



31 October 2013 - REVISED

REVISED REPORT

STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT

Limebeer Pit
Part of Lots 14 and 15, Concession 2 WHS
Town of Caledon
Regional Municipality of Peel, Ontario

Submitted to:

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Executive Summary

Archaeologix Inc., now merged with Golder Associates Ltd., was contracted by Lafarge Canada Inc. to conduct an archaeological assessment (Stages 1 and 2) for an approximate 39 hectare development property located on part of Lots 14 and 15, Concession 2 WHS, Town of Caledon, Regional Municipality of Peel, Ontario. This assessment was undertaken as part of the aggregate pit licensing process, as outlined in Sections 2.2.5 and 2.2.6 of the Provincial Standards under the *Aggregate Resources Act*.

The study area consists of ploughed agricultural fields with a small area of overgrown grass around agricultural buildings. The Stage 2 assessment of the ploughed field was conducted using the standard pedestrian survey method at an interval of five metres. The Stage 2 assessment of area of overgrown grass was conducted using the standard shovel test pit method at an interval of five metres.

The Stage 2 archaeological assessment resulted in the identification of two pre-contact Aboriginal archaeological locations (Location 1, AIHa-38, and Location 2, AIHa-39). Due to the low cultural value of one isolated scraper, no further archaeological assessment is recommended for Location 1. Due to the fact that Location 2 represents a relatively dense and spatially discrete cluster of pre-contact Aboriginal material, further Stage 3 archaeological assessment is recommended. The Stage 3 assessment should include the excavation of a series of one metre square test units to increase the artifact sample and to further delineate the limits of the location.

The Ontario Ministry of Culture is asked to accept this report into the Provincial Registry, as well as issue a letter of concurrence with the findings to Ministry of Natural Resources and the Municipality of Peel.



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STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT LAFARGE - LIMEBEER PIT

1.0 PURPOSE

Archaeologix Inc., now merged with Golder Associates Ltd. (Golder), was contracted by Lafarge Canada Inc. to conduct an archaeological assessment (Stages 1 and 2) for an approximate 39 hectare development property located on part of Lots 14 and 15, Concession 2 WHS, Town of Caledon, Regional Municipality of Peel, Ontario (Figure 1). This assessment was undertaken as part of the aggregate pit licensing process, as outlined in Sections 2.2.5 and 2.2.6 of the Provincial Standards under the *Aggregate Resources Act*.

The Stage 2 field assessment was conducted on June 4, 2008 under archaeological consulting licence P001, issued to Jim Wilson of Golder by the Ministry of Culture. The Stage 2 archaeological assessment resulted in the identification of two pre-contact Aboriginal archaeological locations (Location 1 and Location 2). Due to the low cultural value of one isolated scraper, no further archaeological assessment is recommended for Location 1 (AIHa-38). Due to the fact that Location 2 (AIHa-39) represents a relatively dense and spatially discrete cluster of pre-contact Aboriginal material, further Stage 3 archaeological assessment is recommended. The Stage 3 assessment should include the excavation of a series of one metre square test units to increase the artifact sample and to further delineate the limits of the location.

The Ontario Ministry of Culture is asked to accept this report into the Provincial Registry, as well as issue a letter of concurrence with the findings to Ministry of Natural Resources and the Municipality of Peel.



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Figure 1: Location of Study Area



2.0 STUDY METHODS

2.1 Stage 1 Background Research

In compliance with the provincial regulations set out in the “*Archaeological Assessment Technical Guidelines*” (Ministry of Culture, 1993), the Stage 1 Archaeological Overview/ Background Study included:

- a review of the land use history, including pertinent historic maps, secondary sources, City of London Archaeological Master Plan; and
- an examination of the National Site Registration Database to determine the presence of known archaeological sites in and around the project area.

In addition to the visual evaluation of the subject property, background research was conducted at the Ministry of Culture Office in Toronto, the University of Western Ontario Map Library, and Golder’s corporate library.

2.2 Stage 2 Field Assessment

The study area consists of ploughed agricultural fields with a small area of overgrown grass around agricultural buildings. The Stage 2 assessment of the ploughed field was conducted using the standard pedestrian survey method at an interval of five metres. In the event of an artifact being recovered the survey intervals were intensified to one metre within a 20 metre radius of the recovered artifact. The Stage 2 assessment of area of overgrown grass was conducted using the standard shovel test pit method at an interval of five metres. The test pits were approximately 30 centimetres in diameter and all soil was screened through six millimetres hardware cloth to facilitate the recovery of artifacts.

The weather during the assessment was overcast, windy and cool and at no time were the conditions detrimental to the recovery of archaeological material. The ploughed agricultural fields at the time of the assessment were well weathered and the visibility was judged to be 95%. Permission to enter the study area and to remove artifacts was provided by Sergio Carbone of Lafarge Canada Inc. All recovered artifacts will be housed at Golder’s London, Ontario office until their transfer to the Ministry of Culture collections facility located at 900 Highbury Avenue, London, Ontario.



3.0 RESULTS

3.1 Background Research

3.1.1 The Natural Environment

The study area is situated within a glacial spillway within the larger physiographic regions known as the “Horseshoe Moraines” (Chapman and Putnam, 1984).

From the edge of the escarpment in the Town of Caledon the moraines trend somewhat west of the Niagara Escarpment forming a belt of moderately hilly relief....Associated with the moraines is a system of old spillways with broad gravel terraces and swampy floors.....Good cross-sections of this landscape may be seen along Highway 7 from Rockwood to Georgetown.

Chapman and Putnam 1984: 128

The soils of the study area are comprised of a sandy loam that has been determined to have been suitable for pre-contact Aboriginal agricultural practices. The closest potable water source is Green Lake, which borders along the northern boundary of the study area, followed by the Credit River, located approximately 325 metres to the west of the study area.

3.1.2 Previously Known Archaeological Resources and Surveys

Previous archaeological assessments and research surveys have demonstrated that the Caledon area was utilized in the past by Aboriginal peoples. Due to the small amount of development activities in the area, an examination of the archaeological site database has shown that there are currently only two registered sites, one of which is pre-contact Aboriginal, found within a two kilometre radius of the study area. The first registered site, AkGx-23, was a find spot of a Middle Archaic side notched projectile point. The second registered site, the Cameron site (AlHa-9) is a 19th century Euro-Canadian homestead. Table 1 provides a general outline of the culture history for southern Ontario drawn from Ellis and Ferris (1990).

Table 1: Cultural Chronology for Southern Ontario

Period	Characteristics	Time	Comments
Early Paleo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 - 8000B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 B.C.	increasing site size
	Broadpoints	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100B.C.	introduction of bow hunting



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Period	Characteristics	Time	Comments
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C. - A.D.500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Historic	Euro-Canadian	A.D. 1796 - present	European settlement

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the Freedom of Information Act. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The Ministry of Culture will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

3.2 Potential of Pre-Contact Aboriginal Archaeological Resources

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Golder applied archaeological potential criteria commonly used by the Ministry of Culture (Government of Ontario, 1997) to determine areas of archaeological potential within the study area. These variables include: distance to various types of water sources, soil texture and drainage, glacial geomorphology, and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils, or topographic variability, may also indicate archaeological potential.

In archaeological potential modeling, a distance to water criterion of 300 metres is generally employed for primary water courses, including lakeshores, rivers and large creeks, while a criterion of 200 metres is applied to secondary water sources, including swamps and small creeks. For the present project, the closest potable water source is Green Lake, which borders along the northern boundary of the study area, followed by the Credit River, located approximately 325 metres to the west of the study area.

Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. The soils of the study area are comprised of sandy loam and as these types of soils have been found to have been suitable for pre-contact agriculture, contribute to the archaeological potential for aboriginal sites.



The Ministry of Culture also views the presence of previously registered archaeological resources as a prime indicator of archaeological potential.

When the above-noted archaeological potential criteria are applied to the study area, the archaeological potential for pre-contact Aboriginal sites was deemed to be moderate. Although the study area is bordered to the north by Green Lake, a primary water source, and the soils of the study area were suitable for pre-contact agriculture, only registered pre-contact Aboriginal archaeological site has been found within two kilometres.

3.3 Potential for Historic Archaeological Resources

3.3.1 Treaty No 19.

The study area is located on part of Lots 14 and 15, Concession 2 WHS, Town of Caledon, Regional Municipality of Peel, Ontario. The area first enters the Euro-Canadian historic record as part of Treaty Number 19 made between the Mississauga and the Crown on October 28, 1818:

Treaty No. 19 ... was a provisional agreement made by the Honourable William Claus, Deputy-Superintendent-General of Indian Affairs on behalf of His Majesty, and the Principal Men of the Mississauga Nation of Indians, inhabiting the River Credit, Twelve and Sixteen Mile Creek on the north shore of Lake Ontario, within the Home District, whereas the said Indians were to receive 522 pounds and ten shillings, yearly for the said tract, described as follows "A tract of land in the Home District called the Mississauga Tract, bounded southerly by the purchase made in 1806; on the east by the Townships of Etobicoke, Vaughan and King; on the south west by the Indian Purchase, extending from the outlet of Burlington Bay, north forty-five degrees west, fifty miles; and from thence north seventy-four degrees east or thereabouts, to the north west angle of the Township of King".

Morris, 1943

While it is difficult to exactly delineate treaty boundaries today, Figure 2 gives an approximate outline of the limits of Treaty Number 19.

3.3.2 The Study Area within Peel County

The criteria used by the Ontario Ministry of Culture to determine potential for historic archaeological sites includes the presence of: 1) particular, resource-specific features that would have attracted past subsistence or extractive uses; 2) areas of initial, non-Aboriginal settlement; 3) early historic transportation routes; and 4) properties designated under the Ontario Heritage Act.

According to the 1877 Illustrated Historical Atlas of Peel County, the study area is located on what was originally Lot 14 and Lot 15 of Concession 2, Caledon Township (Figure 3). In 1877 William McCartney is listed as owning both lots, and one structure is noted in the east corner of Lot 15. Due to the location of the study area at a crossroads of major early transportation routes within Caledon Township, its proximity to the village of Caledon and the fact that one structure is shown within the study area in the 1877 atlas, the potential for historic archaeological resources was judged to be high.



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Figure 2: Treaty Boundaries



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Figure 3: A portion of the historic atlas



3.4 Stage 2 Archaeological Assessment

The Stage 2 archaeological assessment was conducted using the methods described in Section 2.2. Figure 4 illustrates the areas assessed and the techniques employed. Plate 1 and Plate 2 illustrate the Stage 2 survey conditions. A complete artifact catalogue of all Stage 2 artifacts can be found in Appendix A. Appendix B provides the Ministry of Culture Site Record Forms. Appendix C provides a curriculum vitae for the project licensee, Jim Wilson.

Despite excellent field conditions, no trace was found of the McCartney homestead illustrated on the 1877 township map (Figure 3). The Stage 2 archaeological assessment did result in the identification of two pre-contact Aboriginal archaeological locations. Each Location will be discussed in further detail below.



Plate 1: Pedestrian Survey at Five Metre Intervals



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Figure 4: Stage 2 Assessment Methods



Plate 2: Test Pit Survey at Five Metre Intervals

3.4.1 Location 1 (AlHa-38)

The Stage 2 assessment determined that Location 1 consists of an isolated scraper found at GPS coordinates NAD 83 17T NJ 79456/54496 taken from a Garmin Etrex with an accuracy of 5 metres. This complete end scraper measures 47 millimetres in length, 35 millimetres in width, ten millimetres in thickness and was manufactured on Onondaga chert (Plate 3). Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.



Plate 3: End Scraper Recovered from Location 1 (actual size)



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Despite the intensification of survey intervals to one metre within 20 metres of the scraper, no additional artifacts were recovered. Due to the low heritage value of an isolated scraper no further archaeological assessment is recommended for Location 1.

3.4.2 Location 2 (AIHa-39)

The Stage 2 assessment determined that Location 2 consists of a 14 metre by 10 metre scatter of eight pieces of chipping detritus found at GPS coordinates NAD 83 17T NJ 79616/54370 taken from a Garmin Etrex with an accuracy of 5 metres. The artifacts were recorded but not recovered therefore it will make it easier to relocate the site then returning for further work. Due to the fact that Location 2 represents a relatively dense and spatially discrete cluster of pre-contact Aboriginal material, further Stage 3 archaeological assessment is recommended. The object of the Stage 3 will be to increase the artifact sample and further delineate the boundaries of the location.



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4.0 RECOMMENDATIONS

Archaeologix Inc., now merged with Golder was contracted by Lafarge Canada Inc. to conduct an archaeological assessment (Stages 1 and 2) for an approximate 39 hectare development property located on part of Lots 14 and 15, Concession 2 WHS, Town of Caledon, Regional Municipality of Peel, Ontario. This assessment was undertaken as part of the aggregate pit licensing process, as outlined in Sections 2.2.5 and 2.2.6 of the Provincial Standards under the *Aggregate Resources Act*.

The Stage 2 archaeological assessment resulted in the identification of two pre-contact Aboriginal archaeological locations (Location 1 and Location 2). Due to the low cultural value of one isolated scraper, no further archaeological assessment is recommended for Location 1. Due to the fact that Location 2 represents a relatively dense and spatially discrete cluster of pre-contact Aboriginal material, further Stage 3 archaeological assessment is recommended. The Stage 3 assessment should include a controlled surface pickup and the excavation of a series of one metre square test units to increase the artifact sample and to further delineate the limits of the location.

The Ontario Ministry of Culture is asked to accept this report into the Provincial Registry, as well as issue a letter of concurrence with the findings to Ministry of Natural Resources and the Municipality of Peel.

Should deeply buried archaeological material be found on the property during excavation activities, the Ministry of Culture should be notified immediately at (416) 314-7174. In the event that human remains are encountered during excavation, the proponent should immediately contact both the Ministry of Culture and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations, (416) 326-8392.

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5.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Archaeologix Inc., now merged with Golder Associates Ltd., has prepared this report in a manner consistent with the level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective, developments and purpose described to Archaeologix Inc., now merged with Golder Associates Ltd., by Lafarge Canada Inc. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Culture's Archaeological Assessment Technical Guidelines (1993) (Stages 1-3 and Reporting Format).



6.0 REFERENCES CITED

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APPENDIX A

Artifact Catalogue



APPENDIX B

Ministry of Culture Site Record Forms



APPENDIX C

Curriculum Vitae - Jim Wilson

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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