The Sheguiandah Site

Archaeological, geological and paleobotanical studies at a Paleoindian site on Manitoulin Island, Ontario

Edited by
Patrick J. Julig

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Dedication

This book is dedicated to the late

Thomas E. Lee,

who discovered and managed to protect the Sheguiandah Site,
and to all the workers who assisted him during the first investigations in the 1950s.

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Preface

The Sheguiandah site is a rare upper Great Lakes stratified Paleoindian and Archaic site, with alleged earlier artifacts in mixed sediments; which were considered glacial till by the original investigator Thomas E. Lee. A final report on the archaeological and geological investigations done in the 1950's was never completed for this site. This book brings together available information on the site, including the re-investigations from 1989-1991, and subsequent research on the site's geological and palaeoenvironmental history. It also resolves the long-standing controversy about the artifacts in mixed "till-like"sediments below Paleoindian points and of the age of this site.

The uniqueness and value of this rare stratified early site was recognized by the original discoverer Thomas E. Lee, who was successful in having the site protected by the Government of Ontario. However, he was not able to complete the investigations, nor fully report on the site. Since work was stopped in 1955 the site remained enigmatic, controversial, and neglected until 1990.

The artifact collections are curated at the Canadian Museum of Civilization, with some at the Royal Ontario Museum, Howland Township's Museum in Sheguiandah, and with several other institutions and individuals. There is no comprehensive catalogue, with only field description numbers on the large artifact collections.

In 1989, the editor started an analysis of the existing collections including the sediment samples, and planned to date the charcoal and other organic samples excavated by Thomas .E. Lee. Funds were obtained from the Ontario Heritage Foundation to conduct AMS ^{14}C dating, but the charcoal and other organic samples proved to be in poor condition and of uncertain context.

In 1990, a suite of the sediment samples collected by Thomas Lee and Bruce Liberty in the 1950s from the Sheguiandah Site "Habitation Area" were analyzed by the editor and Bill Mahaney of York University Geomorphology and Pedology Laboratory. The results indicated that some of the controversial "till-like"sedimentary deposits were mixtures of sand, silt and clay, but underlying strata were sorted sandy deposits. It was not possible to clearly resolve the geomorphic origin of the mixed deposits with artifacts without new investigations, and comparison of these sediments with off-site tills and near-shore lacustrine mixed deposits.

To obtain new samples for ^{14}C dating in 1990, we decided to re-core the small swamps (bogs) on the top of the quarry area on the Sheguiandah Site. Peter Storck was contacted as he previously also expressed an interest in re-investigating the site, and together with Thane Anderson from the Geological Survey of Canada we extracted the cores and Thane performed the pollen analysis.

In 1991, a community initiative by the local municipality of Howland Township and the First Nations of Sheguiandah and Sucker Creek provided the impetus for an archaeological Master Plan, for both conserving heritage resources and developing tourism potential. As part of this Master Plan research, renewed excavations were conducted at Sheguiandah under the overall

direction of Archaeological Services Inc. (ASI), a Cultural Resource Management firm in Toronto.

Ron Williamson, the president of ASI, contacted the editor about directing the geoarchaeological aspects of the re-investigations. This included trying to determine the age and origin of the mixed deposits, and site geochronology. Peter Storck was then contacted as he was already involved with us in the re-coring of the Sheguiandah swamp, and other specialists were brought in including geologists Peter Barnett, and Peter von Bitter.

The editor also contacted Robert E. Lee, son of Thomas E. Lee, and invited him to visit the site when the old trenches were re-excavated, in order to conduct new sampling and analysis. Robert was also able to provide his late father's maps to re-locate some of his father's excavations and test pits, as well as other valuable information. Later the editor asked him to write an historical perspective on his father's research at Shequiandah, and to provide information previously unpublished (Chapter 2).

The authors of each chapter have addressed and evaluated the Sheguiandah Site from various disciplinary perspectives. Each chapter is intended to stand on it's own, but the editor attempts to tie them together in the Introduction and in the final chapters, and to provide a geoarchaeological perspective into the Late Pleistocene / Early Holocene human paleoecology of the Sheguiandah site within the upper Great Lakes region.

The analysis of the Sheguiandah artifact assemblages is not fully completed and will require further excavations and analysis by future researchers. The original excavators did not retain all the flake artifacts, and cores and are therefore a technological study of the Sheguiandah quartzite lithic industry based on existing collections would be incomplete. The existing collections are also widely dispersed and those artifacts curated at the Canadian Museum of Civilization are not necessarily a representative sample.

The main objectives of new excavations in 1991 were to resolve the geological issues on the age and origin of the controversial mixed deposits, and to determine the limits of the site with respect to the area designated by T. Lee, and not to provide major new archaeological collections. The detailed objectives and methods are explained in Chapters 1 and 3, which also includes the First Nations view's with respect to their traditional-use sites in the area. However, as part of this research much new archaeological data about Sheguiandah is obtained, along with a better understanding of the culturally diagnostic materials such as the points, which are analyzed by Peter Storck.. The more technical geological, palaeoenvironmental and archaeometric studies provide the scientific basis for the resolution of most of the questions that arose from the initial research by Thomas Lee.

This book is intended for the scholars and students of archaeology, including both geoarchaeology and Paleoindian studies, but also of Great Lakes paleoecology. Several differing perspectives are presented on the upper Great Lakes basin water level history; including both the gradually declining Lake Algonquin model, and the catastrophic discharge model, which indicates a major flood event into the upper Great Lakes from Lake Agassiz at ca. 9600 B.P. This

book should also be of interest to avocational archaeologists and those interested in the history of archaeology in Ontario.

As a case study in Paleoindian artifact context and sediment analysis, and other aspects of geoarchaeology and archaeometry, such as Sheguiandah quartzite sourcing, this book should find merit with students learning new methods of analysis.

The editor wishes to thank all of those who contributed to this work, both in the 1950's and with the more recent re-investigations. Each of the chapter authors have also acknowledged those who assisted in their particular area. However, of special note is the work of Karen Vince, who assisted greatly in the compilation of this publication, and the assistance and patience of Richard Morlan. The editor would like to thank the First Nations of Sheguiandah and Sucker Creek, without whose co-operation in the Master Plan, this re-investigation may not yet have been completed.

Finally, this book and aspects of the research were funded in part by Laurentian University research grants to the editor from INORD (Institute of Northern Research and Development), the Ontario Heritage Foundation, Social Sciences and Humanities Research Council of Canada, and the Archaeological Master Plan, and all these sources are gratefully acknowledged.

Avant-Propos

Sheguiandah, dans la région supérieure des Grands Lacs, abrite un site paléoindien et archaïque stratifié rare. Il recèle des artefacts anciens enfouis dans des sédiments mixtes qui, de l'avis du premier chercheur et découvreur du site, Thomas E. Lee, constituent du till. Le rapport final sur les recherches archéologiques et géologiques effectuées dans les années 50 n'a jamais été achevé. Ce livre recense les renseignements disponibles sur le site, y compris le fruit des nouvelles recherches menées de 1989 à 1991, et fait état de l'étude subséquente sur l'histoire géologique et paléoenvironnementale de l'endroit. Il résout en outre la controverse de longue date touchant d'une part les artefacts contenus dans des sédiments mixtes de type till qui se trouvent au-dessous des pointes paléoindiennes et d'autre part, l'âge du site.

Le caractère unique et la valeur de ce rare site ancien stratifié n'ont pas chappé à Thomas E. Lee qui a réussi à convaincre le gouvernement de l'Ontario de le protéger. Cependant, il n'a pu terminer les études ni produire un rapport complet. À l'arrêt des travaux en 1955, le site a été laissé à l'abandon, faisant perdurer l'énigme et la controverse jusqu'à la reprise des activités en 1990.

Des collections d'artefacts se trouvent au Musée canadien des civilisations, au Musée royal de l'Ontario, au musée du canton de Howland, à Sheguiandah, dans plusieurs autres organismes et chez des particuliers. Il n'existe pas de catalogue exhaustif, seulement des numéros d'identification sur le terrain pour les grandes collections.

En 1989, le directeur de la publication a décidé d'analyser les collections, y compris les échantillons de sédiments, et de dater le charbon de bois et d'autres échantillons organiques excavés par Thomas E. Lee. La Fondation du patrimoine ontarien a subventionné la datation au carbone 14 par SMA, mais les résultats n'ont pas été concluants, car le charbon de bois et d'autres échantillons organiques étaient en mauvais état et le contexte incertain.

En 1990, en collaboration avec Bill Mahaney du laboratoire de géomorphologie et de pédologie de l'Université York, le directeur de la publication a analysé les échantillons de sédiments recueillis par Thomas Lee et Bruce Liberty dans les années 50 dans la zone d'habitation de Sheguiandah. Les résultats ont montré qu'une partie des dépôts sédimentaires controversés de type till étaient des mélanges de sable, de limon et d'argile, mais que les couches inférieures étaient des dépôts sablonneux triés. Il aurait fallu effectuer de nouvelles recherches et comparer ces sédiments avec des tills d'autres sites et des dépôts mixtes lacustres pour déterminer avec certitude l'origine géomorphique des dépôts mixtes contenant des artefacts.

En 1990, pour obtenir de nouveaux échantillons à dater au carbone 14, nous avons décidé de prélever de nouvelles carottes dans les petits marécages (tourbières) situés au sommet de la zone de la carrière de Sheguiandah. Nous avons communiqué avec Peter Storck, car il avait manifesté de l'intérêt pour reprendre les recherches, puis, avec Thane Anderson de la Commission géologique du Canada. Nous avons extrait des carottes et Thane a effectué l'analyse du pollen.

In 1991, une initiative de la municipalité du canton de Howland et des Premières Nations de Sheguiandah et de Sucker Creek a entraîné l'élaboration d'un plan directeur archéologique visant

à la fois à conserver le patrimoine et à exploiter le potentiel touristique. Dans le cadre des recherches prévues dans le plan directeur, de nouvelles excavations ont eu lieu à Sheguiandah sous la direction des Archeological Services Inc. (ASI), une société torontoise de gestion des ressources culturelles.

Ron Williamson, président-directeur général d'ASI, a saisi le directeur de la publication de la possibilité de diriger les aspects archéologiques des nouvelles recherches. Il s'agissait en outre d'essayer de déterminer l'âge et l'origine des dépôts mixtes et la géochronologie du site. Nous avons alors pris contact avec Peter Storck, car il participait déjà avec nous à la collecte des carottes dans le marécage de Sheguiandah; d'autres spécialistes se sont joints à l'équipe, notamment les géologues Peter Barnett et Peter von Bitter.

Le directeur de la publication a aussi communiqué avec Robert E. Lee, le fils de Thomas E. Lee, pour l'inviter à participer aux fouilles effectuées dans les anciennes tranchées afin de prélever de nouveaux échantillons et de refaire des analyses. Robert a aussi fourni les cartes de son défunt père qui ont permis de situer certains sites d'excavation et sondages, ainsi que d'autres renseignements précieux. Plus tard, le directeur de la publication lui a demandé d'écrire l'historique des études de son père à Sheguiandah et de fournir des renseignements inédits (chapitre 2).

Les auteurs de chaque chapitre ont traité et évalué le site de Sheguiandah dans la perspective de leur propre discipline. Chaque chapitre est indépendant mais le directeur de la publication tente de faire le lien entre eux dans l'introduction et dans la conclusion; il offre aussi une perspective géoarchéologique sur la paléoécologie humaine de la fin du Pléistocène/début de l'Holocène concernant le site de Sheguiandah au sein de la région supérieure des Grands Lacs.

L'analyse des collections d'artefacts de Sheguiandah n'est pas terminée et exigera d'autres excavations et analyses. Étant donné que les responsables des premières excavations n'ont pas conservé tous les éclats d'artefacts et les nucléi, l'étude technologique de l'industrie lithique du quartzite de Sheguiandah fondée sur les collections actuelles est incomplète. Ces collections sont également très dispersées et les artefacts entreposés au Musée canadien des civilisations ne constituent pas nécessairement un échantillon représentatif.

Les principaux objectifs des nouvelles excavations de 1991 étaient de résoudre les questions géologiques sur l'âge et l'origine des dépôts mixtes controversés et de déterminer les limites du site par rapport à la zone désignée par T. Lee, sans toutefois rapporter de nouvelles collections archéologiques. Les objectifs et méthodes sont exposés en détail dans les chapitres 1 et 3 qui incluent également les points de vue des Premières Nations concernant les sites utilisés traditionnellement dans la région. Les recherches ont fourni un grand nombre de nouvelles données archéologiques sur Sheguiandah et ont permis de mieux comprendre les matériaux de diagnostic d'ordre culturel, comme les pointes, qui sont analysés par Peter Storck. Les études techniques d'ordre géologique, paléoenvironnemental et archéométrique fournissent la base scientifique utile pour résoudre la plupart des questions découlant de la recherche initiale menée par Thomas Lee.

Ce livre s'adresse aux savants et aux étudiants en archéologie, y compris en géoarchéologie et en études paléoindiennes, mais aussi en paléoécologie des Grands Lacs. Il présente des perspectives différentes sur l'histoire du niveau d'eau du bassin de la région supérieure des Grands Lacs, y compris sur le modèle de déclin graduel du lac Algonquin et sur le modèle de décharge catastrophique qui indique une inondation majeure de cette région provenant du lac Agassiz quelque 9 600 ans avant aujourd'hui. Ce livre devrait aussi satisfaire la curiosité des archéologues amateurs et des personnes qui s'intéressent à l'histoire de l'archéologie en Ontario.

En tant qu'étude de cas du contexte des artefacts paléoindiens et d'analyse des sédiments et d'autres aspects géoarchéologiques, comme la source du quartzite de Sheguiandah, ce livre devrait être utile aux étudiants qui apprennent de nouvelles méthodes d'analyse.

Le directeur de la publication souhaite remercier toutes les personnes qui ont contribué aux travaux, tant dans les années 50 que lors des recherches récentes. Les auteurs de chapitres ont aussi remercié leurs collaborateurs. Il convient en outre de souligner la contribution de Karen Vince, qui a apporté une aide précieuse dans la compilation de cet ouvrage, ainsi que l'assistance et la patience de Richard Morlan. Le directeur de la publication désire également remercier les Premières Nations de Sheguiandah et de Sucker Creek qui ont coopéré à l'établissement du plan directeur et sans lesquelles cette étude n'aurait pu être menée à bonne fin.

Finalement, nous sommes reconnaissants à l'INORD (Institut nord-ontarien de recherche et de développement) de l'Université Laurentienne, à la Fondation du patrimoine ontarien, au Conseil de recherches en sciences humaines du Canada et au Plan directeur archéologique, qui ont alloué des subventions au directeur de la publication pour financer en partie ce livre et certains aspects de la recherche.

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Chapter 1

Introduction to the Sheguiandah Site: Regional Context and Research Questions

Patrick J. Julig and Peter L. Storck

Abstract

Sheguiandah is a rare type of early archaeological site because it contains stratified Paleoindian and Archaic artifact assemblages, as well as alleged earlier cultural materials at the base of the site in mixed, "till-like" deposits. Discovered and excavated by Thomas E. Lee in the 1950s, the work was never completed and, lacking a final report, the site remained enigmatic and controversial. A reinvestigation of the artifact material held at the Canadian Museum of Civilization was initiated in 1989 by the first author. In 1991, a community initiative by a municipality and First Nations provided impetus for the development of an archaeological Master Plan for both conserving heritage resources and developing their tourism potential. As part of the Master Plan research, renewed excavations were conducted at Sheguiandah under the overall direction of a CRM firm in Toronto. Questions about the age and origin of the artifact-bearing mixed deposits underlying the Paleoindian levels helped to structure an interdisciplinary team and focus the research to address both site-specific questions and provide information about the environmental context for Paleoindian and later occupations in the upper Great Lakes.

Résumé

Sheguiandah est un type rare de site archéologique ancien parce qu'il contient, à sa base, sous forme de dépôts mélangés ressemblant à du till, des assemblages d'artefacts stratifiés paléoindiens et archaïques et des matériaux culturels que l'on suppose anciens. Découvert et excavé par Thomas E. Lee dans les années 1950, le site n'a jamais été complètement exploré et, faute de rapport final, il est demeuré énigmatique et controversé. Le premier auteur du présent ouvrage a entrepris une nouvelle étude des artefacts au Musée canadien des civilisations en 1989. En 1991, une initiative communautaire d'une municipalité et des Premières Nations a incité à établir un plan directeur archéologique touchant à la fois la conservation du patrimoine et l'exploitation de son potentiel touristique. De nouvelles excavations ont eu lieu à Sheguiandah, sous la direction générale d'une société de gestion des ressources culturelles de Toronto, dans le cadre des recherches préalables à l'élaboration du plan directeur. Des questions sur l'âge et l'origine des dépôts mélangés porteurs d'artefacts se trouvant sous les couches paléoindiennes ont servi de base pour structurer une équipe interdisciplinaire, mais aussi pour focaliser la recherche afin de trouver une réponse à des questions particulières au site et fournir des renseignements sur le contexte environnemental de l'occupation paléoindienne et des occupations ultérieures dans la partie supérieure des Grands Lacs.

The Sheguiandah Site: archaeological, geological and paleobotanical studies at a Paleoindian site on Manitoulin Island, Ontario, edited by P. Julig, Canadian Museum of Civilization, Archaeological Survey of Canada, Mercury Series Paper 161, 2002.

Overview of Sheguiandah Site History and Initial Investigations

It has now been nearly a half-century since Thomas E. Lee directed the National Museum of Canada excavations at the Sheguiandah site (BlHl-2), within the village after which the site was named, on north-eastern Manitoulin Island (Figures 1.1, 1.2, 1.3).

The first historical report of quartzite artifacts from Sheguiandah, including lanceolate type bifaces, is by J. Notman, who in 1877 gave specimens to geologist Robert Bell. Robert Bell (1878) also received artifacts in 1878 and 1881 from A.S. Cochrane, a resident of the village of Sheguiandah; these are in the Canadian Museum of Civilization collections (CMCC catalogue, Accession # 1482). Unfortunately, there is no precise record of the locations of these finds.

In 1951 Thomas Lee and his field assistant Doug Bell discovered quartzite artifacts in a field on the outskirts of Sheguiandah village, south of Little Current. They found that the site was large, and covered the top of a quartzite knoll of about 10 hectares, east of Highway 6 (Figure 1.3). In his 1953 report, Thomas Lee described a large site of "almost unbelievable magnitude and richness" with many white quartzite blades and bifaces lying around the surface, with little soil accumulation on the rocky hill; he believed the site had been little disturbed since prehistoric times.

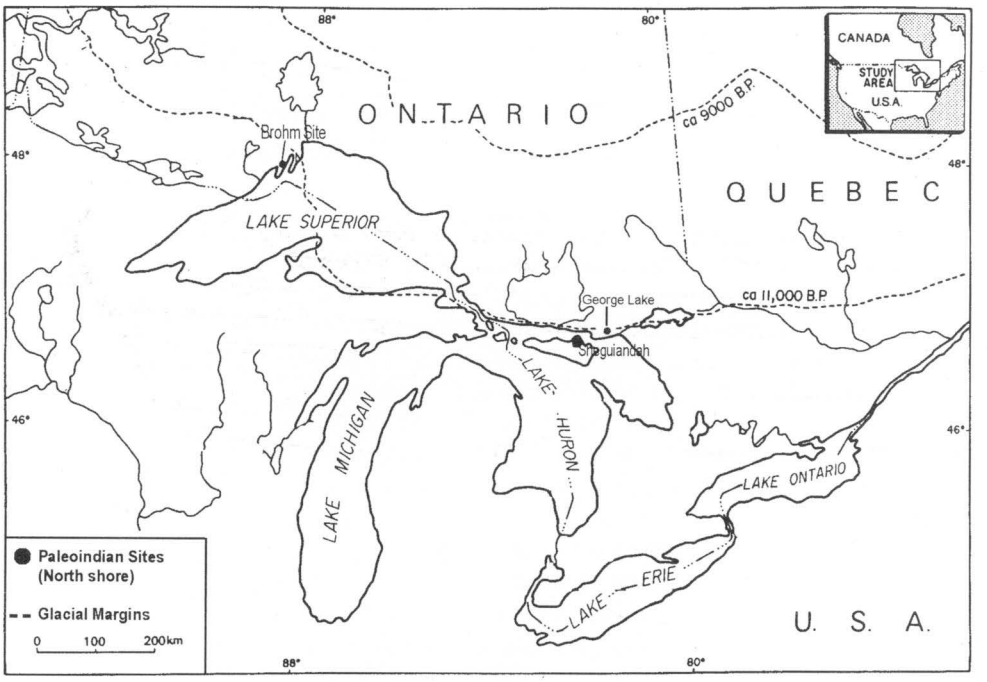

Figure 1.1. Selected Paleoindian sites along the North shore reported in the 1950s, and approximate glacial margins.

Figure 1.2. Aerial photo of the Sheguiandah site (designated area outlined in black), and the surrounding area. North is to the top, with the village of Sheguiandah in the center of the photograph, between Bass Lake (left) and Sheguiandah Bay (right).

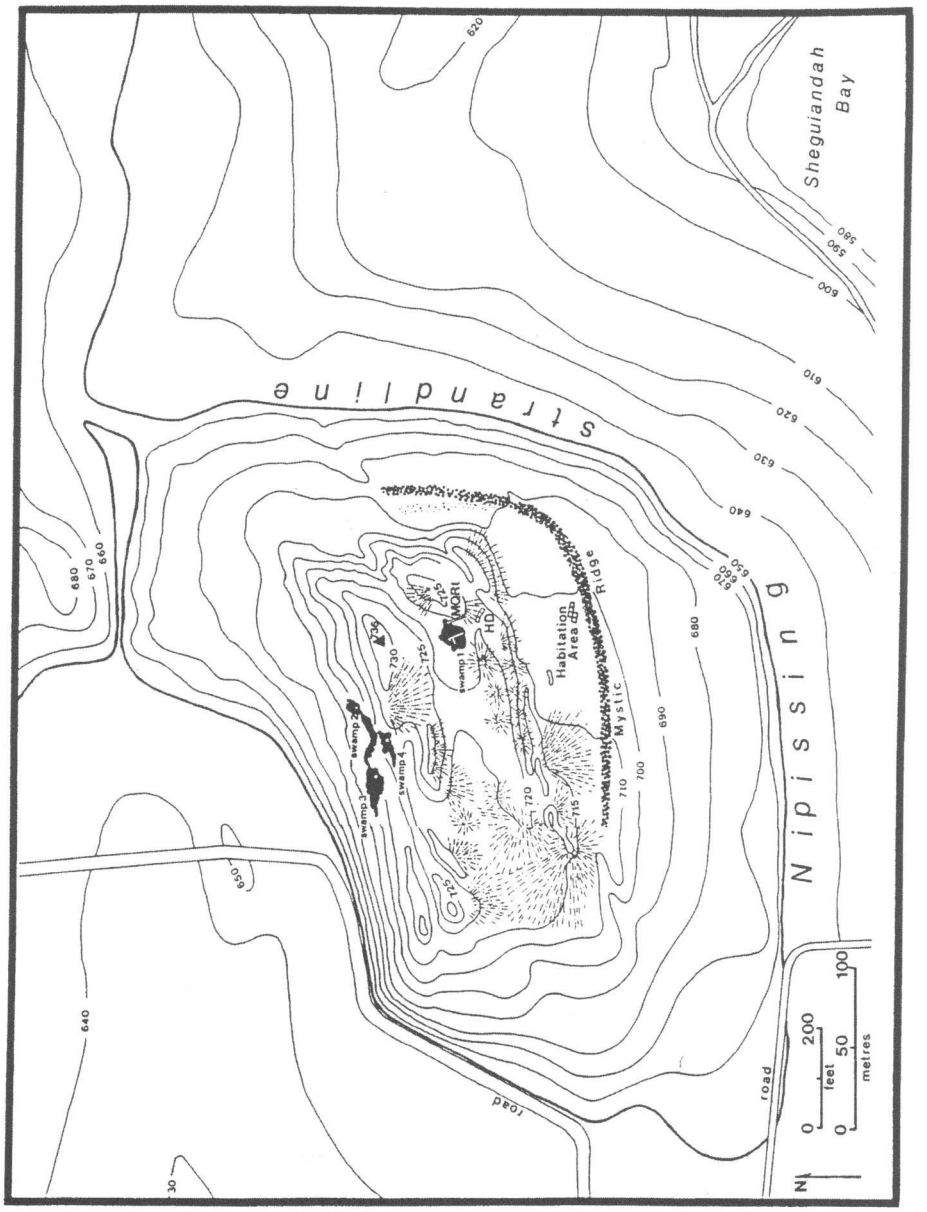

Figure 1.3. Topographic map of the Sheguiandah site knoll, indicating Nipissing beach and the Habitation Area above the Mystic Ridge (from T. Lee, 1957a).

Lee commenced major field work on this complex site in 1952 with volunteer help from the then fledgling OAS (Ontario Archaeological Society), with William Taylor as foreman (R. Lee, this volume). Work in the "Habitation area" was commenced by laying out 10 foot squares around a quartzite outcrop, where the soil was not too thick, numbering the squares ("stations") as they were opened (Figure 1.3). There was no formal grid system, but these "stations" can still be located today, as they were outlined by Lee with boulders when he left the site. After the first year, Lee (1954) reported "no clear-cut stratigraphy", other than an upper-humus and a "transitional" powdery soil (podzolic horizon) from which they recovered Paleoindian points. These were underlain by mixed deposits with artifacts, later tentatively identified by John Sanford, geologist of Wayne State University, as glacial till (Lee 1953, 1954, 1955, 1956, 1957a, Sanford 1957). In the first year Lee also excavated the quarry "Hillside Dump" area, and made extensive surface collections. Worked material was so abundant that Lee only saved clear artifacts and only samples of the cores and flakes. The artifacts were marked with the field designations, including station and depth; unfortunately this information was not pulled together into a formal site catalogue.

Thomas Lee was very concerned about the possibility of the site being looted, and managed to have the site protected by the Ontario Government under a new statute, The Archaeological and Historic Sites Protection Act (1953). This was a major accomplishment for the Sheguiandah site in particular and in archaeological heritage resources generally, ultimately leading to the Ontario Heritage Act (1980).

Lee's subsequent excavations at Sheguiandah from 1955 to 1957 are reviewed by his son, Robert E. Lee (this volume). There are many articles and reports by T. Lee on various aspects of the Sheguiandah site over the years (1953, 1955, 1956, 1957a, 1957b, 1963a, 1963b, 1964, 1968, 1974, 1979, 1983) but no final report.

There are other Paleoindian sites reported on and investigated in the upper Great Lakes North Shores during the 1950's, including Brohm (MacNeish 1952) and George Lake (Greenman and Stanley 1943) (Figure 1.1). There appears to have been some conflict and competition between T. Lee and E. Greenman at this time, affecting initial research on Manitoulin Island, and the Sheguiandah research in particular (R. Lee, this volume).

Lee's work at Sheguiandah produced a great deal of information about the archaeology and geology of the site. Although his field methods were by all accounts excellent, excavation was prematurely halted in 1956 due to funding problems and other complexities (see R. Lee, this volume). As a result the fieldwork at this site was not completed and because Lee was forced to leave this site prior to completion this lead to a long-term controversy. Tom Lee and his field geologist Sanford (1957) reported quartzite artifacts in and below two glacial "till" or diamicton deposits, and the date of ca. 30,000 was suggested by them as a minimum age. However because there was no final report or resolution, the site became clouded in controversy over whether it was a possible Pre-Clovis site. The possibility of artifacts in glacial deposits (till) remained unsolved.

Unfortunately, while the post-glacial water levels in the Huron Basin had been studied by Hough (1958) these water planes were not yet accurately dated or well related to the site at the

time of the research by Lee and the geologist Sanford (1957). The Lee excavations were suspended at the end of the 1955 season, and although charcoal and other organic samples were taken, no additional radiocarbon dating was conducted to resolve the problems in site geochronology, beyond the single date reported in Lee (1957a).

For the next thirty years Sheguiandah was occasionally proposed as a possible Pre-Clovis age site (Lorenzo 1978) with ongoing discussions by Robert Lee (1986), who restated many of the positions of his father. Karrow (1987), commented on the key geological and geochronological issues and called for re-investigation.

In 1975, Storck attempted to re-new investigations at Sheguiandah but was refused a license for test excavations by the Ontario Heritage Foundation which, to economize the site's resources, wanted to see larger scale excavations.

During the early 1980's Julig visited the site for photographic purposes, accompanied by the late Clyde Kennedy, who had worked on of Lee's crews. Julig had originally planned to study the Sheguiandah site as doctoral research at the University of Toronto, but instead chose the Cummins Site (Julig 1988), as it was less controversial. He planned to re-investigate the Sheguiandah site subsequently, when the research at Cummins was completed.

In 1985, Julig (1985) proposed three hypothesis for the occurrence of the artifacts in the Sheguiandah "Habitation Area" mixed Level III and IV deposits: 1) active beach and ice-plowing activities during fluctuating water levels in post-Lake Algonquin times, 2) down slope colluvial activities (as the "Habitation area is at the base of a slope), and 3) renewed glaciation at ca. 10,000 years B.P. (during the Marquette advance). The first hypothesis was favoured based on the observation of similar archaeological-geological facies being recorded in lower pro-glacial Lake Minong beach deposits in the Cummins site, Thunder Bay (Julig 1984, 1990; Julig *et al.* 1990).

In 1989 and 1990, Julig and W.C. Mahaney conducted research and analysed some of the existing Sheguiandah collections excavated by T. Lee (Julig et al. 1994). Objectives of this research were to: 1) examine selected artifacts from various levels in the site, particularly controversial Levels III and IV in the so-called "till" units, for evidence of differences in lithic technology that might support the cultural stratigraphy as interpreted by Lee; 2) examine characteristics of the sediments to determine their possible origin and environments of deposition; 3) tabulate the number and locational context of portions of conjoined artifacts to determine the extent of post-depositional mixing in the sediments; and, 4) obtain charcoal or other organic material for AMS radiocarbon dating.

The preliminary results of these studies were reported in Julig *et al.* 1994, and will be reviewed in a later chapter (Julig and Mahaney, this volume). These studies were planned so as to learn as much as possible about Sheguiandah and about how to resolve the outstanding research questions, prior to starting re-investigations.

Renewed field investigations at Sheguiandah began later in 1990 when Julig, P. Storck and T. W. Anderson (GSC) conducted coring activities of Swamp 3, to obtain samples for pollen

analysis and additional C-14 dating (Storck *et al.*1991, Julig *et al.*1991, 1994), for which funding had been obtained. The pollen results and additional dates are in Anderson (this volume).

As the analyses of existing collections and dating of new cores were in progress, a local initiative arose in the context of an archaeological Master Plan study, which was initiated by Howland Township, Sheguiandah First Nation, and the Ojibways of Sucker Creek, with the work being carried out by Archaeological Services Inc. of Toronto (see Robertson *et al.* this volume). The mandate of this Master Plan included a regional survey of Howland Township, re-surveying the Sheguiandah site (BlHl-2) to determine more precisely the extent of site boundaries, and to try and resolve the issues of the site geochronology and analysis of the controversial mixed deposits (till?) with artifacts by re-excavating the old pits and trenches of T. Lee from the 1950s. This information was needed in order to address planning issues related to cultural heritage and tourism ventures. Ron Williamson and Martin Cooper contacted P. Julig to assist on the geoarchaeological aspects of the Sheguiandah Site investigations. This opportunity changed the academic / archaeology plans of the senior author, as it was important to assist in this CRM based research. P Storck was also asked to become involved, at the request of P. Julig, as he had expressed a long-term interest in the site (Julig and Storck, 1992).

Review of Key Research Questions and Objectives

Because of the long-term controversy over the alleged earlier deposits at Sheguiandah, the site has been considered enigmatic. Some have described it as "Canada's most neglected major site of the past 30 years" (Jackson and McKillop 1987). We briefly review the geoarchaeological strategy of the most recent research toward resolution of site geochronology, stratigraphic context of the controversial lower deposits, site formation issues, and palaeoenvironmental context.

Geological and paleoenvironmental studies are often conducted in conjunction with archaeological research. In most instances, these studies provide additional data that augment and enrich the archaeological interpretations. However, for some archaeological projects, these studies are much more fundamental; indeed mandatory, for archaeological interpretation (for example see Stein and Farrand 1985; Julig *et al.*1990).

Two approaches were used in re-opening investigations at the Sheguiandah site. These involved:1) an analysis (or re-analysis) of selected artifacts and soil/sediment samples obtained by Lee, as well as 2) limited re-excavations and re-sampling of selected squares/trenches opened by Lee during field work in the early 1950's, and comparison to off-site tills and other deposits. In addition, geological, palynologyical and quartzite sourcing studies are used to augment the archaeological interpretation. Results of these research activities are discussed in the following chapters.

This book is not meant as a complete and final resolution of all the archaeological issues and questions about Sheguiandah, but rather a report on the major findings from the 1991 CRM investigations (Robertson *et al.* this volume) and related multidisciplinary investigations; within the context of current knowledge of Paleoindian studies in the upper Great Lakes. R. Lee has provided a detailed historical perspective on the initial investigations from his father's papers

and family archives. The analyses of the Lee sediment and artifact samples provided the context to organize the re-investigations, including the critical off-site comparisons (Barnett, this volume). These multi-faceted re-investigations resolve most of the key issues about Sheguiandah site geochronology, geoarchaeological context and paleoenvironment (Anderson, and Anderson and Lewis, this volume). Related archaeometric methods, such as the sourcing of quartzite artifacts (Long *et al.* this volume), indicate the possibility of exploring Sheguiandah connections to other sites.

Sheguiandah is a rare stratified site, stratified not only vertically, but in the horizontal sense, like some of the famous arctic sites. The long-term multiple occupations and archaeological deposits stretch from the modern water level of Sheguiandah Bay to the top of the hill (Figure 1.3), with Middle Woodland at the Algoma water level, Archaic below the Nipissing beach level, and Paleoindian and later occupations stratified (and mixed) at the Korah level in the "Habitation Area" (Barnett, Anderson and Lewis, and Julig and Mahaney, this volume). The following chapters will deal with the description and analysis of the site geology, archaeology, and paleoenvironment, and the context from which this information was recovered.

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Chapter 2

History of the Initial Investigations: 1951-57

Robert E. Lee

Abstract

In the 1950s, Sheguiandah, on Manitoulin Island, Ontario, was one of those rare finds -- a major archaeological site discovered by a professional archaeologist in an undisturbed state. During four long field seasons with large crews, Thomas E. Lee of the National Museum of Canada defined it as a stratified site involving several distinct pre-ceramic cultures that had worked with the native quartzite. The youngest of these was associated with a high water stand called Great Lakes Nipissing, about 5000 years ago, when the hill that the site stands on was an island. Older cultural material, lacking projectile points, was in deposits with the attributes of glacial till in primary position. Evidence suggested that the artifacts had survived glaciation because of their position on the down-ice, or lee side of the hill. Archaeologically, the key to Lee's interpretations was a thin stratum lying between the younger and older materials, associated with projectile points of the Paleoindians, the first people who could have arrived in the area after the end of glaciation. Geologically, interest focused on the older artifact-bearing deposits. These were unsorted, and bore stones foreign to the site (a proportion of which were faceted and striated), as well as rounded sandy inclusions. Orientation studies revealed weak to moderately strong fabrics consistent with regional ice flow. In parallel work, four small swamps on the crest of the hill were drained and test-trenched. The bottom of the peat gave a ^{14}C date of 9,130 years, appropriate for the emergence of the site from the deep waters of glacial Lake Algonquin. Again, artifacts were found in inorganic sediments below this level. Because of the inferred age of the older artifacts in both parts of the site (more than 30,000 years), controversy attached itself to the site early on, both driving Lee's investigations, and blocking his determined efforts to publish. Many archaeological and geological figures of the time became involved. This chapter covers in detail the history of these many events, as well as some closely related issues, such as Sheguiandah's role in stimulating Ontario's first protective archaeological legislation.

Résumé

Dans les années 1950, Sheguiandah, sur l'Île Manitoulin (Ontario) faisait partie des rares trouvailles : un site archéologique majeur intact découvert par un archéologue professionnel. Pendant quatre longues saisons sur le terrain en compagnie de grandes équipes, Thomas E. Lee du Musée national du Canada, l'a défini comme un site stratifié comportant la trace de plusieurs cultures pré-céramiques distinctes qui avaient travaillé le quartzite local. La plus jeune des ces cultures était associée à un plan d'eaux hautes appelé Grands lacs Nipissing, âgé d'à peu près 5 000 ans, lorsque la colline sur laquelle se trouve le site était une île. D'autres matériaux culturels, auxquels manquaient les pointes de projectile, se trouvaient dans des dépôts avec les attributs du till en position primaire. Des preuves suggèrent que les artefacts aient réchappé à la glaciation grâce à leur position sur la face aval ou sur le flanc raide de la colline. Sur le plan archéologique, la clé des interprétations de Lee se trouvait dans une fine strate prise entre les

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matériaux anciens et plus récents, qui comportait des pointes de projectile des Paléoindiens, les premiers peuples qui auraient pu arriver dans la région après la glaciation. Sur le plan géologique, l'intérêt s'est surtout concentré sur les dépôts d'artefacts anciens. Ces objets n'étaient pas triés et comportaient des pierres étrangères au site (dont certaines avaient des facettes et des stries), ainsi que des inclusions sableuses arrondies. Des études d'orientation ont révélé des textures, allant de molles à modérément solides, conformes à l'écoulement de la glace régionale. Au cours de travaux parallèles, quatre petits marais au sommet de la colline ont été drainés et creusés de tranchées d'exploration. La datation au ^{14}C dans le fond de la tourbe a donné 9 130 ans, date appropriée pour l'émergence du site des eaux profondes du lac glaciaire Algonquin. Là encore, des artefacts ont été découverts dans des sédiments inorganiques sous ce niveau. En raison de l'âge présumé des artefacts anciens dans les deux parties du site (plus de 30 000 ans), la controverse qui est née dès le début a commandé les recherches de Lee mais a aussi bloqué ses efforts résolus à publier ses résultats. Beaucoup de grands noms de l'archéologie et de la géologie de l'époque se sont mis de la partie. Ce chapitre relate en détail l'histoire d'un grand nombre de ces événements ainsi que certains sujets étroitement liés, comme le fait que le cas de Sheguiandah s'est traduit par la première loi ontarienne de protection des sites archéologiques.

Introduction

> *Ground in the mills and shaped in the moulds of our great universities, I set out in 1950 to do my bit in filling some of the small gaps in knowledge of the American Indian which, fortunately, still remained. The picture was quite clear ... all Indians came to America fairly recently across Bering Strait. Folsom Man ... Clovis and Sandia. Wave upon wave of immigrants ... fanned out, ultimately, to the farthest reaches of the Americas, and moved northward into glaciated areas as the ice retreated.*
>
> *For me, this beautiful and naive picture crashed into irreparable ruin in 1951, with the discovery of the Sheguiandah Site on Manitoulin Island ... and the initial announcement of Geologist Dr. John Sanford of Wayne University that the lower levels of artifacts there were embedded in glacial till in primary position* -- T.E. Lee (1968).

The Sheguiandah Site was discovered by Thomas E. Lee and his field assistant Doug Bell in 1951, during the third year of a province-wide survey program for the National Museum of Canada (Lee 1953). Lee was on Manitoulin Island, looking particularly for some traces of an early and unusual culture that Emerson Greenman (Greenman and Stanley 1943) had found at Killarney, about 30 km to the east across Georgian Bay.

Greenman had long before gained approval for archaeological work in the Manitoulin District by promising the National Museum "all information in addition to actual material" (Letter to W.J. Wintemberg, 4th June 1938). Lee found that none had ever been forthcoming, and that now, as an officer of that Museum, his requests were condescendingly rebuffed (Lee 1983).

Indignant that a "foreign university party operating in my own country and territory" was witholding both the information and specimens that had been removed from Canada, he had set out "for the express purpose of breaking the monopoly of the University of Michigan on the oldest evidence of man in Canada" (Lee 1976b).

The discovery was made when Lee spotted pieces of quartzite in a cultivated garden on the outskirts of the small village of Sheguiandah, and investigated (Figure 2.1). The site, however, only just touched the garden; with growing excitement, it was found to cover most of a 10-hectare hill on the other side of the road. Lee was staggered: in his preliminary report he described it as "an amazing discovery ... an Indian site of almost unbelievable magnitude and richness. On the surface, among grass roots, leaves and moss ... were hundreds of large leaf-shaped blades and other artifacts!" (Lee 1953). The large, gleaming white quartzite bifaces were visible at a distance, "sometimes lying in the midst of little nests of fine chips or flakes, just where they had been made" (Lee 1953). Evidently there had been little soil accumulation over much of the rather rocky hill, and no significant disturbance since prehistoric times.

Figure 2.1. Battered by the thrust of the Wisconsin glaciers, the steep north face of the Sheguiandah Site hill, seen here, was too much shattered for later aboriginal stoneworking, and is almost devoid of cultural material. But just over the crest and down the slope beyond, high-quality quartzite was extensively quarried in prehistoric times. Lee's discovery was made farther along this same road, where it swings around the more gentle western reaches of the hill.

There were also quarried exposures of quartzite with accumulations of quarry debris at places over the hill. "Toward the top ... spreading out in a great fan below an Indian quarry and covering about one third of an acre, a solid paving of quartzite blocks, chips and worked fragments was revealed! Blades ranging from crude to fine specimens were found over the