mid-1950s, a modern road (Route 204) was built to connect the communities of Southwest Arm, including the most easterly towns of Butter Cove, Gooseberry Cove and Southport. Once completed, the original cart path/road became obsolete but continued to see recreational and seasonal use. In



fact, Halfway Rock bears witness to recent winter activities as demonstrated by a series of deep scars likely caused by snowmobiles traversing across its surface (see Figures 3 and 4). This unintentional damage to the site is of immediate concern and can perhaps be mitigated by the placement of posts along the perimeter of the outcrop to redirect users of motorized vehicles away from the inscriptions.

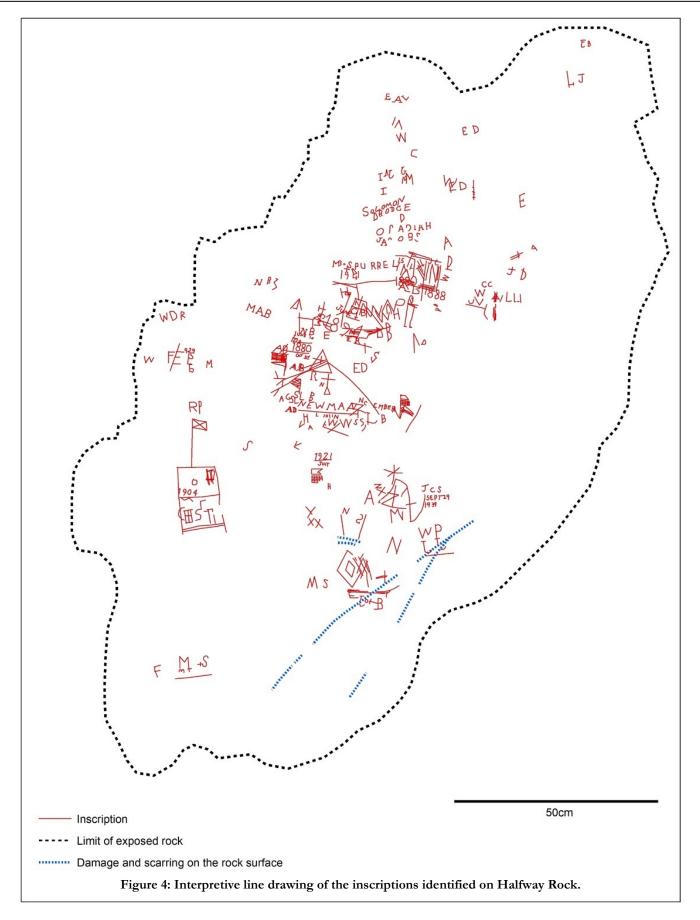
The etchings on Halfway Rock record the names, initials, and dates of many individuals that travelled between these communities from the 1840s to 1950s (Figure 5). Individuals such as Obadiah Jacobs (1887-1942), and Solomon Drodge (1838-1924) of Little Heart's Ease are permanently etched into the rock face (see Fig. 5a and b). Newman may refer to Newman Avery or it could be Newman Benson; the latter may be referenced in two sets of initials, 'NB' and 'NB 1880', located in the central part of the outcrop (Fig. 5d and h). The name M Spurrel (Fig. 5c) is likely one of three generations of Moses Spurrel residing in Butter Cove (personal communication Les Dean, 2022) while initials like AB (Fig. 5e and h) could indicate Adam Benson (1851-1928) of Clay Pitts or it may refer to one of the oldest surnames Baker of Heart's Ease. The initials JV (Fig. 5g) may be that of John/James Vardy, son of George Vardy of Clay Pitts (personal communication Les Dean, 2022). A rather crudely incised anthropomorphic figure (8.1cm high x 2.6cm wide), comprising a head shown in profile (facing right), with two arms and two legs with feet, all pointing to the right, is the only glyph that depicts the human characters who carved a record of their passage (Fig. 6c). Many more sets of initials are found on Halfway Rock but are not discussed in this report.

A large, deeply incised triangular shape (measuring 26.8cm wide x 12.8cm high), somewhat like the pitched roof of a building, contains a Latin cross and may be closely associated with the name 'Newman' which appears to run along the bottom edge and within the area enclosed (Fig. 5d). The Latin cross, possible roof and two carved dates of 1880 on Halfway Rock may pertain to the laying of the foundation stones for the first Anglican church at Gooseberry Cove (personal communication Les Dean, 2022).

Several glyphs relate to maritime activities (Figure 6). Two sailing vessels are faintly incised and

both are overlain by heavier, more recent, carvings. The upper motif of a square-rigged two-masted vessel (16.4cm wide x 11.8cm high), possibly representing a schooner or brigantine, is cut by a heavily carved date '1891' (Fig. 6a). The hull (with a clipper bow), bowsprit, counter stern (?), fore topgallant sail and fore topsail are discernible, while an ensign flag (British?) surmounts the main mast. The lower motif also depicts a two-masted sailing vessel (11.7cm wide x 9.8cm high) but only the clipper bow, bowsprit, and transom stern are clearly discernible. Additionally, there are six glyphs that depict various types and combinations of maritime flags and pennants commonly used for signaling; four of which are shown flying from flagpoles (or conceivably, abstracted/ disarticulated, masts). One glyph (3.6cm wide x 5.6cm high) shows two flags on a flagpole; the upper flag is rectangular with a series of horizontal lines and a British Union Jack canton, while the lower flag is a pennant (Fig. 6d). The rectangular flag appears similar in design to that used by the British East India Company, which operated until the 1870s, and also resembles the Grand Union Flag which was the first flag of the United States (albeit with a square rather than rectangular canton). This flag may have been carved by a member of the Loyal Orange Lodge at Little Heart's Ease, a group with strong ties to the British Empire and with members from the nearby communities of Southport, Butter Cove and Little Heart's Ease (personal communication Les Dean, 2022).

A single rectangular saltire flag surmounts a flagpole extending from the top of a square building (a small house?) with a window, doorway and possible chimney depicted, and which is associated with the incised date '1904'; the whole arrangement measures 28.4cm high x 10.5cm wide (Fig. 6b). It has been suggested that both building and date may be associated with Newfoundland's Come Home Year in 1904; another tangible representation of this significant event was found at nearby Gooseberry Cove in the form of a Come Home Year lapel pin marked "Good Luck 1904" (personal communication Les Dean, 2022). The building and 1904 date could also conceivably be related to the cessation of French rights to the Newfoundland fishery as part of the Anglo-French Convention (1904), widely celebrated on the island (personal communication Les Dean, 2022).



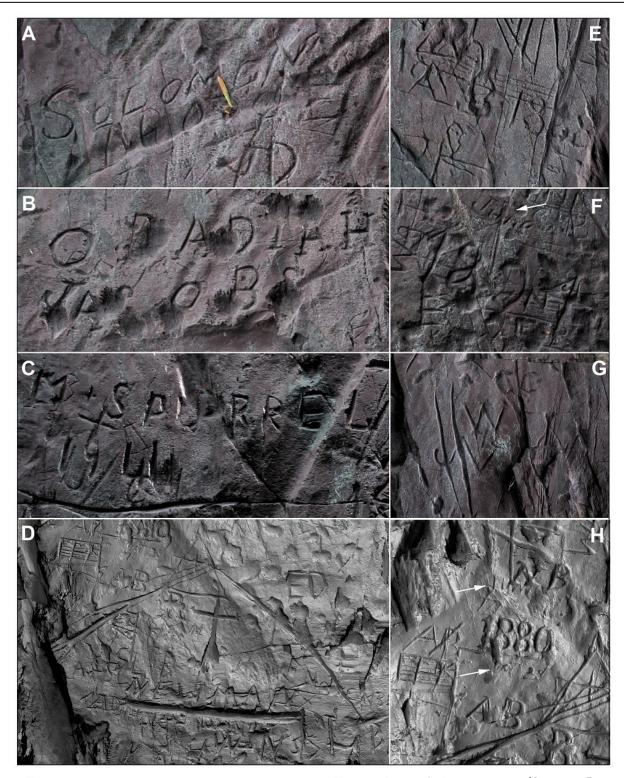


Figure 5: Examples of personal names and initials identified on Halfway Rock. (A) Personal name 'Solomon Drodge', RTI Viewer diffuse gain mode. (B) Personal name 'Obadiah Jacobs', diffuse gain mode. (C) Personal name and date 'M Spurrel 1941', diffuse gain mode. (D) Personal name 'Newman' aligned within a triangular form and associated Latin cross. Three instances of the initials 'ED' occur across the panel. Specular enhancement mode. (E) 'AB 1888', diffuse gain mode. (F) Inscriptions of the name of the month of 'June' (indicated by the white arrow), and of the year '1891' (G) Several sets of initials include the possible set 'JV', partially obscured by later cuts. Diffuse gain mode. (H) The initials 'NB' and 'AB' occur several times across the panel. Note the fainter adjacent inscriptions of the months of 'June' and 'Oct 2d' below the 'NB' initials and '1880' date respectively (indicated by the white arrows). Specular enhancement mode.

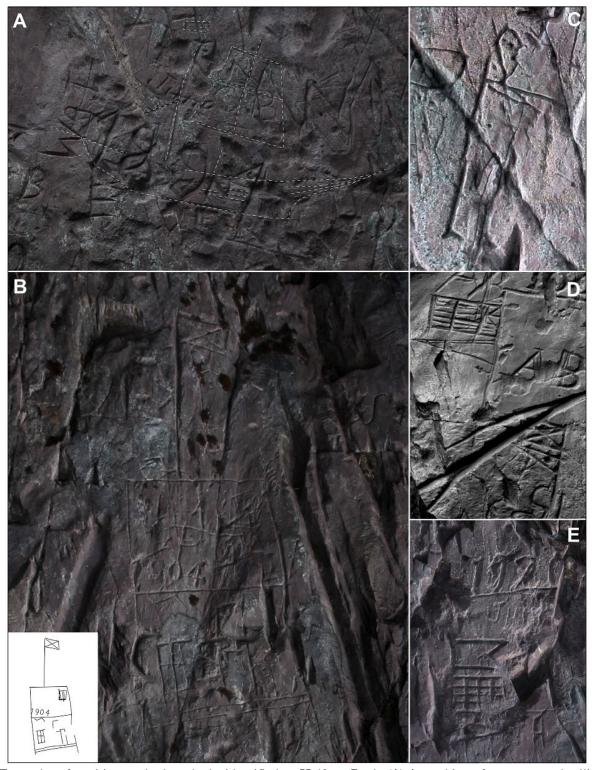


Figure 6: Examples of maritime and other glyphs identified on Halfway Rock. (A) An etching of a two-masted sailing vessel is faintly visible beneath a number of later initials, dates and other inscriptions. Visualized using RTI Viewer diffuse gain mode and white dashed lines have been used to define some elements of the ship. (B) A structure, building or small house, with a flagpole flying a saltire and associated with the date '1904'. Specular enhancement mode. (C) Human figure facing to the right. Diffuse gain mode. (D) Two sets of flags and pennants. The upper-left set comprises a British ensign-type flag with a pennant below. The lower-right set comprise a saltire above a pennant with a circle motif. Specular enhancement mode. (E) A swallow-tailed flag is set above a rectangular checkered flag. Nearby, inscriptions of the date '1921' and month 'July' are closely associated.

Another glyph (4cm high x 2.4cm wide) depicts a flagpole with a rectangular saltire above a pennant with a circle (Fig. 6d). Elsewhere, two flags on a flagpole comprise a slanted pennant-like design above a rectangular checkered design. These designs are closely associated with another set of two pennants; together they fall within an area 6.1cm high x 3.7cm wide. The final glyph (3.6cm high x 2.7cm wide), comprises a swallow-tailed flag which is closely associated with a rectangular checkered flag — both of which are found close to the inscriptions '1921' and 'July' although it is uncertain if they are all directly related (Fig. 6e).

Overall, the palimpsest nature of the inscriptions at Halfway Rock, and the diversity of initials, names, dates, and glyphs, demonstrate the local importance placed upon this landmark — an importance which saw the rockface serving as a medium for the recording of passersby, for recognizing cultural events (i.e. building of nearby church; Come Home Year; membership in Loyal Orange Lodge) or for portraying aspects of maritime activity deemed notable to the carver(s). Local tradition says that Halfway Rock was a convenient stopping point between communities, where residents could take a short rest along their journey. Based on historical and archaeo-

logical evidence, these journeys spanned over a century, leaving behind a visual record of past residents and their collective memories. Through the dissemination of this short report, the authors hope to highlight the cultural value of historic inscriptions, not just as a past record of people, their movements, and their local histories, but as sites worthy of further research and protection.

## Acknowledgments

We wish to thank the Provincial Archaeology Office for their continued support of the Newfoundland Historic Petroglyphs Project. We also wish to acknowledge the assistance of Southwest Arm resident Les Dean for his extensive knowledge of local history, which was heavily relied upon for the interpretation of the historic inscriptions. Finally, identification of the geologic composition of Halfway Rock was provided by Susan Strowbridge, Department of Earth Sciences, MUN.

## References

Agisoft Metashape (2021) [computer software]. Agisoft LLC.

Busher O'Sullivan, Claire. 2019. "Conserving Carvings." Archaeology Ireland 33(1):18-21.

Dandridge D. 2006. Lichens: the challenge for rock art conservation. Unpublished doctoral thesis, Texas A&M University.

Earl, Graeme, Kirk Martinez, and Tom Malzbender. 2010. "Archaeological applications of polynomial texture mapping: analysis, conservation and representation." *Journal of Archaeological Science* 37 (8):2040-2050. doi: 10.1016/j.jas.2010.03.009.

Hull, Stephen. 2016. Southwest Arm, Random Sound 2016. Report on file at the Provincial Archaeology Office, Department of Tourism, Culture, Arts and Recreation, Government of Newfoundland and Labrador.

Journal of the House of Assembly of Newfoundland. 1860-61; 1865-1874. James Seaton printer, St. John's, Newfoundland.

Journals of the Legislative Council of the Island of Newfoundland. 1848. Henry Winton printer, St. John's, Newfoundland.

Porter, Samantha T., Nadine Huber, Christian Hoyer, and Harald Floss. 2016. "Portable and low-cost solutions to the imaging of Paleolithic art objects: A comparison of photogrammetry and reflectance transformation imaging." *Journal of Archaeological Science*: Reports 10:859-863. doi: 10.1016/j.jasrep.2016.07.013.

RTIBuilder V 2.0.2 [computer software], Retrieved from <a href="http://culturalheritageimaging.org/What\_We\_Offer/Downloads/Process/index.html">http://culturalheritageimaging.org/What\_We\_Offer/Downloads/Process/index.html</a>

RTIViewer V 1.1 [computer software], Retrieved from <a href="http://culturalheritageimaging.org/What\_We\_Offer/Downloads/View/index.html">http://culturalheritageimaging.org/What\_We\_Offer/Downloads/View/index.html</a>

Solem, Dag-Øyvind E., and Erich Nau. 2020. "Two New Ways of Documenting Miniature Incisions Using a Combination of Image-Based Modelling and Reflectance Transformation Imaging." Remote Sensing 12 (10):1626. doi: 10.3390/rs12101626.

Smith, Philip E. 1987a. In winter quarters. Newfoundland Studies 3(1):1-36.

Smith, Philip E. 1987b. Transhumant Europeans overseas: the Newfoundland case. *Current Anthropology* 28 (2):241-50.

Yearbook and Almanac of Newfoundland. 1872-1926. Joseph Woods printer, St. John's, Newfoundland.

