



PARKS CANADA

ARCHAEOLOGICAL RECORDING MANUAL

Excavations and Surveys



VERSION 1.0 • 2005-09-29



Parks Canada Parcs Canada

Canada



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1.0 PREFACE

This Manual outlines the Parks Canada Agency (hereafter called “Parks Canada”) recording system for archaeological excavations and surveys as well as the principles, best practices and procedures to be followed by anyone conducting an archaeological investigation on properties administered by Parks Canada or under a Parks Canada permit (Parks Canada 2005a). This includes archaeologists employed by Parks Canada, as well as contractors or any other person engaged in land or underwater archaeological research. The current Manual replaces the 1978 manual (Parks Canada 1978), and is to be used hereafter for all Parks Canada archaeological projects.

Note that in areas where final comprehensive land claim agreements have been signed, the latter are legally binding and override Parks Canada policies and directives, and may override the procedures outlined in the current Manual. Parks Canada must adhere to sections and clauses in the agreements pertaining to archaeology and archaeological resources on federal Crown lands and lands under water under its administration and control (Parks Canada 2005b).

This is the latest version of a manual with a long history. J.H. Rick prepared the first manual for Parks Canada archaeologists in 1963, followed by a 1973 Archaeological Excavation Manual (Parks Canada 1973) edited by J. D. Swannack. Both of these documents focussed on excavation procedures, and included rudimentary records standards. With the advent of computer systems and the decentralisation of archaeological research in the late 1970s, it was recognised that a new manual was required that would permit a certain level of standardisation of recording. Standardisation was considered necessary for an integrated electronic database system, and to facilitate the efficient exchange of information among regional and program headquarters. As a result, in 1977, A. E. Wilson and J. R. Henderson, under the direction of J. D. Swannack, produced the “Parks Canada Archaeology Manual Volume 1: Excavation Records System” (Parks Canada 1977). That manual was reprinted in 1978 with minor changes to one of the form examples (Parks Canada 1978). A second volume pertaining to Collections Management procedures was originally planned (Parks Canada 1978), but was never realised.

An attempt to revise the manual in the early 1990s regrettably never reached fruition. The current Manual is dedicated to the memory of Dr. Pierre Nadon who, in the early 1990s, coordinated consultation sessions with Parks Canada archaeologists across the country and drafted preliminary revisions of the Manual. Prior to his passing in 2003, Dr. Nadon provided valuable background information on the previous consultations, and copies of previous manual drafts from the 1990s that were instrumental in revising the current document.

This revised version (Version 1.0) is the result of consultation with Parks Canada archaeologists and archaeological collections specialists over a period of many years. At the core of this revision is the input and direction of the Archaeological Recording Manual Working Group, comprising Gary Adams, Charles Burke, Monique Élie, Daryl Fedje, Brian Ross, and Jim Ringer, as well as Jennifer Hamilton and Robert Gauvin. Colleagues from the Archaeological Services Branch also provided valuable input and advice: Daniel LaRoche, Dan Pagé, Thomas (TJ) Hammer, Jim Molnar, Virginia Myles, Helen Dunlop, and Christophe Rivet. I am also grateful for the contributions, guidance, and support of Ellen Lee, Robert Harrold, and Lyle Henderson. Countless discussions were held with, and input provided by, numerous archaeologists, collections managers, conservators, policy

analysts, and information management staff. Thanks are extended to David Arthurs, Debbie Cochrane, Richard Dennis, Paul Downie, Mary Lou Doyle, Candis Emery, Matt Glaude, Rod Heitzmann, Shelley Isabelle, Barbara Lescovec, Sandra Leduc, Charles Lindsay, Stephen Lohnes, Earl Luffman, Alain Messier, André Miller, Christine Persohn, Caroline Phillips, Jack Porter, Mario Savard, Virginia Sheehan, Janet Stoddard, and Sharon Thomson. These individuals either discussed and contributed topics directly, or posted comments via a national archaeological group discussion database (which also serves as the decision archive for this project). I would also like to thank Yves LaBrèche and Suzanne Labrèche for their excellent translation of the Manual into French, as well as Parks Canada's Cultural Resources Council and Executive Board for their comments and support.

*Stephen Savaugé
Archaeological Services Branch
Parks Canada Agency
Gatineau, Québec
September 2005*

To obtain printed copies, suggest additional Manual topics or improvements, please contact:

*Director, Archaeological Services Branch
National Historic Sites Directorate, Parks Canada Agency
25 Eddy Street (25-5-Y)
Gatineau, Québec
K1A 0M5*

2.0 INTRODUCTION

Since the release of the last version of the manual (Parks Canada 1978), the field of archaeology has undergone considerable change, particularly in the domain of computer technology. The Parks Canada Agency, as an organization, has also evolved from a regionally based entity to an organization currently comprising Service Centres and Field Units located across the country. With decentralisation in the 1970s and the introduction of personal computers in the 1980s, the archaeological units or functions in each of the Service Centres have adapted and modified elements of the Parks Canada records system outlined in the 1978 manual. As a result, many of the formerly essential elements of the archaeological records system are now outdated or obsolete.

In the early years of Parks Canada archaeology, the focus was primarily on large-scale archaeological excavation projects involving primarily historic Euro-Canadian occupations such as forts and fortifications. Parks Canada now places much greater emphasis on pre-contact and Aboriginal archaeology, and conducts both large- and small-scale archaeological surveys, excavations, impact assessments, monitoring, and mitigation projects throughout the Parks Canada system.

The present Manual must necessarily keep pace with the profoundly evolving world of technology and archaeological advancements, particularly in the context of Parks Canada's current archaeological focus. As a result, the Manual is designed to be dynamic and flexible, while ensuring that practitioners of archaeology for sites administered by Parks Canada record essential archaeological data as consistently and efficiently as possible. The current Manual encompasses new developments since the 1978 version, some elements of the previous versions (e.g., Parks Canada 1973), and recent advancements in the international archaeological communities.

One of the greatest challenges is to preserve the integrity of the provenience system as well as existing database systems, which are intricately linked with millions of archaeological objects, records, and digital data representing over 30 years of work across the country. This legacy of data must be managed in the context of the mandate of Parks Canada's Cultural Resource Management Policy (Parks Canada 1994). At the same time, it must keep pace with technological advances in the discipline and in Cultural Resource Management (CRM), international standards of the archaeological community, and current Parks Canada initiatives on digital multimedia asset management, metadata standards, collection management, and long-term conservation of archaeological resources.

At the heart of the Parks Canada approach to excavation and surveys is the Parks Canada provenience system. Since the introduction of the system, much has evolved in archaeological practice, but the provenience system has endured as a flexible and integrating recording method for Parks Canada archaeologists. Though not without its problems and critics, its utility has been proven countless times. In addition, Parks Canada archaeologists are ethically obliged to implement the principles and practices outlined in Parks Canada's CRM Policy (see Parks Canada 1994). We actively work with *all* our heritage assets in the context of the policy, which is one of the most compelling reasons for a uniform system of recording, rooted in a nationally consistent provenience system. Following is a brief history of the provenience system.

Since the early 1960s, Parks Canada has used an archaeological provenience system that is an adaptation of one developed by the University of Pennsylvania Museum for excavations at Tikal, Guatemala. Our method was largely based on archaeological practices that Parks Canada employed over the first two decades of Parks Canada archaeology, which focused primarily on

excavations of Euro-Canadian military and urban sites. Similar to those of Tikal, these sites: 1) were, and are, characterised by complex stratigraphy; 2) require attention to topographical features; 3) yield an abundance of archaeological objects; and 4) encompass large areas excavated by a changing staff over a period of years. The provenience system, by nature of its inherent flexibility (and in concert with some of the modifications outlined in this manual), is able to accommodate more recent shifts in emphasis, encompassing pre-contact and Aboriginal excavations and surveys, both terrestrial and underwater.

Our adaptation of the Tikal system provides a standard provenience nomenclature for all persons excavating or surveying on lands, including lands under water, administered by Parks Canada. The provenience system is hierarchical in nature, integrating Site Number and information pertaining to excavation or survey units into a single alphanumeric code. Though the order and format of the Provenience Number elements are fixed, the archaeologist determines the meaning ascribed to them. The flexibility of the system gives the archaeologist latitude and discretion to use provenience designations that are best suited to the size and nature of the site, and to use preferred excavation and survey techniques and methods.

3.0 WORK INSTRUMENTS AND GENERAL REQUIREMENTS

The items listed in Table 1 comprise the essential elements for archaeological recording at Parks Canada. These elements are described in detail in the sections that follow. Consult the Table of Contents for specific section references.

Table 1. List of Work Instruments and General Requirements.

Work Instrument or Requirement	Obligation	Comments
Parks Canada Provenience System	Mandatory	
Borden System of Site Identification	Mandatory	
Cataloguing Systems for Images, Drawings, and Media	Mandatory where applicable	
Type Codes for Images and Media	Mandatory	
Archaeological Site Inventory Form	Recommended	Contains mandatory elements and form guide
Image Catalogue Form	Recommended	Contains mandatory elements and form guide
Media Catalogue Form	Recommended	Contains mandatory elements and form guide
Suboperation Summary Form	Recommended	Contains mandatory elements
Lot Summary Form	Recommended	Contains mandatory elements and form guide
Stratigraphy Summary Form	Optional	Includes a form guide
Field Notebook	Recommended	
Staff Field Number	Recommended	
Data Standards	Mandatory where specified	
Metadata Standards	Mandatory where specified	
ISO 8601 All-numeric Date Standard (yyyy-mm-dd)	Recommended	Government of Canada standard
Coordination between Field Archaeologist, Collections Manager, and/or Archaeological Database Administrator	Mandatory where specified	
Key Directives, Guidelines, Policies, and Legislation	Mandatory where specified	Provides general guidance and context for conducting archaeological investigations at Parks Canada

4.0 PROVENIENCE SYSTEM

4.1 PROVENIENCE: AN OVERVIEW

A dictionary meaning of Provenience is “place of origin”. In the Parks Canada provenience system, it means the place of origin of an archaeological object, of a cluster of archaeological objects, of a feature or features, of a sample of soil, mortar, charcoal or other material. It can also mean the place of origin of some quantity of information, which could include the absence of cultural remains in some volume of excavation or surveyed area.

The parameters of provenience will include such things as point locations in three-dimensional space defined by a coordinate system, the volume of a stratum of deposition that can be found in an excavation unit, the interior, or part of an interior, of a structure, an entire activity area such as a wintering camp, and a cultural context in terms of time period and social activity.

The recorded description of a provenience includes location data (such as geographic and plan coordinates, elevations, maps, and plans to scale), and a varying amount of written information which includes both hard data and the archaeologist’s interpretations, inferences, and conclusions.

4.1.1 Provenience: Components

The provenience, or “Provenience Number”, comprises **SITE NUMBER + OPERATION + SUBOPERATION + LOT**, as depicted in the example below from Fort Beausejour National Historic Site of Canada (NHSC), New Brunswick. Each element of the provenience is indicated in bold followed by its description, with the last item (2E1B7) representing a complete Provenience Number.

2E	Site Number (Numeric Character + Alpha Character)
2E1	Operation
2E1B	Suboperation
2E1B7	Lot

The core elements of provenience: Site Number, Operation, Suboperation, and Lot, are described in detail in the following sections. Object Catalogue Numbers, though not part of the provenience, strictly speaking, may also be used to record point locations of archaeological objects in the field within a Lot (Section 4.6). This procedure is also detailed. Each section below includes a subsection outlining the definition, application, principles, values, and assignment methods and rules for that element. Examples or “cases” of the application of each element of provenience are provided near the end of this section.

Though the provenience system is national in scope, its products are managed through a network of regional and local databases and repositories. To ensure that all researchers have equal access to the entire data system, each element of provenience has associated data standards designed to facilitate exchange of electronic or digital data and information between Parks Canada Archaeological Databases. These standards are described in Section 4.12.

4.1.2 General Principles of Provenience Application

1. The Field Notebook(s), information, drawings, images, archaeological objects and samples (all the records from an archaeological investigation) are catalogued, indexed, referenced, and filed alphanumerically by Provenience Number.
2. To file and facilitate retrieval of archaeological records, it is crucial to assign Provenience Numbers in a logical and consistent manner. It is also essential to establish a rational relationship between the hierarchy of Provenience Numbers and the hierarchy of structures, features, strata, activity areas, and cultural context in a given site.
3. A Provenience Number may be assigned to all sites or areas where archaeological work has been conducted, even where testing does not produce evidence of cultural materials (e.g., negative test units).
4. At the Principal Investigator's discretion, a Provenience Number may also be ascribed to a site or area where no archaeological intervention has taken place. Assigning Provenience Numbers in such circumstances ensures a record is created for future reference, research, and potential archaeological work.
5. Each element of a provenience should be assigned spatial coordinates. All archaeological sites (under Site Number), Operations, Suboperations, and Lots, must, at a minimum, have associated two-dimensional spatial coordinates although three-dimensional coordinates represent the ideal situation.
6. A flexible attitude and approach to the application and definition of proveniences should be maintained.

4.1.3 The Provenience System and Archaeological Resource Evaluation

The practice of Cultural Resource Management (CRM), as defined in the Parks Canada CRM Policy (Parks Canada 1994:106-8) requires that four elements be in place in all decision-making that affects cultural resources, including archaeological resources. Of the four elements, the evaluation of resources to determine their historic value has become one of the more useful and widespread management tools. Evaluation enables Parks Canada to determine which resources are considered cultural resources under the policy, and what constitutes their historic value. An understanding of the historic character of the resource helps focus the program's efforts on protection, presentation and appropriate use.

Under the Parks Canada CRM Policy, resources may be evaluated using a system of "CRM Levels" (Table 2). See the Parks Canada CRM Policy (Parks Canada 1994:106-8) for a more complete understanding of the meaning of each of these levels.

Table 2. Descriptions of Cultural Resource Management (CRM) levels, based on Parks Canada (1994:107-8)

CRM Level	Description
Level I	A resource of national historic value related to the reason for designation of a National Historic Site
Level II	A resource with historic value that is not of national historic significance
Other	A resource evaluated and deemed not to meet the criteria for Levels I and II. These resources are exempted from the policy and are managed under other appropriate processes and policies (e.g., grave markers are managed under Management Directive 2.3.1)

The assignment of CRM levels offers Parks Canada an opportunity to manage archaeological resources on a national scale, using standard evaluation criteria as defined in the CRM Policy. As a result, wherever feasible, the Principal Investigator should ascribe a CRM level to a cultural resource, based on the suite of available field data. Parameters for recording these data can be found in Section 4.12 Data and Metadata Standards for Provenience, and the Parks Canada Archaeological Site Inventory Form Guide (Appendix A).

4.2 SITE NUMBER

The Site Number is the key element in the archaeological site records management system for Parks Canada. For research and management, it follows that criteria and parameters on what constitutes an archaeological site in the context of Parks Canada archaeology are required. This, in turn, must have some utility to external researchers. As a result, the following definitions and criteria are offered.

4.2.1 Site Number: Definition

The archaeological site is the largest unit of the provenience system, and is identified by a Site Number. It is an area in which physical evidence of human activity is, or was, located, and in which archaeological investigations are conducted.

4.2.1.1 Archaeological Site: Definition

For the purpose of this document, an archaeological site means a place or area where tangible evidence of past human activity is, or was, located *in situ* on, below or above the ground, or lands under water, the identification, recovery and understanding of which can be achieved using archaeological research methods.

The above definition serves as the conceptual framework for the identification of an archaeological site for Parks Canada archaeologists. The specific parameters for archaeological site recording are outlined in Section 4.12 Data and Metadata Standards for Provenience, and are further refined using the data fields on the Parks Canada Archaeological Site Inventory Form and Form Guide (Appendix A).

4.2.2 Site Number: Components

A Site Number comprises two parts: a *numeric character* and an *alpha character*. The alpha character follows the numeric character, as shown in the example below:

2E Fort Beausejour, the second site identified in New Brunswick (E) under the Parks Canada provenience system.

The alpha characters represent the provinces and territories (Table 3), with a couple of exceptions (Tables 4 and 5), as follows:

Table 3. List of alpha characters and corresponding province or territory.

Character	Province or Territory
A	Newfoundland and Labrador
B	Nova Scotia
E	New Brunswick
F	Prince Edward Island
G	Quebec
H	Ontario
K	Manitoba
N	Saskatchewan
R	Alberta
T	British Columbia
X	Northwest Territories and Nunavut
Y	Yukon Territory

The following alpha characters have special meanings (Table 4):

Table 4. List of alpha characters that have special meanings.

Character	Description	Comments
L	Fortress of Louisbourg	
M	Underwater Sites	
U	Items from outside sources	The 'U' category has been subdivided (e.g., 1U to 10U). For details, please contact the Collections Manager for the appropriate Parks Canada Service Centre, and see Table 5 below for responsibility areas.
V	Sites excavated by the Ontario Government	

Today, administrative responsibility for Parks Canada's archaeological objects and records is largely vested in the Service Centres located across the country. These responsibility areas are noted in Table 5.

Table 5. Parks Canada Service Centre responsibility areas with their corresponding characters.

Parks Canada Service Centre	Characters
Atlantic Service Centre	A, B, E, F, L, 2U
Québec Service Centre	G, 3U
Ontario Service Centre (Cornwall)	H, 4U
Ontario Service Centre (Ottawa)	M, 1U, 8U, 9U, 10U
Western Canada Service Centre (Winnipeg)	K, N, X, Y, 5U, T (Chilkoot Trail NHSC), R (Wood Buffalo NPC)
Western Canada Service Centre (Calgary)	R, T, 6U

4.2.3 Site Number: Application Principles

1. Each archaeological site has a unique Site Number that is assigned by the Principal

Investigator, using appropriate Site Numbers approved by the regulating jurisdiction (usually a Service Centre).

2. The Principal Investigator determines the dimensions of an archaeological site based on a combination of available evidence, the parameters and definitions noted above, and professional judgement.
3. Each archaeological site has a descriptive name, where possible, associated with the unique Site Number (e.g., 2E Fort Beausejour).

Values

1. The Site Number is the key element in the site records management system.

4.2.4 Site Number: Assignment

Method

1. Site Numbers are assigned, by province or territory, by the Principal Investigator, in communication with the Collections Manager, or with the person charged with the administration of Site Numbers, as specified by the responsible CRM Manager of the appropriate Service Centre.
2. Mandatory (core) site data are entered in Archaeological Databases, as prescribed in Section 4.12 Data and Metadata Standards for Provenience, and the Archaeological Site Inventory Form Guide (Appendix A). Optional data fields are also provided.
3. Administration of Site Numbers is the responsibility of the CRM Manager of the office with jurisdiction over that area. The CRM Manager may delegate administrative authority to whomever he or she deems appropriate.
4. Application for Borden Site Numbers (see below) is the obligation and responsibility of the Principal Investigator, who may delegate the task to others as required.

Rules

1. Mandatory archaeological site data, as outlined in Section 4.12, and Appendix A, must be entered in the Archaeological Database(s) of the appropriate Service Centre at the earliest practicable time.
2. Mandatory archaeological data must be recorded for all archaeological sites, both surveyed or excavated.
3. Site Number assignment requires a Field Notebook entry.
4. All archaeological sites must have associated two-dimensional geographic coordinates (see Section 4.12).
5. The relevant site area(s) must be mapped (e.g., sketch map, AutoCAD).
6. All qualifying Parks Canada archaeological sites will receive Borden Site Numbers (see Section 4.2.6) at the earliest practicable time. *Note: Agreements between some Aboriginal groups and Parks Canada may preclude the application of this rule.*
7. For informant-reported sites, any available site data, at a minimum, must be entered into the Archaeological Database of the appropriate Service Centre, as soon as practicable.
8. Previously assigned Site Numbers must not be changed unless authorised by the Principal Investigator in consultation with Collections Management and/or the Archaeological Database Administrator.

4.2.5 Archaeological Surveys

In previous versions of the Manual, the recommended practice had been to assign a Site Number to the area of survey (in the Site Number field), and Operation Numbers to the archaeological sites located therein (in the Operation field). This practice, however, was irregularly and inconsistently applied with the result that Banff NPC, for example, has a unique Site Number for each site (in the Site Number Field), Kluane NPC has separate Site Numbers for each river valley (in the Operation field), and Quttinirpaaq NPC has only one Site Number for the park (in the Site Number field), with each archaeological site recorded as an Operation, in the Operation field.

Best Practice

It is now recommended, as a best practice, to assign a unique Site Number to each site. That is, to record the Site Number strictly under the Site Number field rather than the Operation Number field. This will ensure that each newly recorded site will: 1) have only one unique Site Number; 2) allow for more available Operations, Suboperations, and Lots per site; and 3) streamline the record keeping process.

Although assignment of Site Numbers using the Operation field (e.g., for area surveys) is not recommended, its use is allowed at the discretion of the Principal Investigator.

4.2.6 Borden System of Site Identification

The Borden system of archaeological site identification provides a unique identifier for each archaeological site reported in Canada. Sites are assigned a geographic code based on their latitude and longitude. This code, or “Borden (Site) Number”, is not related to the provenience system of Parks Canada, but it is nationally recognised and represents the only acceptable code for sharing site information with others outside of Parks Canada. *As a result, all Parks Canada archaeological sites that meet provincial or territorial criteria will receive Borden Site Numbers.* The onus is on the Principal Investigator to apply for Borden Site Numbers at the earliest practicable time and to ensure that the Borden Site Number is cited in all subsequent reports and external correspondence relating to a given site.

The provincial or territorial authority, or the Archaeological Survey of Canada at the Canadian Museum of Civilization ascribes Borden Site Numbers according to the jurisdiction. The Principal Investigator or delegate must apply for Borden Site Numbers from the applicable authority.

4.3 OPERATION NUMBER

4.3.1 Operation: Definition

The Operation is a subdivision of a site and is identified by an Operation Number. It consists of a cardinal number preceded by the Site Number, as shown in the example below:

2E1 The first Operation of site 2E.

4.3.2 Operation Number: Application

Principle

1. Whenever possible, Operation Numbers should be defined by culturally significant areas within a site.

Values

1. Identification of culturally significant areas may change over time (e.g., with new data). As a result, new Operations may be added or old ones redefined at the discretion of the Principal Investigator.
2. The relationship between Operation Numbers and analytical units of the site is crucial to the efficient and effective subsequent use of the data.
3. Maintain a flexible attitude and approach to the application and definition of Operations.

4.3.3 Operation Number: Assignment

Method

1. Operation Numbers are assigned sequentially, as required, at the discretion of the Principal Investigator.

Rules

1. The relevant areas must be mapped, with a map reference (Sects. 6.0 and 8.0) indicated in the Field Notebook.
2. The procedure requires a Field Notebook entry (Sect. 6.0) to define the purpose of the Operation Number assignment.

4.4 THE SUBOPERATION

4.4.1 Suboperation: Definition

The Suboperation, or “Suboperation Letter”, is a subdivision of an Operation. It is identified by a letter preceded by the Operation Number:

2E1B The second Suboperation (B) of the first Operation in site 2E.

4.4.2 Suboperation: Application

Principle

1. The simplest but not always satisfactory strategy in excavating consists of a subdivision of the analytical units of the site, the Operations, into manageable horizontal areas, the Suboperations, that are excavated stratigraphically.

Values

1. The “manageable” criterion noted above relates to the supervision of labour or of archaeological assistants, the need for more or less finely detailed stratigraphic recording,

and the excavation techniques used.

2. In practice, Suboperations generally apply to the smallest horizontal control units of the excavation at a site.
3. The point made above regarding the need for flexibility in applying the provenience system applies equally to the establishment of Suboperations. The archaeologist should be prepared to extend or re-define Suboperations for the sake of good records management, and as excavation progress reveals configuration and function.

4.4.3 Suboperation: Assignment

Method

1. Suboperation Letters are assigned in alphabetic sequence (I, O, and Z excluded), at the Principal Investigator's discretion.
2. Where feasible, Suboperations are treated as analytical units. This approach enormously facilitates subsequent use of the archaeological records.

Rules

1. The letters I, O, and Z must not be used (because of almost certain confusion with 1, 0, and 2).
2. The 23 available Suboperations (I, O, and Z excluded) will be assigned consecutively as a single letter series from A to Y.
3. Double letter Suboperations, or any other variation thereof, are not allowed.
4. The procedure requires a Field Notebook or form entry, describing assignment rationale.
5. The relevant Suboperation area(s) must be mapped.
6. Archaeological items, both *in situ* and removed, must be noted or described.
7. Map or plan references must be indicated in the Field Notebook.
8. Layer/event, if applicable, must be described.
9. A summary of Suboperations must be recorded either in the Field Notebook, a Suboperation Summary Form (optional; see Appendix D), or any other media approved by the CRM Manager for the relevant Service Centre.

4.5 THE LOT

4.5.1 Lot: Definition

The Lot is a subdivision of a Suboperation. The Lot Number consists of a cardinal number preceded by the Suboperation Letter:

2E1B7 The seventh Lot in Suboperation B of the first Operation of site 2E.

The Lot, strictly speaking, is the smallest unit in the provenience system. As a result, it is normally the most precise level of location or contextual information as defined by the archaeologist (Note: Object Catalogue Numbers may now be assigned three-dimensional spatial coordinates (see Section 4.6)). The Lot provides precise locational measurements for an excavation or survey.

4.5.2 Lot Number: Application

Principles

1. All excavated items are assigned Lot Numbers, based on the professional judgement of the archaeologist.
2. Lots are ideally assigned three-dimensional spatial coordinates but two-dimensional coordinates, at a minimum, may be assigned.
3. A Lot is correlated with a stratigraphic layer or level wherever practicable.
4. The crux of the definition of Lot is grounded in those archaeological items found *in situ* that require precise measurements, as well as the principles, values, and assignment requirements.

Values

1. Lot numbers are the minimum units of vertical excavation, and should not be confused with Suboperations, which are the minimum units of horizontal excavation.
2. Lot Numbers may be applied to:
 - the spatial volume of a layer of deposition or of a structural element within a Suboperation;
 - an arbitrary volume or level of excavation within a Suboperation;
 - the interface between two deposits, where the interface represents a unique event in the stratification sequence (e.g., the surface of a pit feature corresponding to the event of its original construction);
 - significant clusters of archaeological objects;
 - individual archaeological objects;
 - a sample of soil, mortar, charcoal or other material;
 - backhoe trench walls;
 - borehole tests (core samples).

These are described in detail in Section 4.11.4.

4.5.3 Lot Number: Assignment

Method

1. Lot Numbers are assigned sequentially, at the Principal Investigator's discretion.

Rules

1. All Lots should ideally be assigned three-dimensional spatial coordinates. Where this is not feasible, two-dimensional spatial coordinates may be assigned.
2. The relevant areas must be mapped.
3. Archaeological items, both *in situ* and removed, must be noted or described.
4. The procedure requires a Field Notebook entry to define the purpose of the Lot Number assignment.

Best Practice

Other numbers or auxiliary numbering systems (used as suffixes to Lot Numbers) should not be used.

4.6 CATALOGUING OBJECTS IN THE FIELD

An archaeological object may be assigned an Object Catalogue Number with associated three-dimensional spatial coordinates in the field, at the discretion of the Principal Investigator. Object Catalogue Numbers can add another more refined level of precision for selected point locations of archaeological objects within a Lot.

4.6.1 Object Catalogue Number: Definition

The Object Catalogue Number is the numeric character assigned to an archaeological object. The numeric character follows a complete provenience, and is separated from the Provenience Number by a hyphen. It marks an individual archaeological object so that it can be identified separately from all other archaeological objects from the same Lot.

Example

2E1B7-1 The first catalogued object from the seventh Lot in Suboperation B of the first Operation of site 2E.

4.6.2 Object Catalogue Number: Application

Principles

1. Archaeological objects within a Lot may, on occasion, need to be catalogued and assigned three-dimensional spatial coordinate data in field situations.
2. Archaeological objects are assigned Object Catalogue Numbers in the field, at the discretion of the Principal Investigator.

Values

1. Object Catalogue Numbers for archaeological objects, when assigned three-dimensional spatial coordinates in the field, are the minimum units to which coordinate data is ascribed.

4.6.3 Object Catalogue Number: Assignment

Method

1. Object Catalogue Numbers are assigned sequentially to selected archaeological objects, at the Principal Investigator's discretion.
2. An archaeological object that is not ascribed a catalogue number in the field may later be assigned an Object Catalogue Number (e.g., in the laboratory), using the Lot as the minimum level to which coordinate data is ascribed.

Best Practices

1. An Object Catalogue Number should only be assigned to a single archaeological object, such as a projectile point or fragments from a single ceramic vessel.
2. Prior to commencing the field project, the Principal Investigator should coordinate number assignment with the Collections Manager or Archaeological Database Administrator (as applicable) to determine the next available Object Catalogue Number(s).
3. Three-dimensional spatial coordinate data should be ascribed to all archaeological objects that are assigned Object Catalogue Numbers in the field.
4. An Object Catalogue Number should only be ascribed to an archaeological object that is

- contained within a Lot.
5. The catalogued object must be mapped if three-dimensional spatial coordinate data is ascribed.

4.7 GRID SYSTEMS OF EXCAVATION

When relatively large areas containing no visible structural remains must be excavated, it may be convenient to lay out excavation units as grid squares. Labelling the grid squares can be done with reasonable efficiency by assigning Operation Numbers to 23-square rows and Suboperation Letters to the individual squares (Fig. 1). A nice variation on this procedure is to use only 20 Suboperation Letters in each Operation (i.e., 20-square rows) so as to have “round-figure” areas.

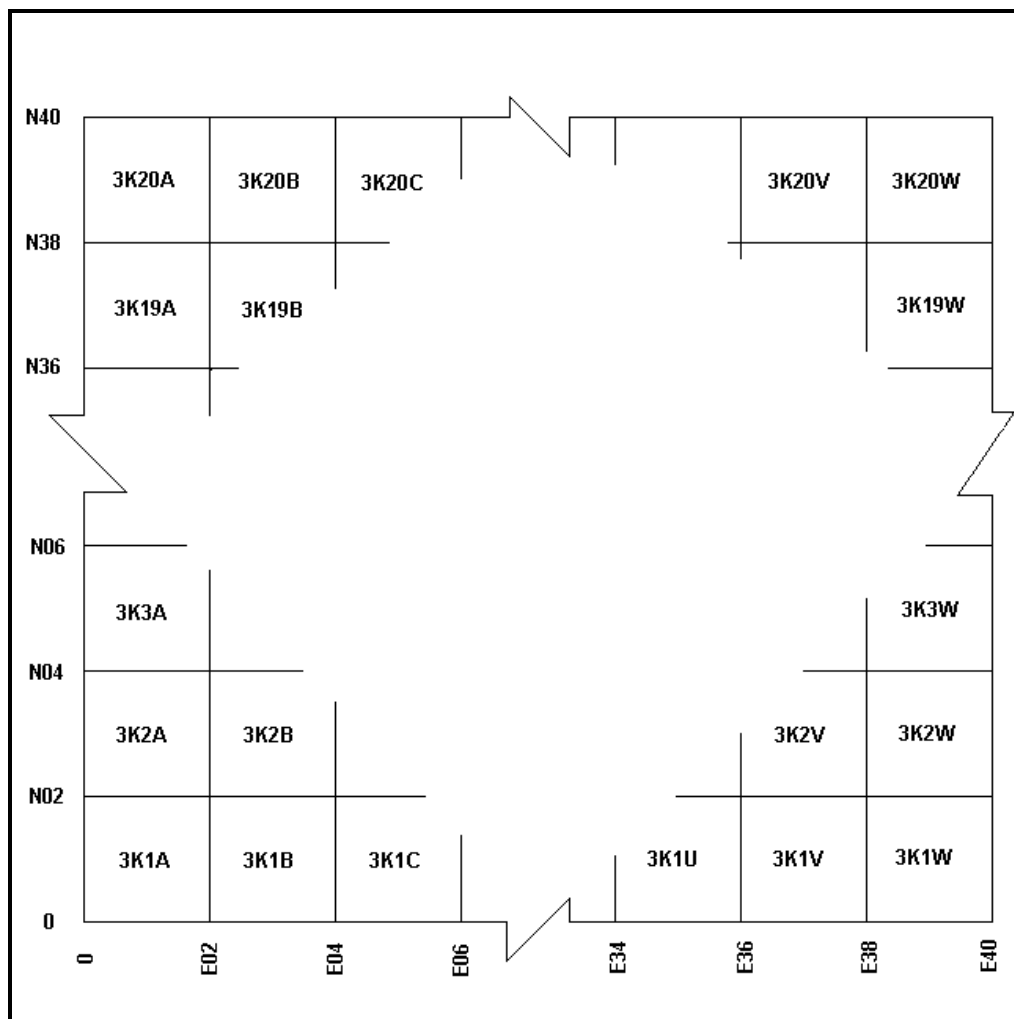


Figure 1. Example of Suboperation Letters applied to a two-metre grid. Redrawn by S. Sauvage, from Parks Canada (1978). Note that large portions of the diagram have been omitted for the purpose of illustration.

This procedure must not be confused, as it often is, with the application of a Cartesian coordinate system that is used to locate units of excavation.

It is best to establish excavation units in a pattern related to the structural or cultural pattern of the site or, failing adequate information to permit that approach, to lay out test excavations in a progression derived from the evidence they reveal. In these cases the grid system of coordinates is a means for mapping the excavations, not for defining the excavation pattern.

There are cases where it is useful to define the pattern of excavations by a grid. Systematic random sampling of an area by excavation of one-unit square in a hundred, for example, is one such case. Exhaustive or “large area” excavation of the area of interest in which the entire area is first de-turfed and then carried down to overall stratigraphic units, is another. Such approaches to excavating have been rare at historic sites archaeology (in Parks Canada), and their application, while methodologically correct at a specific site, may have significant disadvantages for the subsequent user of the information unless the recording procedures are carefully worked out prior to excavation.

4.7.1 Shipwrecks

For shipwreck excavations, an arbitrary grid system of 2x2 m units is normally employed. First, a grid line is established longitudinally down the centreline of the vessel, or as close as possible, based on surface indications. This becomes the dividing line between Suboperations M and N. Two metre wide Operations are established at right angles to the datum line and extending across the hull of the ship usually starting from the stern. Two metre units are chosen most often as this makes it possible to use even Operation numbers (e.g., 2,4,6,8, etc.), Suboperation Letters A to M would cover the port side, while N to Y would extend out to the starboard side. In most cases, as most shipwreck sites tend to be relatively small, all of the Suboperation Letters need not be used. Each provenience down to the Suboperation level designates a particular 2X2 m grid unit. Lot Numbers may be used in the conventional manner to identify and locate strata, archaeological objects, features, etc. Though arbitrary, this system allows archaeologists to look at a Provenience Number and fairly accurately determine to which area of the vessel it refers.

4.8 BALKS

Balks are unexcavated “walls” which may be left between excavation units to provide stratigraphic control. Scale drawings of the faces or profiles of balks are records of the stratification. After these drawings have been made, and the recording completed, the balks, in turn, are normally excavated. Following are some excavation approaches used by Parks Canada archaeologists.

Stratigraphic Control without Balks

The easiest solution to the problem is not to use balks to maintain stratigraphic control. Instead excavate alternate Suboperations using the intervening unexcavated Suboperations as if they were balks. This approach, commonly called the “checkerboard pattern”, requires the ability to lay out Suboperations rationally before excavation begins.

Balks as Separate Suboperations

This solution leaves narrow balks between larger excavation units. After the stratification has been recorded from the balks, they are excavated as different Suboperations, normally with one Lot Number assigned to each layer. This approach will increase the number of Suboperations, which need to be recorded and defined (Fig. 2).

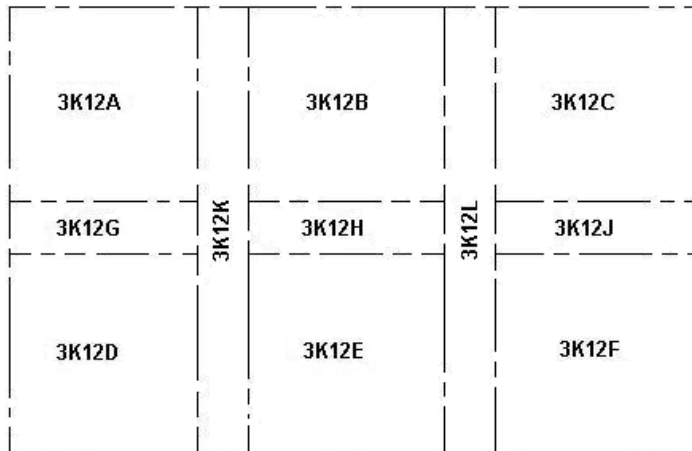


Figure 2. Example of balks as separate Suboperations. Redrawn by S. Sauvage, from Parks Canada (1978).

Excavating the Suboperation Twice

This solution requires that only part of a Suboperation be excavated initially and that the remainder of the Suboperation be excavated after recording the stratification. As an example, imagine a Suboperation that measures 1.25 m by 1.25 m. Along the north and west sides of the Suboperation are balks 0.25 m wide that will be excavated after the stratigraphy has been recorded (Fig. 3).

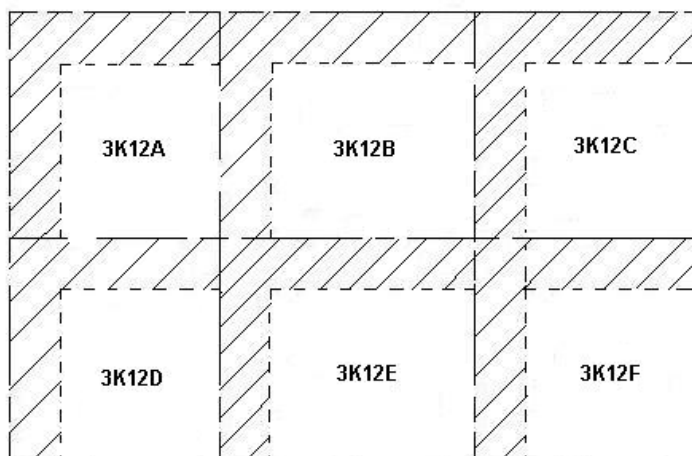


Figure 3. Example of balks by excavating Suboperations twice. Redrawn by S. Sauvage, from Parks Canada (1978).

When excavating the balk, new Lot Numbers must be used. This avoids confusion for field laboratory staff and removes the burden of consolidating archaeological object assemblages and

field records after the field project. The Lots or events can later be correlated using a database.

4.9 ADDITIONAL DEFINITIONS

4.9.1 Isolated Archaeological Find

Isolated Archaeological Finds, often called “isolated finds”, or “findspots”, are commonly encountered during archaeological surveys. The intent of this section is to provide parameters for the identification, recording and reporting of such finds. Consistency in recording will enable more accurate reporting of quantities of archaeological sites and/or isolated archaeological finds under Parks Canada’s administration.

4.9.1.1 Isolated Archaeological Find: Definition

A single archaeological object that is, or was, located *in situ* on, below or above the ground, or lands under water, such as a single projectile point, or fragments from a single ceramic vessel. Other criteria may be applied to the definition at the discretion of the archaeologist, provided a rationale is included.

Rules

1. All Isolated Archaeological Finds must be *recorded*, and must be assigned a Provenience Number.
2. Isolated Archaeological Finds may be *reported* as an archaeological site at the discretion of the Principal Investigator.
3. A reference must be made in the Field Notebook describing the rationale for assignment as either an Archaeological Site or an Isolated Archaeological Find.
4. In an Archaeological Database, an Isolated Archaeological Find must be identified as such in a unique field. There is a corresponding field in the Parks Canada Archaeological Site Inventory Form and Form Guide for “Isolated Find” (see Appendix A), to allow for extraction of that data element from a given database.

4.10 ARCHAEOLOGICAL RESOURCE

Archaeological resource is a generic term that is often used to describe components of an archaeological site to which a Provenience Number is normally ascribed, such as archaeological objects, features, or structures. The term “archaeological resource” is synonymous with “archaeological material”, or “archaeological item.”

4.10.1 Archaeological Resource: Definition

Any tangible evidence of past human activity of historical, cultural or scientific interest, such as a feature, structure or archaeological object, located at, or recovered from, an archaeological site or recorded as an isolated archaeological find.

4.11 EXAMPLES OF PROVENIENCE APPLICATION

Following are examples of common applications of the provenience system, including Site Number, Operation, Suboperation, and Lot.

4.11.1 Site Number: Examples of Application

Case A: Typical Examples of Site Numbers

A Site Number may be assigned to a National Historic Site of Canada.

Examples

- 5A Cape Spear NHSC, St. John's, Newfoundland
- 8B Grand Pré NHSC, Grand Pré, Nova Scotia
- 20H St. Louis Mission NHSC, Victoria Harbour, Ontario

A Site Number may also be assigned to an element or an area of a National Historic Site, or to an element of a National Park.

Examples

- 24G Fort No. 1, Lévis Fort NHSC, Québec
- 1035G Gîte Wabenaki, La Mauricie NPC, Québec

Case B: Archaeological Excavations

There are numerous cases where the historical or cultural identity of the area of archaeological activity is well-defined. These can include forts, for example, 1E Fort Gaspereau, 2H Fort Wellington, 3T Fort Langley; villages, for example 1F Roma Settlement, 7B Beaubassin; single structures, for example, 1G La Vielle maison des Jésuites, 4E La Coup Drydock, 17H Colonel John By's House; and the locations of battles, such as 25H Battle of the Windmill.

Evidence for structures or activity areas often cannot be identified until after a certain amount of excavation has been undertaken. An example of this is the Richardson Island Site (1127T) in Gwaii Hanaas National Park Reserve/Haida Heritage Site, BC. In 1994, the raised beach component of the site was identified on the basis of a few lithic flakes eroding out of a 2 m high gravel bank. Deeply stratified archaeological deposits dating from 9,300 to 8,300 BP were retrieved in subsequent 1 square metre subsurface tests in 1995 and 1997. However, it wasn't until a joint University of Victoria – Parks Canada project opened up a larger area in 2001 and 2002 that a number of activity areas were identified (including hearths, chipping stations, structural remains). These were buried under 3 to 4m of regosolic gravels.

Another example is Red Bay NHSC (24M), Labrador, where two to three weeks of underwater test excavations were required to reveal enough structural evidence and archaeological objects to positively identify the remains of a 16th century Basque whaling vessel.

Case C: Exceptional Examples

At the Fortress of Louisbourg, because of the size of the archaeological project, the "site" is divided into a large number of manageable areas in which the individual Site Numbers, 1L, 2L, 3L, etc. correspond to 18th century French town blocks: Block 1, Block 2, etc. At the site of Restigouche,

Site Numbers are applied to individual remains of the engagement: 1M Bienfaisant, 2M Machault, etc.

At Fort Walsh, Site Number 7N is applied to the N.W.M.P post itself, and the closely associated but culturally and socially distinct 6N Farewell's and Solomon's Posts and 8N Fort Walsh Townsite have separate numbers.

Case D: Archaeological Surveys

In British Columbia national parks, all archaeological sites are assigned individual Site Numbers. In Gwaii Haanas NPRC/HHS, for example, over 600 sites have been recorded. These range from large village sites to shell middens and small lithic scatters.

Examples

766T Arrow Creek, an 8,000 year old lithic site
1007T a 300 year old fish trap (unnamed)

4.11.2 Operation: Examples of Application

Case A: Typical Examples of Operation Numbers

24G1 is the first Operation of site 24G, Lévis Forts, NHSC, Fort No. 1, Québec
1H13 is the thirteenth Operation of site 1H, Fort St. Joseph NHSC, Joseph's Island, Ontario
21N97 is the ninety-seventh Operation of site 21N, Batoche NHSC, Saskatchewan

Case B: Defining Culturally Meaningful Units

Experience with this provenience system has led to the development of a fairly standard methodology for excavation layout by Parks Canada archaeologists: where possible, culturally significant areas within a site are labelled as individual Operations.

As an example, imagine a hypothetical site consisting of two separate buildings and three distinct areas (Fig. 4). The main building, a house, consists of four rooms and a shed attached. The other building is a shed with internal divisions. Between the two buildings is a shed with internal divisions. Between the two buildings is a yard. Behind the house is a garden and in front of the house is a road. Each room of the house, plus its shed, receives a different Operation Number; the shed is the sixth Operation, and the yard, garden and road are called Operations seven, eight and nine respectively. Distinct but unidentified areas (e.g., beside the house behind the shed) or buildings each receive new Operation Numbers.

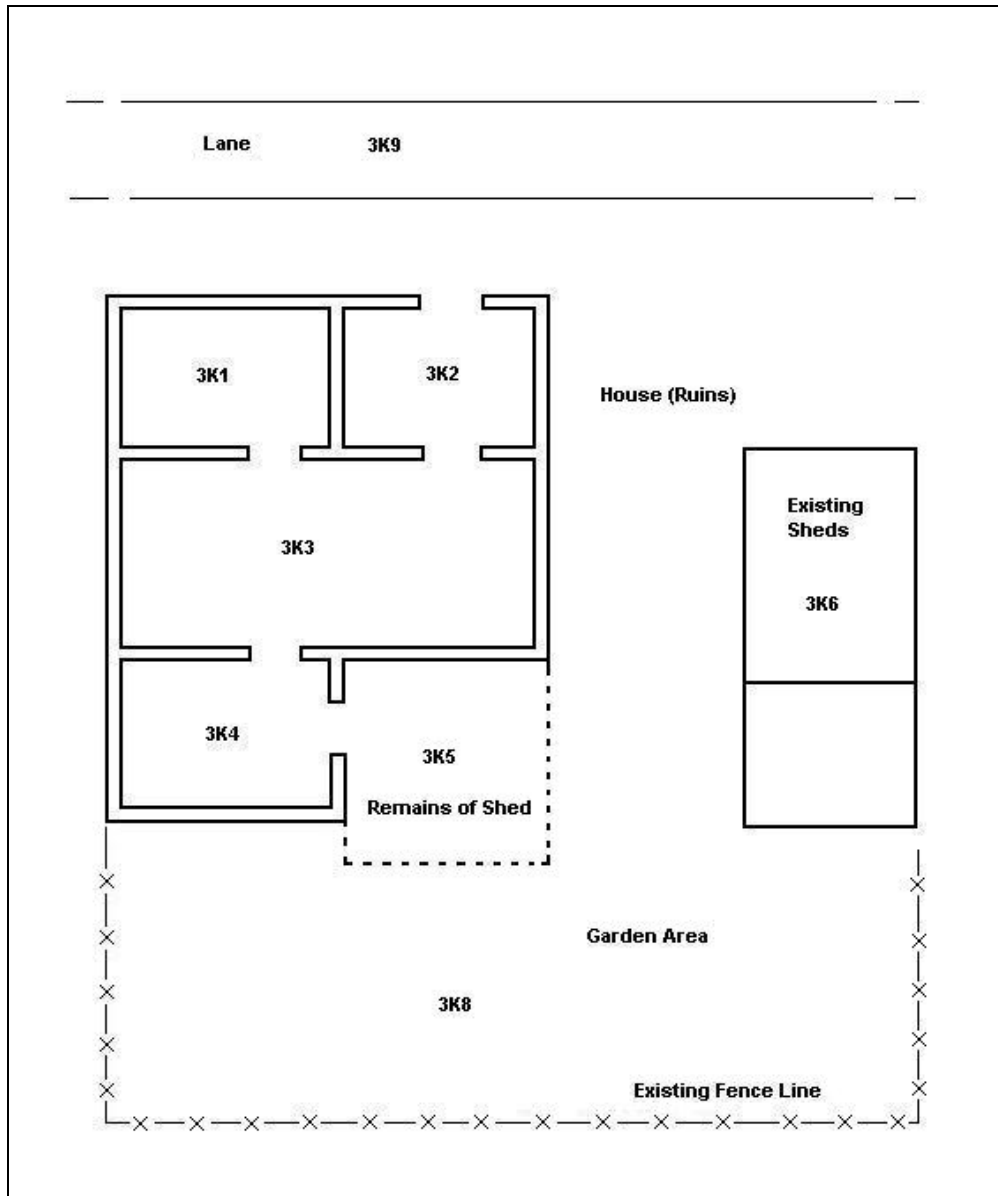


Figure 4. Example of Operation Number application to structures and activity areas. Redrawn by S. Savaugue, from Parks Canada (1978).

This approach is easiest to use when the historic documentation for a site can inform the archaeologist of the layout of the structures being investigated or if there is sufficient evidence of structures on the site to suggest a meaningful layout of Operations before excavation begins. In fact, more often than not, either or both situations are true of the sites excavated by Parks Canada.

However, the approach can be used in the absence of clear evidence for structural layout before excavation, when extensive test trenching may be necessary, if the archaeologist is prepared to assign new Operation Numbers or re-define previously assigned Operation Numbers as evidence of

structures or distinct activity areas emerges from the excavation.

Case C: Guidelines for Using and Ascribing Operations

The key to successfully using the Parks Canada system lies in the proper application of the Operation Number. If the Operation Number is applied to culturally significant units on a site, such as structures or activity areas, then it will provide an easy method of indexing source records from the site and communicating excavation strategy to others. If Operations are consistently applied in an arbitrary and artificial manner without regard for structures, features, or activity areas, they become a meaningless extra step in the provenience system, a unit which must be dealt with, but which adds nothing to one's comprehension of the excavation.

For example, it is much easier to compare the archaeological objects from inside a structure with those from outside if one can search for all archaeological objects from Operation one to compare with archaeological objects from Operation two. The same convenience and efficiency can be realised when searching the file of images, drawings, notebook pages or any other source file. To search for similar information from a site which has been excavated using meaningless arbitrary Operations involves a careful examination of the site plan of excavation units to determine what Provenience Numbers refer to the areas in question, followed by a search through the entire file of source materials, archaeological objects or records to locate those sources which refer to the required proveniences.

This application of Operation Numbers to analytical units of the site is crucial to the efficient and effective subsequent use of the data by archaeologists and by the collections researchers who must work with it. It is essential to keep this factor in mind when planning excavation strategy, and to maintain a flexible attitude to the application and definition of proveniences.

4.11.3 Suboperation: Examples of Application

Case A: Typical Examples of Suboperation Letter

8R1B The second Suboperation (B) of the first Operation of site 8R, Nottingham House, Lake Athabaska, Alberta.

4H9C The third Suboperation (C) of the ninth Operation of site 4H, Fort Malden, Amherstburg, Ontario.

Case B: Suboperations as Analytical Units

It is highly desirable, where feasible, that the Suboperations be treated as analytical units, as this will enormously facilitate subsequent use of the records. For example, a small structure excavated in one Operation could be divided into Suboperations on the basis of its structural or functional divisions (Fig. 5), rather than into arbitrary albeit manageable areas.

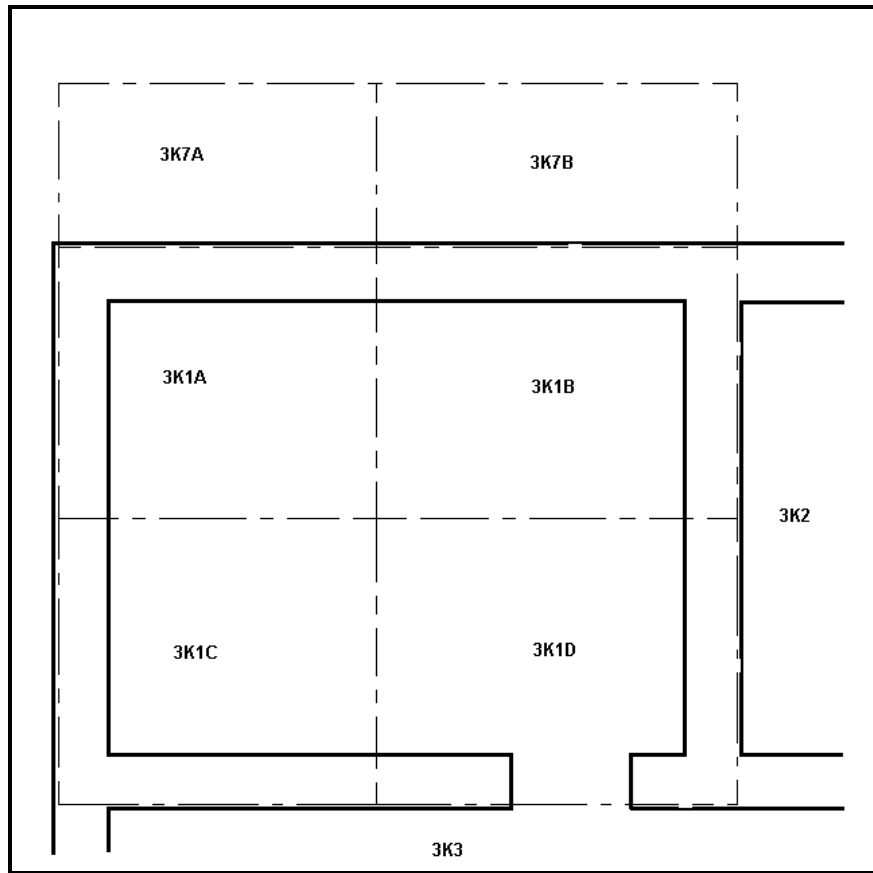


Figure 5. Example of layout of Suboperation excavations, based on Operations shown in Figure 4. This example includes the addition of two Suboperations (3K7A and 3K7B) beyond 3K1. Redrawn by S. Savage, from Parks Canada (1978).

4.11.4 Lot Number: Examples of Application

Case A: Typical Examples of Lot Number

- 1G1A1 The first Lot of the first Suboperation (A) of the first Operation of site 1G, La Vieille maison des Jésuites, Sillery, Québec.
- 3X15N7 The seventh Lot of the thirteenth Suboperation (N) of the fifteenth Operation of site 3X, Quartzite Island, Rankin Inlet, Northwest Territories.
- 1127T12H10 The tenth Lot of the eighth Suboperation (H) of the twelfth Operation of site 1127T, Richardson Island Site, Gwaii Hanaas NPRC/HHS, British Columbia.

Case B: Specific Examples of Lot Number Application

Following are scenarios frequently encountered in the field, and recommended approaches for field recording.

Layer of Deposition

When the archaeologist wishes to label and record a layer of soil in a Suboperation, it may be assigned a separate Lot Number. For stratified sites, the Lot may be used to define a stratigraphic unit (normally a natural or arbitrary layer), or a feature.

In this case, a Lot Number labels a three-dimensional provenience and, by extension, all of the archaeological objects contained in that volume. Normally, a Lot Number is assigned to each soil layer occurring in a Suboperation, whether or not it contains archaeological objects.

This application of Lot Numbers to layers has been the most common usage of Lot Numbers on sites excavated by Parks Canada.

Structural Element

When the archaeologist wishes to excavate, record, or remove an element of a structure, that element may be assigned a Lot Number within the Suboperation.

Archaeological objects found within the volume of an excavated structural element can be part of the Lot or can be assigned additional Lot Numbers either as individual archaeological objects or significant clusters of archaeological objects, as required.

Arbitrary Level

When the archaeologist wishes to excavate in arbitrarily defined levels, each level may be assigned a unique Lot Number.

For example, in excavating a well where there are no discernible layers in the contents, arbitrary levels are used to maintain vertical control. Each arbitrary level may be assigned a Lot Number whether or not it contains archaeological objects.

Stratification Interface

When the archaeologist wishes to record the provenience of a feature that is represented by an interface between strata, that interface may be assigned a Lot Number.

For example, excavation may reveal the cut of a level road through a hill. The line of the cut can be assigned a Lot Number to differentiate it from the material through which the cut was made and the material that subsequently accumulated above the cut line. Such a provenience will be a surface rather than a volume, signifying a specific event.

Archaeological Objects and Samples

A number of approaches have been used for recording archaeological objects and samples for excavations and surveys. These approaches are contingent on the research needs and the discretion of the Principal Investigator.

1. *Archaeological Objects in a Volume of Excavation:* Archaeological objects are commonly assigned the Lot Number of a given volume of excavation in which they were found. All of the archaeological objects contained in that volume (e.g., a natural or arbitrary layer, or a feature) may be assigned the same Lot Number/provenience. As soon as practicable, the archaeological objects are catalogued or inventoried sequentially by provenience.

2. *Individual Archaeological Objects:* When the archaeologist excavates or surveys an archaeological object whose precise location he or she wishes to record, that archaeological object may be assigned a separate Lot Number. It should be noted that though this practice has been used at many sites over the past years, the assignment of Object Catalogue Numbers with associated three-dimensional spatial coordinates recorded in the field is now encouraged, where practical (see Section 4.6).

In some cases, this latter practice may even be preferred. For example, while excavating the remains of a building, each piece of building hardware (locks, latches, hinges, etc.) can be located precisely in terms of coordinates and assigned a unique Lot Number. Separate Lot Numbers may also be assigned, for example, to diagnostic archaeological objects distributed over a large expanse at a pre-contact site. This procedure ensures that the record of the precise location of an archaeological object does not become "lost" from the archaeological object itself.

3. *Significant Clusters of Archaeological Objects:* When the archaeologist excavates or surveys a cluster of archaeological objects whose location he or she wishes to record, that cluster may be assigned a separate Lot Number.

For example, during a building's excavation, the archaeologist may wish to record the precise location of window glass concentrations. As a result, any cluster of window glass may be ascribed a Lot Number and coordinates may be recorded for the cluster.

Similarly, a surveyed site may contain a cluster of lithic debitage whose precise location the archaeologist may wish to record. The archaeologist may assign a Lot Number, associated two- or three-dimensional coordinates, and other criteria (see Section 4.12) to this cluster.

Another recurrent situation is the excavation of a broken object, most of which is recovered from a small area. The fragments may be given a separate Lot Number, whose records will preserve the identity and location of the object.

4. *Sample:* When the archaeologist takes a sample of soil, mortar, charcoal or other material from an excavation, the sample may be assigned a separate Lot Number, with record of location, exactly as in the case of an individual archaeological object.

Backhoe Trench Wall

A Lot Number may be assigned to the strata of a specific portion of a trench wall, such as may be encountered in a backhoe excavation.

Borehole Tests/Core Samples

Each borehole or core sample may be assigned a Suboperation Letter, and each stratum or layer assigned a Lot Number. If the lowest layer from a core is the same as the layer at the top of the following core, it may be assigned the same Lot Number.

4.12 DATA and METADATA STANDARDS for PROVENIENCE

Over the past years, the use of computer applications to process, track and analyse archaeological

data and information has expanded exponentially. The responsibility for archaeological data maintenance has been dispersed across the country, primarily to the Parks Canada Service Centres, but the data must still be formulated within Parks Canada's provenience system and recording standards framework. Essential elements of those standards are to ensure that archaeological proveniences carry required or core information for Parks Canada's archaeological resources, and that the associated data and metadata are available for long term use. In addition, these standards must keep pace with emerging computer applications and technologies, and enable the efficient exchange of electronic data within, and between, databases for national initiatives and jurisdictional changes over time.

To accommodate these requirements, archaeological provenience data and metadata standards are provided here. The following standards are required for all Parks Canada Archaeological Databases to facilitate the output, retrieval and exchange of archaeological data, both internally and externally. While the database *per se* does not need to integrate all the data standards in its internal design and data structure, it must be able to output all information in accordance with the following standards. These standards will be used in any transfer of information, including printed reports, data files to other units and organizations, and possibly web access to the database. It is also recommended, as a best practice, that each Archaeological Database incorporate these standards into its actual design and data structure.

4.12.1 Site Number

Format

1. The Site Number is a combination of two separate fields or entities: a numeric field (numeric characters) followed by an alpha field (upper case alpha character) for the province or territory code (see Table 2). It must be possible to separate a Site Number into two components (fields) for the purpose of data transfer.

Mandatory Associated Data and Metadata

1. All mandatory (and optional) data pertaining to Parks Canada archaeological sites are outlined in the "Parks Canada Archaeological Site Inventory Form" and the associated Form Guide (Appendix A).

4.12.2 Operation

Format

1. Must be displayed as a numeric field.
2. The Operation Number must be unique for the site.

Mandatory Associated Data and Metadata

1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must contain Field Notebook reference or text definition and rationale for the Operation.
3. Must indicate full name or Staff Field Number of archaeologist who assigned the Operation Number.
4. Must indicate Operation name, if applicable.
5. Must indicate Site Number associated with the Operation.
6. If the Operation is a "Survey Site Number", include all of the information required for the Site field.

4.12.3 Suboperation

Format

1. Must be displayed as a separate, alpha (text) field in upper case.
2. Must be unique to the Operation it represents.

Mandatory Associated Data and Metadata

1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must indicate associated Site and Operation Numbers.
3. Must contain Field Notebook reference or text definition and rationale for the Suboperation.
4. Must indicate full name or Staff Field Number of archaeologist who assigned the Suboperation.
5. Must indicate the dimensions of the Suboperation.

4.12.4 Lot

Format

1. Must be displayed as a separate field in numeric format.
2. Must be unique to the Suboperation it represents.
3. Must not be subdivided into smaller units.

Mandatory Associated Data and Metadata

1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must indicate CRM level.
3. Must contain Field Notebook reference or text definition and rationale of the Lot.
4. Must contain identification of the Lot (i.e., spatial volume, sample, archaeological object, structural member, etc.).
5. Must indicate archaeologist (Field Staff Number or full name) who assigned the Lot Number.
6. Must indicate its associated Site, Operation, and Suboperation Letters.
7. Must provide the two- or three-dimensional spatial coordinates of the Lot including:
 - The datum used for that Lot (if measured distances are used);
 - The North American Datum if a GPS is used (NAD 83 or NAD 27. NAD 83 is recommended);
 - The method of spatial data acquisition (e.g., transit, GPS, tape) and an assessment of its accuracy;
 - Direction of measurement (from north east corner) for measured distances;
 - Unit(s) of measurement (metric units are recommended).

4.12.5 Object Catalogue Number

These standards apply only to an archaeological object that is assigned both a catalogue number *and* coordinate data in a field situation.

Format

1. Must be displayed as a separate field in numeric format.
2. Must be unique to the Lot in which it is contained.
3. Must not be subdivided into smaller units.

Mandatory Associated Data and Metadata

1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must contain Field Notebook reference or text definition and rationale for assigning a catalogue number to the archaeological object.
3. Must indicate the name of the archaeological object (format: object name, descriptor; a controlled vocabulary is recommended), material type and description, and condition assessment according to latest Collections Management standards, or based on archaeological object name authority list for a given Service Centre.
4. Must indicate the archaeologist (Staff Field Number or full name) who assigned the Object Catalogue Number(s).
5. Must indicate its associated Lot Number.
6. Must provide the spatial coordinates of the catalogued object in two- or three-dimensions, including:
 - The datum used for that Lot in which the object is contained (if measured distances are used); in addition, where possible:
 - The North American Datum (NAD 83 or NAD 27. NAD 83 is recommended);
 - The method of spatial data acquisition (transit, GPS, tape measure) and an assessment of its accuracy;
 - Direction of measurement (from northeast corner) for measured distances;
 - Unit(s) of measurement (metric units are recommended).

4.12.6 Notes

1. The mandatory associated data fields are established as the minimum set required so that the information can be evaluated and used by whoever works with the output. Other associated fields may be added to suit the purpose of the data set.
2. Additional metadata fields may later need to be incorporated to meet the National Metadata Standard adopted by Parks Canada (see Parks Canada 2001) for the recording of cultural heritage information.
3. If information is missing from the database for a mandatory data field, the header should still be included with an explanatory note, indicating that the information is not in the database and how the user can obtain it.
4. It is not necessary to repeat identical information with each record as long as the information is there and its associations are clear. For example, in a report of all Lots for 1K, Lower Fort Garry NHSC, the mandatory site information needs to appear once and the Operation information needs to appear once for each Operation. Likewise, if all the Lots have spatial coordinate data that were gathered using the same datum and measuring system, then that system needs only to be described once.
5. Mandatory associated data may appear as fields within the product or as notes to the product (it can be attached as “properties” to a word processing document, for example) but it must be integrally linked to the information.

5.0 ORGANIZING FIELD PROJECTS

This section offers some basic principles, guidelines, requirements, and recommended references for organizing archaeological field projects. Different working environments and available resources will dictate various approaches. There is, however, a set of functions that should be taken into consideration to improve the success of any archaeological field project. These are outlined below.

5.1 BASIC GUIDELINES, REQUIREMENTS, and PRINCIPLES for CONDUCTING FIELD PROJECTS

5.1.1 Archaeological Research Permits

Ensure that all required archaeological research permits have been approved and signed; and take signed copies with you in the field. The requirements are outlined in *Management Bulletin 2.3.2. Archaeological Research Permitting* (Parks Canada 2005a). If applicable, ensure that provincial or territorial archaeological research permits are acquired and approved in addition to the Parks Canada permit (e.g., in a non-gazetted National Park of Canada).

5.1.2 Occupational Health and Safety Requirements

Parks Canada and its employees are subject to the *Canada Labour Code - Part II, Occupational Health and Safety*. In addition, they must also comply with the Parks Canada Occupational Health and Safety Policy (see: <http://intranet/content/has-sst/documents-eng/poli.asp> on the Parks Canada Intranet.) The policy states: “each employee is responsible for applying this policy in their work activities and to all persons granted access to our workplaces.” ‘Persons’ include contractors, students, volunteers, the general public and others.” For detailed information and guidance on the legal obligations consult the Canada Labour Code website, or the Parks Canada Intranet. The latter provides comprehensive information and tools for employers and employees.

5.1.3 Key Parks Canada Documents

Key references to Parks Canada policies, guidelines, directives, legislation, and regulations, which provide context for the conduct of archaeological investigations in Parks Canada, are found in Sections 12.8, 12.9, and 12.10 of this manual. All crewmembers should be familiar with the documents pertinent to their field project.

For general guidance, consult the *Parks Canada Guidelines for the Management of Archaeological Resources* (Parks Canada 2005b), which outlines the manner in which all of these documents apply to given situations. Also consult the *Parks Canada Guiding Principles and Operational Policies* (1994), which contains Parks Canada’s CRM Policy, as noted earlier.

When planning interventions at a NHSC or a FHBRO building, refer to the recently released *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada 2003d). The Standards and Guidelines were designed in the spirit of the Parks Canada CRM Policy, and will soon offer a more elaborate section pertaining to archaeology.

5.1.4 Human Remains, Cemeteries, and Burial Grounds

Cemeteries, burial grounds, human remains, funerary objects, and grave markers found on federal Crown lands, lands under water, and in waters under the administration and control of Parks Canada are managed in accordance with *Management Directive 2.3.1: Human Remains, Cemeteries and Burial Grounds* (Parks Canada 2000). The directive applies to all human remains, and their associated sites and material culture, Aboriginal and non-Aboriginal alike. A brief summary of the contents of MD 2.3.1 is provided in Appendix G.

5.1.5 Functional Coordination

As required, consult with the Collections Manager, Archaeological Database Administrator, and Conservator at the appropriate Parks Canada Service Centre to coordinate requirements for data recording, field conservation, and processing, packing and shipping of archaeological items. For example, the Principal Investigator should contact the appropriate Parks Canada staff to determine which proveniences have already been assigned, as well as the next available proveniences.

5.1.6 Final Agreements and Consultation with Aboriginal Groups

A number of final comprehensive land claim agreements have been signed. These agreements are legally binding documents that outline treaty rights that are constitutionally protected. Some agreements include provisions relating to culture, heritage and archaeology. As these agreements bind the federal Crown, Parks Canada must adhere to sections and clauses in the agreements pertaining to archaeology and archaeological resources on federal Crown lands and lands under water under its administration and control.

Also, as stated in Parks Canada (2005b), it is good practice - and may be a legal requirement - to inform all interested parties, including affected Aboriginal groups, when an archaeological activity may impact upon their cultural heritage.

Key elements pertaining to final agreements and consultation are outlined in *Parks Canada Guidelines for the Management of Archaeological Resources* (Parks Canada 2005b) and *Management Bulletin 2.3.2. Archaeological Research Permitting* (Parks Canada 2005a).

5.2 BASIC PRINCIPLES FOR PLANNING FIELD CAMPS

- If feasible, a sheltered area on, or near, the site should be reserved for use as a “field office” and/or lab, where all completed records (notebooks, forms, maps, etc.) are stored and filed, and where archaeological objects can be cleaned and processed and prepared for shipment, if required.
- Effort should be made to ensure that each assistant has some separate space in the field office or field camp for completing his or her field recording duties and maintenance of equipment, and that each person has some free time during the day to work on these records and equipment.
- The Principal Investigator should delegate responsibilities among field assistants so that there is no confusion as to what each person is expected to do. For example, it may be feasible or desirable to make one assistant responsible for all photography and another for all mapping and instrument surveying.

- Where possible, the Principal Investigator should designate an individual in each field crew whose main duties are those of the Field Records Clerk. This person reports directly to the Principal Investigator and coordinates the recording activities of the field assistants, and must be thoroughly familiar with the procedures laid out by the Principal Investigator. The clerk is responsible for the security, integrity, accuracy, and completeness of files and records.

5.3 BASIC PRINCIPLES for ORGANIZING FIELD RECORDS

The following, in brief, are essential principles in the organization of records for archaeological excavations and surveys:

- Know the requirements of the recording system, and anticipate difficulties in meeting the requirements in order to marshal the necessary strategies to overcome them;
- Plan the recording procedures before the excavation or survey begins;
- Make explicit the procedures and the flow of records, files, archaeological objects, and the duties of each individual assistant in a given field project;
- Provide adequate time and facilities for record keeping, meeting the necessary standards of correctness and completeness;
- Wherever feasible, the clerical tasks of record keeping should be assigned to a specific person (such as a Field Records Clerk, described in Section 5.2 above), not distributed among the assistants;
- Records with multiple copies (paper or digital) that need to go to different individuals, stored securely, or be sent back to the Parks Canada Service Centre should be clearly marked as each copy is completed;
- For larger projects, plan the layout of the records area in such a way that the flow of records is simple and obvious to each person working there;
- Clearly mark where things are to go during processing and where they are to be stored when completed as it is important that all the records should be readily accessible to all individuals responsible for recording;
- Be aware of, and prepared to deal with, errors in recording.

5.4 RECOMMENDED REFERENCES FOR FIELD PROJECTS

The following references provide detailed directions for conducting excavations and surveys, most with an emphasis on Canadian archaeology. These are recommended for all archaeological excavation or survey projects conducted by Parks Canada archaeologists. If used, their application must be adapted to conform to the recording requirements outlined in the present Manual, and take into account recent developments in technology. To provide broader context, Section 11.0 Recommended Reading lists a number of other current standard references that are used internationally. For information regarding current Collections Management standards and procedures, please contact the Collections Manager for the appropriate Parks Canada Service Centre. Also, for information regarding underwater archaeology at Parks Canada, contact Underwater Archaeological Services at the Ontario Service Centre, and see the Bibliography.

5.4.1 Basic Archaeological Field Procedures

- Fladmark, Knut R. (1978) *A Guide to Basic Archaeological Field Procedures*. Publication No. 4, Department of Archaeology, Simon Fraser University, Burnaby, British Columbia.

Fladmark's guide provides detailed information on basic excavation and survey procedures, as well as suggestions for proper care and handling of field equipment, a glossary containing common technical terms, and numerous other helpful aids for the conduct of field projects. Though it was intended as a basic guide to archaeological fieldwork (and parts of the guide are outdated) it arguably remains the most comprehensive and practical field manual used by Canadian archaeologists. As a result, it is recommended as the default field manual reference for Parks Canada archaeologists, where a more current manual is unavailable.

5.4.2 Archaeological Surveys/Inventories

- *British Columbia Archaeological Inventory Guidelines* (2000) Version 1, Ministry of Small Business, Tourism and Culture, Archaeology Branch, British Columbia.

This document is currently available on the Government of British Columbia website, under the Archaeology section. Though specific to British Columbia, it is an excellent guide to the conduct of archaeological surveys or inventories, with general application to Canadian archaeology. It addresses the need to rigorously define research or resource management goals and objectives, and to outline the past and present physical and cultural landscape of the study areas. In addition, it includes recommendations for using a combination of judgmental surveying and statistically valid sampling techniques, basic mapping standards, and a suggested reporting format for archaeological inventories, which can all be adapted for Parks Canada use.

5.4.3 Field Conservation

- Parks Canada (1985) *Management Directive 2.1.22: Collection Management System: Conservation Services*. Appendices modified in 1991. Parks Canada, Ottawa.

Parks Canada archaeological conservators recommend Management Directive 2.1.22 for direction on general conservation of archaeological items in the field, supplemented by any pertinent manual as situations warrant. The references below represent two such manuals.

- Bergeron, André et France Rémillard (2000) *L'Archéologue et la conservation*. Vademecum québécois. 2e édition. Centre de conservation du Québec, Québec.

This is the standard archaeological field conservation manual for Québec archaeologists. It describes and illustrates practical procedures for conserving archaeological items in field situations. An English version is currently unavailable.

- Sease, Catherine (1994) *A Conservation Manual for the Field Archaeologist*. Third edition. UCLA Institute of Archaeology, Archaeological Research Tools, Vol. 4. Los Angeles, CA.

This has been a standard reference for many years, and still holds much relevance to practical field situations, though it is an American publication.

6.0 FIELD NOTES AND FORMS

The Field Notebook is normally the primary record of an excavation or survey and is often used in conjunction with a variety of forms and other media, such as remote sensing data, drawings and images. The Field Notebook comprises all the details and interpretations pertaining to an archaeological investigation, and provides a summary and reference of the key records generated in an archaeological investigation as a whole (forms, data files, drawings, images, notebook entries made by assistants, etc.)

Field notes must be recorded in a Field Notebook, and may be supplemented with forms, data and other media as required, examples of which are described in this section and elsewhere in the Manual. All notebook formats are acceptable (paper or electronic), though a paper copy, on neutral pH (“acid-free”) paper, *must* be generated on completion, according to jurisdictional Collections Management standards.

6.1 PRINCIPLES

1. Entries in the Field Notebook and/or Forms are made every working day.
2. If other types of recording are used (e.g., forms) in addition to the Field Notebook, the latter will normally be the principal source of information.
3. It will be possible, as needed, to reconstruct all other records of the excavation or survey (e.g., forms, digital data files) from the Field Notebook entries.

6.2 BEST PRACTICES

- All paper notebooks containing original field data should be of the highest archival quality neutral pH paper, or at a minimum, copied onto neutral pH paper. For original handwriting, printing or copying, stable inks or pencil are highly recommended. For paper format, standard 8.5 x 11 inch (or metric equivalent size) grid paper is recommended.
- As soon as practicable, original field notes (paper or digital) should be sent to the appropriate repository, normally the Parks Canada Service Centre that has jurisdiction over the project area. Copies must be sent to the appropriate provincial or territorial site administration office (e.g., Prince of Wales Northern Heritage Centre) if stipulated as a condition under archaeological permit (e.g., for non-gazetted National Parks of Canada).
- All hand-written field notes and freehand drawings must be legible and fully comprehensible to others.
- Besides legible handwriting, the most useful practice in using the Field Notebook is to include and isolate relevant headings and subheadings. A readable, well-organized Field Notebook will make all subsequent recording more efficient.
- A table of contents should be included at the front of the Field Notebook (see Fig. 6). Ideally, an index should also be included for larger excavations or surveys.
- Where possible, manual transcription of field notes and other data should be avoided. Rather, direct data transfer is recommended to ensure integrity of the data and eliminate transcription error.
- All critical digital files should be backed up and stored in a secure location as soon as

practicable.

- An extra copy of completed records, especially digital field data files, should be stored off site where possible.
- A cross-reference should be made of all records generated during an archaeological investigation, particularly when numerous digital data files and forms are used.
- A Staff Field Number (Sect. 6.3) should be assigned to every project worker and a master list of code numbers and descriptions administered by an individual in each Service Centre designated by the CRM Manager.

6.3 STAFF FIELD NUMBER

Each person making records in the field or field lab should be assigned an identifying number from a Parks Canada Service Centre master list (e.g., 137Q = Jane Doe). This Staff Field Number is a unique reference that readily identifies the staff person, year and regional area where that person worked, and can be attached to any field record in addition to field notes. Using the Staff Field Number reduces the amount of required writing compared with a name written in full, and facilitates records management. It is also a key element in the catalogue number systems for drawings and other media.

6.3.1 Staff Field Number: Components

The Staff Field Number normally contains three parts. The first part is the year (four characters, yyyy) followed by a hyphen; the second part is a number from 1 to infinity; and finally the Worker Area Code letter (Table 6), which is combined with the Staff Field Number of the individual as assigned. As situations warrant, the year prefix may be omitted.

For example, the person from the Quebec Service Centre staff that was assigned number 137 in 2004 would use 2004-137Q as the identifying Staff Field Number on her notes and records. The master list at the Quebec Service Centre would indicate that 137Q is Jane Doe.

Note that, in previous years, the Staff Field Number was normally discarded and reassigned after each field season, and had to be a number between 1 and 99 (a master list was maintained for each field season). This is no longer mandatory. Rather, it is recommended to assign a permanent Staff Field Number to an individual (e.g., 137Q), and maintain a permanent record at a given Service Centre. The year prefix can be added to this number as required and as described below.

Parks Canada Service Centres have developed several Staff Field Number systems that vary somewhat from the system described in Parks Canada (1978). Though Service Centres may continue to use their respective systems, the following, based on the Parks Canada 1978 model, is recommended as a best practice.

6.3.1.1 Worker Area Code Letter

Worker Area Code letters are used to identify individuals from a master list maintained by the Service Centre that administers the archaeological projects for a given province or territory, as shown in Table 6.

Table 6. Worker Area Code letters, with corresponding areas of the country.

Code	Regional Area of Canada	Province or Territory
W	Western	Includes AB, BC
P	Prairies and Northern	Includes MB, SK, NT, NU, YK
H	Ontario	
Q	Quebec	
A	Atlantic	Includes NS, NB, PE, NL

As some lists may change from year to year, the four digits of the year (yyyy) are sometimes prefixed to the Worker Area Code letter/Staff Field Number when it is used.

Examples

35H

7P

2003-137Q

2004-137Q

6.3.2 Assignment

Staff Field Numbers are assigned by the person(s) charged with their administration at a given Parks Canada Service Centre, prior to the commencement of the field project. Before the project begins, ensure that all persons making records at the site know their assigned numbers.

Temporary field assistants (e.g., volunteers), who are not on staff or contract, may use the Staff Field Number of the Principal Investigator, or their full name, at the Principal Investigator's discretion. In either situation, reference must be made in the Field Notebook describing the assignment of names and/or Staff Field Numbers.

6.4 FIELD NOTEBOOK

There is no specific format for Field Notebook entries; formats for these notes are entirely at the discretion of the Principal Investigator. However, the following guidelines and procedures are recommended as a best practice.

6.4.1 Field Notebook: Guidelines

- The Field Notebook begins by laying out the organizational elements of the project by outlining and making explicit the duties of each individual participant and recording their full names and/or Staff Field Numbers; identifying the person responsible for records maintenance (if applicable); listing the forms and types of records being used on the project; and identifying whether duplicate records are being kept and how they are being handled (e.g., quantity of copies, disposition, etc.).
- The Field Notebook function provides a day-to-day record of the progress of an archaeological investigation. Each day's notes should begin with the names or Staff Field Numbers of the daily team and the proveniences or areas in which they are working. Every time a new Provenience Number is assigned, it should be recorded, and when

crewmembers are moved from one job to another, it should be noted.

- They must make explicit the procedures and the flow of records and archaeological objects in the field office or camp, and should be completed by the Principal Investigator or delegate. All written and digital file data for the project should be referenced in the Field Notebook.
- The excavation or survey strategy employed by the archaeologist must be included, as should notes describing the progress of work. Changing interpretive hypotheses and their rationale should be recorded.
- The Field Notebook should be used to record any externally generated record that serves as an integral part of the archaeological record (e.g., digital plan and GIS files, digital or analog video, multibeam bathymetry data).
- The Field Notebook is the source for all checking and error-correcting processes, though everything referenced in this notebook need not be directly recorded there (e.g., Ground Penetrating Radar files, GPS data files, finished drawings can all be resident outside the Field Notebook).
- The Field Notebook may also serve as a daily journal for the person who is maintaining it. For example, the Principal Investigator or delegate may combine all notes and references for the Field Notebook with daily journal entries.
- A “master list” of all records, data files, Staff Field Numbers, etc. made during a given archaeological project should be incorporated into the Field Notebook. A single, designated individual should enter the data pertaining to the assemblage of records on the master list, which can be incorporated as a separate section of the Field Notebook. Normally the Principal Investigator will perform this function, but the latter may delegate another individual based on project requirements.

6.4.2 Page

At the top of every page in the Field Notebook are entered the page number and the date on which the entries on that page are made.

The page number is normally entered on the top right corner of the page, and comprises the Staff Field Number, including the year prefix, a hyphen, and the page number in sequence.

Example

The thirty-third page of notes written by Staff Field Staff number 137Q (Jane Doe) from the Quebec Service Centre, Quebec in 2004 is “2004-137Q-33.”

6.4.3 Date

The complete date is entered numerically in the upper left-hand corner of each page, in the following format yyyy-mm-dd. The number should be complete (no abbreviations). This facilitates identifying at a glance each notebook page.

Example

The thirty-first day of May, 2004 is written 2004-05-31.

6.4.4 Cross Reference to Other Staff Field Notebooks

Each day, the active page number(s) of each crewmember's Field Notebook will be referenced in the Principal Investigator's (or delegate's) Field Notebook.

6.4.5 Provenience

Whenever a new Site Number is assigned, information must be entered in the Field Notebook or on a form referenced to the notebook that complies with jurisdictional standards for site recording. Whenever a new Operation Number is assigned, an entry is made in the Field Notebook to define it and provide the rationale for its assignment (see Section 4.0). When a new Suboperation or Lot is opened, an entry to that effect is made in the Field Notebook that includes a reference to any forms, cards, or other medium being created. All provenience records must be associated with the minimum data standards established in Section 4.12 of this Manual. Any notes on provenience must be comprehensive, regardless of medium (paper, digital, etc.)

6.4.6 Images

Whenever a still image (print, slide, or digital image) is taken, either a complete entry is made on the Image Catalogue Form and/or in the Field Notebook. Data standards and requirements for image recording, as well as image cataloguing procedures are described in Section 7.0.

6.4.7 Drawings, Maps and Other Media

Drawings to illustrate any topic made in the Field Notebook will be found throughout the field notes. Each sketch must include a scale (e.g., 1:15) or the notation that the drawing is not to scale, a north arrow (indicating grid, true, or magnetic north) or some other indication of cardinal direction, and a legend to the symbols used in the drawing.

Whenever a field drawing (map, plan or section) is made outside the Field Notebook, an entry to that effect is made in the Field Notebook. The field drawing must, at a minimum, be labelled with the essential data elements described in Section 8.0.

Data standards and requirements for drawings, maps and other media, as well as drawing and other media cataloguing procedures, are described in Section 8.0. Additional requirements are outlined in the Parks Canada Archaeological Site Inventory Form Guide (Appendix A).

Some electronic tools (remote sensing devices, digital video cameras, etc.) carry their own, internal data recording formats. An entry must be made in the Field Notebook when such instruments are used. Any identification numbers assigned through that device should be identified in the Field Notebook and any digital files generated should be recorded. Metadata for the digital devices should be kept in the Field Notebook or on forms that are referenced in the Field Notebook.

6.4.8 Forms

Whenever a form is used outside the Field Notebook, it should be referenced therein according to the procedures outlined in Section 8.0. Form examples with associated Form Guides are provided in Appendices A to F and include the following:

- Parks Canada Archaeological Site Inventory Form and Form Guide (Appendix A);
- Image Catalogue Form and Form Guide (Appendix B);
- Media Catalogue Form and Form Guide (Appendix C);

- Suboperation Summary Form (Appendix D);
- Lot Summary Form and Form Guide (Appendix E);
- Stratigraphy Summary Form and Form Guide (Appendix F).

6.4.9 Samples

If a sample of soil, charcoal, building material or any other substance is removed, it is recorded in the Field Notebook.

6.4.10 Digital File Naming Conventions

File naming conventions are highly recommended for all digital files generated as a result of a field project, such as digital drawings, or even field notes. Such a procedure will facilitate searching and accessing of digital files, and improve records management and archiving.

Wherever possible, the catalogue numbers for media, drawings, or archaeological objects should be used. The three-letter filename extension will then complete the record and facilitate file retrieval and management (e.g., through filtering).

Example

5H-2004-101H-D1.tiff

The same approach should be applied to electronic folders. Select a meaningful folder label or title that can be easily understood by others. Consult the appropriate Parks Canada Service Centre to determine whether local file and folder naming conventions have been adopted.

6.5 SUMMARIES

Unless summary forms are used, whenever a discrete part of the excavation or survey has been completed, a summary of the results should be recorded in the Field Notebook, drawing together and interpreting all the relevant data. Summaries of Lots, Suboperations and Operations, as well as structures, areas, stratigraphic layers and lot-stratigraphy correlations should also appear in the Field Notebook. General requirements for summaries are provided below. Details on mandatory provenience data and metadata elements are outlined in Section 4.12 Data and Metadata Standards for Provenience.

6.5.1 Operation Summary

Record the rationale for assigning the Operation Number, the extent and location of the area so defined in terms of coordinates, and the number of Suboperations assigned within it.

6.5.2 Suboperation Summary

Record the rationale for assigning the Suboperation Letter, the extent and location of the area so defined in terms of coordinates, the elevation of the original ground level in each of the corners and at the base of excavation, and the number of Lots assigned within it. A Suboperation Summary Form example is provided in Appendix D as an alternative to, or to supplement, the field notes.

6.5.3 Lot Summary

Record the rationale for assigning the Lot Number, and the depth below the surface and/or the

elevation in each of the corners and/or centre. A Lot Summary Form example is provided in Appendix E as an alternative to, or to supplement, the field notes.

6.5.4 Structure/Area Summary

Record the identification both of the structure/activity area, the shape and dimensions overall, and of any subdivisions therein. Also, describe all of the constituent structural elements or features to include relevant dimensions, materials and methods of construction, relationships of the structure to others in the site, and include any other interpretive statements that are possible at the completion of the excavation or survey.

6.5.5 Stratigraphy (Layer/Event) Summary

Record the identification of the stratigraphic element, including a detailed description of the soil (e.g., soil type, texture, colour, and inclusions). Also describe the extent of the stratum and its relationship to other strata and to structures. A Stratigraphy Summary Form example is provided in Appendix F as an alternative to, or to supplement, the field notes.

6.6 TABLE OF CONTENTS

Once the Field Notebook has been completely filled, a Table of Contents should be created. The table should be organized by Provenience Number first and by subject second (e.g., feature, structure, area, layer, etc.), accompanied by the appropriate page number (Fig. 6). The Table of Contents should be inserted at the beginning of the Field Notebook, but does not need to be paginated. If an electronic notebook format is used (e.g., a word processor), a Table of Contents can be automatically generated. Another simple method is to create a table, as shown in Fig. 6. This allows one to space or cursor from one cell to another within the table. A similar table or approach can be adapted for hand-written entries in a paper notebook.

3K Table of Contents [Example]		2004-7P-1
SUBJECT	DESCRIPTION	PAGE
3K12	Layout of Suboperations	2004-7P-3
3K12A1		4
3K12A2		5
3K12B1		6
3K12C1		7
3K12D1		8
3K12A3		9
3K12B2		10
3K12B3		11
3K12A	Stratigraphy notes	12, 13
3K12	Elevation notes and coordinate data	14, 15
Well		16, 17
"		18, 19
"		20, 21
3K12C2		21 to 26

3K Table of Contents [Example]		2004-7P-1
SUBJECT	DESCRIPTION	PAGE
3K12B	Stratigraphy notes	27, 28
Latrine		29, 30
"		30, 31
3K12D	Stratigraphy notes	33, 34
3K13	Layout of Suboperations	35
3KA1		36
3K13B1		37
3K13C1		38 to 40
3K12C	Stratigraphy notes	41, 42
3K13A2		43
3K13B2		44
3K13B3		45
3K13A3		46
3K12	Photography notes	47, 48
3K13C	Stratigraphy notes	49

Figure 6. Example of Field Notebook Table of Contents.

7.0 IMAGES

This section describes recording and cataloguing procedures for “still” images, in both traditional film and digital formats. As Parks Canada is currently in a period of rapid transition between traditional and digital formats for image recording (and the development of standards to manage them), this section will require periodic amendment to keep pace with innovations and developments. For the purpose of this manual, “still images” refers to single-frame images, in either digital or film format (e.g., individual exposures recorded using a film or digital camera, and including single-frame video image captures). “Moving images”, refers to images created by video cameras, film cameras etc. in either digital or analog tape format. Moving images are treated differently, as “media”, in section 8.0.

7.1 PRINCIPLES AND GUIDELINES

1. All image records are prepared in such a manner that Collections Management staff or data entry clerks from the appropriate Parks Canada Service Centre can assure their efficient and complete entry into the archaeological records/database system.
2. An archival quality paper record of the image catalogue is produced for Collections Management for long-term records management and preservation.
3. All image data is input into the appropriate Parks Canada Archaeological Database.
4. A link is assured between the exposure or record number and the Image Catalogue Number after processing.
5. Where possible, manual transcription of data is avoided. Rather, data is transferred or input directly into the appropriate Parks Canada Service Centre Archaeological Database to ensure data integrity and reduce transcription error.
6. Where possible, unwanted digital images are deleted shortly after the recording event.
7. Digital records are organized daily to ensure integrity, completeness, and efficiency of data transfer.
8. Copies or digital data backups are made for all original images, according to the Collections Management standards of the appropriate Parks Canada Service Centre.
9. Core metadata pertaining to each file is recorded for each digital record to ensure the long-term preservation or integrity of the record and associated data. Every effort is made to keep current with latest Parks Canada initiatives on Digital Multimedia Asset Management and Metadata Standards.
10. As for all field records, the maximum possible legibility is essential for all entries pertaining to images, whether on forms or in field notes or other media.

7.2 IMAGE CATALOGUING SYSTEM

The image cataloguing system used for archaeological site photography (still images) in Parks Canada requires the assignment of an *exposure or record number* to each image at the time it is taken, and the assignment of an *Image Catalogue Number* to each image that is accessioned as a necessary part of the records of the excavation or survey. Both traditional film as well as digital photography can be catalogued using the same procedure, with slight variations according to the medium, and integrated into the same Image Catalogue Form example (see Section 7.4 below, and Appendix B).

Image Catalogue Numbers are assigned *after* the unwanted images have been culled by reason of technical quality or redundancy. In the case of traditional film photography, the Image Catalogue Numbers are assigned after the film has been processed and unnecessary exposures have been culled. For digital images, image cataloguing may be possible shortly after the recording event, as images can be quickly reviewed and culled as required.

7.2.1 Image Type Code

A single letter of the alphabet codes the type of image or film being used. It is recommended that no more than one type of image appear on each Image Catalogue Form. Note that most of these image codes are no longer used, but are listed here as they form an essential part of the legacy of data generated to date. However, traditional film types such as slide (T) and 35 mm colour (W) or black and white negative (M) are still in use. These must necessarily be coded in a manner consistent with previous work. The Image Type Codes are noted in Table 7. Three new codes are introduced in this version of the manual: “E” for digital images, “R” for radiograms, and “V” for digital video “still images” or “captures” (“moving images” are catalogued differently, under “Other Media”. See Section 8.0).

Table 7. Valid Image Type Codes

Code	Description
A	4 x 5 colour slides (transparencies)
B	4 x 5 black-and-white negatives
C	4 x 5 colour negatives
D	35 mm black-and-white slide (transparencies)
E	Electronic (digital) images
L	Black-and-white negatives other than 120, 4 x 5, 35 mm
M	35 mm black-and-white negatives
N	120 colour negatives
P	120 colour slides (transparencies)
R	Radiograms
T	35 mm colour slides (transparencies)
V	Video (“still images” or “captures” only)
W	35 mm colour negatives
X	120 black-and-white negatives
Y	Colour negatives other than 120, 4 x 5, 35 mm

7.2.2 Exposure/Record Number

This number is assigned at the time that the picture is taken. For convenience, the procedures for traditional film photography and digital photography are described separately.

7.2.2.1 Film Photography

For traditional film photography, the results of the exposure are unknown and therefore it is impossible to anticipate that a particular exposure will receive a permanent Image Catalogue Number. Exposure numbers are assigned sequentially for each roll of film by type. *The exposure*

number signifies the advance of the film in the camera, not the frame number printed on the film by the manufacturer.

In Field Notebooks and other field records, the exposure number is used to reference the photographs, since the permanent catalogue will not normally be available at the time of the recording event. The exposure number consists of three groups separated by hyphens: the first group is the year (yyyy, e.g., 2004), followed by R (for “roll”) followed by the roll number (in sequence for the type of film); the second group is the Image Type Code (Section 7.2.1); the third group is the number of the exposure made on the roll.

Example

2004R1-M-7 is the seventh exposure made on the first roll of 35 mm black-and-white film used in 2004.

7.2.2.2 Digital Photography

For digital images, the automatic numbering system of the camera may be used. It is recommended that the image number sequence for each camera be set to zero for each new project. If more than one digital camera is used in a given project, there is potential for duplicate or overlapping image record numbers. There are a number of solutions to this problem.

- Download the images as soon after the recording event as possible, and place the images in a folder appropriately labelled so as to distinguish them from images taken by other digital cameras.
- Use multiple data storage media/memory cards (e.g., four CompactFlash Cards) for each digital camera, and physically apply a label to each completed storage medium, in such a manner as to distinguish it from those used by other cameras for the same project. If this approach is used, it is recommended that the recorder’s Staff Field Number or full name, and the date (yyyy-mm-dd) be included along with the storage medium sequence number. Acronyms describing the particular storage medium can be used, and should be identified in the field notes (e.g., “Flash Card” = “FC”)
- At the end of each day, cull, download and assign Image Catalogue Numbers to all images generated by all cameras in a given day. This procedure would require compiling and coordinating all image files, folders and associated forms, and is best suited for one designated individual (e.g., a Field Records Clerk, or the Principal Investigator).

Examples

P000050.tiff	is the fiftieth image record number automatically generated by the digital camera, in “.tiff” format
FC01-200P (2004-06-11)	is the first Flash Card (image data storage medium/memory card) used by Staff Field Number 200P (Jane Smith) in 2004

As shown above, digital images will have an associated file name extension when downloaded, which usually comprises three or four characters (e.g., .tiff, .jpg). The photographer determines the image file type during the initial digital camera set-up. The file name extension is a critical element in digital file management and data filtering. As a result, its original format at the time of the recording event should always be retained as part of the image archive.

7.3 IMAGE CATALOGUE NUMBER

The Image Catalogue Number is assigned to the photograph at the time that it is entered into the permanent image catalogue. It consists of two groups separated by a hyphen: the first group is the Site Number; the second consists of the Image Type Code preceded by a number which is assigned in sequence for that image type and site as the photograph is catalogued, regardless of year or season.

Example

1H-430M is the four hundred and thirtieth catalogued 35 mm black-and-white photograph from Fort St. Joseph NHSC, Ontario.

Image labelling procedures (i.e., writing/printing key data onto a slide/transparency, negative, or print) vary slightly for each Parks Canada Service Centre. For current protocols, consult the Collections Manager at the appropriate Service Centre. Several best practices are generic enough to be widely applied.

1. The Image Catalogue Number is written with archival quality ink on stable data storage media.
2. A link between the physical or digital record(s) and the associated Image Catalogue Number must always be assured.
3. Legibility must always be assured.

7.4 IMAGE CATALOGUE FORM: EXPLAINED

An example of an Image Catalogue Form, as well as a Form Guide, is provided in Appendix B. Though the use of the Image Catalogue Form is optional, the data fields shown in the form and explained in the Form Guide are mandatory, and represent minimum data standards for Parks Canada image recording. As a result, the use of the Image Catalogue Form is recommended as a best practice.

The Image Catalogue Form organizes data for each still image as it is taken, correlates this record with the permanent Image Catalogue Number and prepares each of these records for data entry into an Archaeological Database. Relational databases can merge, cross-reference and output image data in a variety of ways to suit the needs of a given project or Service Centre's archaeological records management system.

There are two areas for data entries on the Image Catalogue Form. The entries at the top serve to index the form itself. The entries in the columns serve to index the individual images. Each roll of film (or memory card/image data storage medium) used requires the completion of a separate form, or a series of paginated forms if all the data cannot be entered on one form. Every exposure, by which is meant every full advance of film or record, requires an entry on at least one separate line of the form. A sequence of three bracketing exposures, for example, requires three separate entries on the form. Where data of an exposure or record is duplicated in the following exposure, ditto marks can be used.

7.4.1 Image Selection Process

Not all exposures or records need to be catalogued, and it would normally be highly redundant to catalogue every exposure/record. The selection for cataloguing will be based on information content, anticipated research, management, publication and presentation requirements or, in the case of bracketed exposures, the best exposure.

7.4.2 Duplicate Images

It is sometimes required to take two or more image records of the same subject to generate duplicate original images (e.g., for “bracketing” exposures). In this case, exposures/records would be separate items on the Image Catalogue Form, but could either be assigned the same Image Catalogue Number, with the extra image(s) labelled “duplicate”, or be catalogued separately and ascribed a unique Image Catalogue Number. The Principal Investigator should consult with the Collections Manager of the appropriate Parks Canada Service Centre to determine the latest standard.

7.4.3 Studio Images of Catalogued Archaeological Objects

The Image Catalogue Form can be used to catalogue studio images of catalogued archaeological objects. Fill in all the data fields normally, ignoring the “Direction” field. In the subject field, list on a separate line the following information for each archaeological object in the image:

- the archaeological Object Catalogue Number;
- the name of the person that requested the image (after the final archaeological object entry for each image).

7.5 DATA STANDARDS FOR DIGITAL IMAGES

Format

1. Specific field formats are outlined in the Image Catalogue Form (Appendix B).

Mandatory Data

1. Specific data field requirements for images are outlined in the Image Catalogue Form (Appendix B). In the Form Guide, mandatory fields are indicated with an asterisk (*).

Image Preservation Standards

Recommendations for long-term preservation of digital images are provided in Appendix H, which summarises key recommendations from a current Parks Canada Digital Multimedia Asset Management initiative. The standards, both in Canada and abroad, are constantly evolving. Despite these rapid changes, the image standards outlined in Appendix H should be considered as a best practice. The standards will be updated periodically as required.

Image Metadata

Metadata is very important for the search and retrieval of multimedia content across an organization. Given the regional disposition of the Parks Canada Agency, metadata of the digital assets will be extremely important in order to search and retrieve content located in various content repositories across the country (Parks Canada 2003a.) Every effort should be made to keep current with latest Parks Canada metadata requirements.

8.0 DRAWINGS, MAPS, and OTHER MEDIA

The following procedures allow field records such as drawings and maps, as well as “media” such as magnetometer and sonar data generated during a field project, to be documented in a standard manner. The procedures also ensure that core data is associated with the original record, and facilitate the efficient transfer of data to an archaeological database or a paper-based record system. Central to the effective management of field drawings, maps, and other media are the Drawing and Media Catalogue Number systems, in tandem with the recording of key metadata for each type of record.

For the purpose of this Manual, “media” refers to the means by which something is communicated, such as instrument-derived data, audio, video (“moving images”), and forms, in either paper or digital format. “Moving images” refers to images created by video cameras, film cameras, etc. in either digital or analog tape format. The cataloguing procedure for media is a new introduction with this Manual, and is an adaptation of the drawing cataloguing procedure employed in previous years.

8.1 PRINCIPLES

1. Records are prepared in such a manner that Collections Management staff from the appropriate Parks Canada Service Centre can assure their efficient and complete entry into the records/database system.
2. Copies, or digital data backups (as applicable) are made for all original drawings, maps, and other media according to the Collections Management standards of the appropriate Parks Canada Service Centre.
3. Core metadata pertaining to each record is recorded, and to ensure the long-term preservation or integrity of the record and associated data. Every effort should be made to keep current with latest Parks Canada initiatives on Digital Multimedia Asset Management and Metadata Standards.
4. Metadata for digital files are included with each digital file. If not resident in the file itself, the essential metadata are recorded in the field notes.

8.2 DATA STANDARDS for DRAWINGS, MAPS and OTHER MEDIA

Field drawings, plans, and maps must, at a minimum, provide the information under the following headings:

- Drawing Catalogue Number (see Section 8.2.2);
- Provenience;
- Description;
- Scale (e.g., 1:15; 1:50,000);
- Date (in format: yyyy-mm-dd);
- Staff Field Number (or full name of archaeologist);
- References (Field Notebook page reference); and
- Include a north arrow (if applicable; depicting true, magnetic, or grid north).

As a best practice, the following should be included, if the data is applicable or available:

- Coordinates;
- Elevation.

These elements are described below. As a best practice, all drawings should be done in the metric system.

An example of a drawing record format (or card) for entering drawing data is shown in Figure 7. This is a variation of the Drawing Stamp and Card system used in previous versions of the Manual (see Parks Canada 1978:57). The format may also be adapted for maps (e.g., NTS topographic maps).

PROVENIENCE	DRAWING NUMBER	AREA	
DESCRIPTION			
SCALE	SHEET of	ELEVATION	COORDINATES
REFERENCES		NAME/STAFF FIELD No.	DATE

Figure 7. Example of a drawing record format (or card) for entering drawing data. Redrawn by S. Savage, from Parks Canada (1978).

8.2.1 Provenience

Enter the most inclusive Provenience Number. Depending on the content of the record, this may be a Site, Operation, Suboperation, or Lot Number. The complete Provenience Number must be used, e.g., 2E43 or 2E43Q or 2E43Q48 would be correct, but 43Q48 or Q48 or other variations of partial provenience numbers are not acceptable.

8.2.2 Drawing Catalogue Number

The Drawing Catalogue Number or “Drawing Number” should be used to catalogue all key drawings, plans, and maps used or generated during the course of a field project. The Drawing Catalogue Number comprises the Site Number, Date (yyyy-mm-dd), Staff Field Number, and Drawing Number, separated by hyphens, as shown in the examples below and Table 8.

The Drawing Number denotes the drawings made by an individual, not the total of drawings for a project. The Drawing Numbers begin sequentially from number “1”. For computer input, the

drawing number groups are justified to the right, e.g., 009K-2004-7P-D005.

Examples

- 5H-2004-101H-D1
- 18H-2004-101H-D2
- 134H-2004-101H-D3
- 134H-2004-101H-D4

From the hypothetical examples above, one can determine at a glance that Staff Field Number 101H (“John Smith”) generated four separate field drawings at three different sites (5H, 18H, and 134H) in the year 2004.

Table 8. Drawing Catalogue Number Components.

Site Number	Year (yyyy)	Staff Field Number	Drawing Number
5H	2004	101H	D1

8.2.3 Area

Identify the structure, part of a structure or activity area of which the record was made, e.g., “Latrine.”

8.2.4 Description

Identify the drawing as a plan, section (profile), or elevation, and provide a statement of the drawing content and purpose (if applicable).

Examples

- “Plan of casemate floor showing location of *in situ* archaeological objects”
- “Plan of tent ring showing hearth, sleeping platform and cold trap”
- “Elevation of north face (exterior) of doorway”
- “Map of Operation 2E19 showing locations of Suboperations and limits of excavation”
- “Elevation showing soil profiles of north-east face of suboperation 15H21D”

To specify content, additional Provenience Numbers should be added where applicable. For example, a plan of Suboperations 2E13Q and 2E13R would have the Operation Number 2E13 entered in the “Provenience” field (Section 8.2.1) and the specific Suboperation Letters listed in this “Description” field.

8.2.5 Scale

Enter the scale to which the drawing was made.

Example

“1cm = 1m” or A1:100”

8.2.6 Date

Enter the date on which the drawing was made, in numerical format: yyyy-mm-dd.

Example

The first day of July, 2005 would be entered as 2005-07-01.

8.2.7 References

Enter the Drawing Catalogue Numbers of the related drawings, including those of other sheets in the case of a composite drawing or mosaic. Also enter related field note pages or forms.

8.2.8 Coordinates and Elevations

Where possible, enter the spatial or geographic coordinate data pertinent to the drawing (See the Parks Canada Archaeological Site Inventory Form Guide, Appendix A, for examples and descriptions).

8.3 MAPS

A vast array of Topographic (e.g., NTS maps) and other maps (e.g., forestry maps, hydrographic charts, orthographic maps, Geographic Information System (GIS) maps) of various scales are often used to plot the locations of archaeological sites, or indicate vegetation, landforms, and other information for predictive modelling, etc. These maps or representations may be in either paper or digital format, or sometimes both, and may be acquired externally (e.g., from Geomatics Canada) or generated internally (e.g., from a Service Centre GIS database).

When original field data is recorded on such maps, and where the information does not appear elsewhere (e.g., on a master map), the map should be assigned a Drawing Catalogue Number as described above, which should be cross-referenced to the field notes.

On return from the field, the map will be catalogued into the Collections Management System according to jurisdictional Service Centre Collections Management procedures.

8.4 OTHER MEDIA

This section outlines best practices for cataloguing such media records as remote sensing data, digital and analog video and audio files and tapes, as well as geographic and navigational data, and forms.

The Media Catalogue Number is the cataloguing method for media in either digital or analog format, which is a variation of the Drawing Catalogue Number described above. As is the case for the Drawing Catalogue Number, the Media Catalogue Number comes with a requirement to record associated metadata for each record.

8.4.1 Media Catalogue Number

The Media Catalogue Number comprises the Site Number, Year, Staff Field Number, and Media Number, separated by hyphens. The Media Catalogue Numbers begin sequentially from number "1", and denote the records made by an individual, not the total of drawings for a project.

Example

9K-2004-137P-R1 is the first Remote Sensing Data record (R1) generated in 2004 at York Factory NHSC (9K), Manitoba by Staff Field Number 137P (Jim Doe)

Additional Examples

5H-2004-101H-A1; 5H-2004-101H-R1; 18H-2004-101H-R2; 134H-2004-101H-G1; 134H-2004-101H-G2
 From the hypothetical examples immediately above, one can determine at a glance that Staff Field Number 101 H (“John Smith”) generated five separate media records (one audio record, two remote sensing records, and two geographic data records) at three different sites (5H, 18H, and 134H) in the year 2004.

8.4.2 Codes for Media Records

As a best practice, the following codes (Table 9) are applied to media records, which include digital files and outputs (e.g., magnetometer output/printout), and analog tapes (e.g., video, audio tapes).

Table 9. Valid Codes for Media Records, with Descriptions and Examples.

Code	Description	Examples
A	Audio	Digital audio files, analog tape formats (with no video component)
F	Forms	Suboperation Summary Form, Lot Summary Form
G	Geographic Data	Global Positioning System Data, Geographic Information System Data, Boat Navigation Data
R	Remote Sensing Data	Gradiometer Data, Magnetometer Data, Ground Penetrating Radar Data, Electrical Resistivity/Electromagnetic Conductivity Data, Sonar Data (such as Side Scan; Sector Beam; Multi-Beam; Sub Bottom Profiler), Satellite Remote Sensing, Aerial Photography Data (such as thermal imagery, Infrared)
S	Instrument Survey Data	Total Station, Transit, Theodolite, Level Data
V	Video	Digital video files, analog tape formats (may include associated audio components)

8.5 MEDIA SELECTION PROCESS

As specified in the case of digital images (described above), not all records need to be catalogued; the selection for cataloguing will be based on information content, anticipated research, management requirements, as well as publication and presentation requirements. Only those files identified by the Principal Investigator or delegate to be curated into the records system and referenced in the field notes should be assigned a Media Catalogue Number.

8.6 MEDIA CATALOGUE FORM: EXPLAINED

An example of Media Catalogue Form, as well as a Form Guide, is provided in Appendix C. Though the use of the Media Catalogue Form is optional, the data fields shown in the form and explained in the Form Guide are mandatory and represent minimum data standards for Parks Canada media records. As a result, the use of the Media Catalogue Form is recommended as a best practice. The Media Catalogue Form organizes data for each type of media as it is recorded, correlates this record with the permanent Media Catalogue Number and prepares each of these records for data entry or transfer into an Archaeological Database.

Relational databases can merge, cross-reference and output media data in a variety of ways to suit the needs of a given project or Service Centre’s archaeological records management system.

9.0 ARCHAEOLOGICAL OBJECTS: TRACEABILITY FROM FIELD TO LAB

9.1 PRINCIPLES

1. It is critical to ensure the integrity of archaeological items, their grouping by provenience, and all associated data from the moment the archaeological items are recovered from the field to their reception at the Parks Canada Service Centre laboratory.
2. All items removed from the field as a result of an archaeological investigation are traceable to the archaeologist's Field Notebook or forms.
3. To ensure the above principle, it is essential to adhere to local Parks Canada Service Centre Collections Management procedures, directives, and guidelines.

9.2 ESSENTIAL DATA

Archaeologists should take every necessary precaution to ensure provenience control between the time that an archaeological item is excavated, or surface collected in the field, and the time that it has been received in the laboratory. The essential data, described below, must accompany archaeological items, at all times, between their recovery and their reception at the laboratory.

Archaeological items (e.g., archaeological objects, samples, feature components) must be brought or shipped to the Parks Canada Service Centre laboratory with the following information attached:

- Complete Provenience Number;
- Date of recovery (yyyy-mm-dd);
- Full name of archaeologist/collector (and/or Staff Field Number);
- Additional remarks (when necessary).

An archaeological object bag card example is provided in Figure 8. Its format may be adapted to suit the needs of a given Parks Canada Service Centre, provided the essential data noted above are included with the archaeological items removed from the field, and that labelling procedures for bags or cards are in accordance with the Collections Management standards of the appropriate Parks Canada Service Centre. The same approach may be used for other labels ascribed to larger archaeological items (e.g., structural members) removed from the field, as required.

PROVENIENCE	DATE (YYYY-MM-DD)
FULL NAME or STAFF FIELD NUMBER	
REMARKS	

Figure 8. Archaeological Object Bag Card Example. Redrawn by S. Savaugé, from Parks Canada (1978).

In the “Remarks” field, for example, one could include object name, material type, or note any special conservation requirements for the items, such as “Keep wet”, “Fragile”, “Do not Wash”, etc. Where there are multiple bags for a Lot, the bags could be numbered sequentially and, if possible, the total number of bags from the Lot indicated, e.g., “Bag 1 of 3” or “Bag 27 of 32.”

Best Practices

- Any recorded data should be legibly written or printed with stable, indelible ink on a resistant material (whether it is a bag, a card, a tag or a box) and accompany archaeological objects at all times.
- All collected archaeological items should be packed in containers (e.g., bags, boxes) that are sufficiently resilient to ensure that objects are not lost or mixed with others from a different provenience at any time after their recovery, and especially during their transport to the Parks Canada Service Centre laboratory.
- For the latest object cataloguing procedures and standards, consult the Collections Manager and Archaeological Conservators at the appropriate Parks Canada Service Centre.

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Canada Shipping Act.

Federal Real Property and Federal Immovable Act.

Federal Real Property Regulations.

Final Comprehensive Land Claim Agreements (refer to applicable Agreements)

Historic Canals Regulations.

Historic Sites and Monuments Act.

National Historic Parks General Regulations.

National Parks General Regulations.

Parks Canada Agency Act.

Privacy Act.

Saguenay-St. Lawrence Marine Park Act.

Species at Risk Act.

12.0 ABBREVIATIONS

AB	The code used by Canada Post for the province of Alberta. The other province or territory codes are: AB, BC, SK, MB, NB, NL, NS, NU, NT, ON, PE, QC, and YT
ARM	Archaeological Resource Management
ASMIS	Archaeological Sites Management Information System (United States National Parks Service)
ASL	Above Sea Level (e.g., mASL = “metres above sea level”)
BHD	Below Hydrographic Datum (e.g., mBHD = “metres below hydrographic datum”)
BP	Before Present
BSL	Below Sea Level (e.g., mBSL = “metres below sea level”)
CIDOC	Comité international pour la documentation, conseil international des musées (International Documentation Committee, International Council of Museums)
CRM	Cultural Resource Management. (Note: In this document, “CRM Manager” means an individual charged with and accountable for the overall program and management of the Parks Canada Service Centre archaeological field and collections services functions)
CMC	Canadian Museum of Civilization
DBD	Depth Below Datum
DBS	Depth Below Surface
DGPS	Differential Global Positioning System
FGDC	Federal Geographic Data Committee (based in United States of America)
FHBRO	Federal Heritage Building Review Office
GIS	Geographic Information System
GPS	Global Positioning System
HHS	Haida Heritage Site
ICOMOS	International Council on Monuments and Sites
JPG	Joint Photographic Experts Group (i.e., “.jpg” digital image file)
MGRS	Military Grid Reference System
MPEG	Moving Pictures Experts Group
NAD 27	North American Datum 1927
NAD 83	North American Datum 1983
NHSC	National Historic Site of Canada
NMCAC	National Marine Conservation Area of Canada
NPC	National Park of Canada
NPRC	National Park Reserve of Canada
NTS	National Topographic System
PCA	Parks Canada Agency
PDF	Portable Document Format (i.e., “.pdf” digital image file)
PDOP	Position Dilution of Precision (i.e., for GPS units)
PHA	Protected Heritage Area
TIFF	Tagged Image File Format (i.e., “.tiff” digital image file)
UTM	Universal Transverse Mercator
WGS 84	World Geodetic System 1984

APPENDIX A: Parks Canada Archaeological Site Inventory Form and Form Guide

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM			
Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
A	<i>SITE IDENTIFICATION</i>		
A01	Parks Canada Site (Provenience) Number*		
A02	Site Name		
A03	Project Name		
A04	Recorder's Site Number*		
A05	Borden Number*		
A06	Permit Number*		
A07	Researcher*		
A08	Park or Site Code		
A09	Contract Number*		
B	<i>LOCATION</i>		
B01	UTM Coordinates*	UTM Zone ___ Easting _____ Northing _____	
B02	Latitude*	__ d __ m __ s N; __ d __ m __ s W	
B03	Longitude*	__ d __ m __ s N; __ d __ m __ s W	
B04	Elevation*	__ mASL __ mBSL __ mBHD; FROM: __ TO: __	
B05	Datum (Geodetic)	NAD83 __ NAD27 __ WGS84 __ Other (please specify) __	
B06	Determination Method (Coordinates)*	GPS __ Differential GPS __ Total Station __ Estimate from Map __ Estimate from Aerial Photo __ Estimate from Description __ Other (please specify) __ Estimated Error __	
B07	Location*		
B08	Access*		
B09	Map Reference Number *		
B10	Map Scale*	1:250,000 __ 1:50,000 __ 1:20,000 __ Other (please specify) __	

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM			
Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
B11	Other Map*		
B12	Minor Drainage*		
B13	Major Drainage*		
B14	Aerial Photo Reference Number*		
B15	Province/Territory*		
B16	District/County*		
B17	Township*		
B18	Nearest Named Place		
B19	Cultural Region		
B20	Aspect		
B21	Site/ Sketch Map*		
C	ENVIRONMENT		
C01	Environmental Setting		
C02	Soil Type		
D	TENURE		
D01	Owner*		
D02	Political Jurisdiction*	Federal__ Provincial__ Municipal__ First Nation/Aboriginal__ Other (please specify)___	
D03	Legal Description*		
E	VISIT HISTORY		
E01	Date Visited (From/To)*	FROM: yyyy-mm-dd TO: yyyy-mm-dd	
E02	Nature of Work Done (Visit Activity)*	Surface Collecting__ Surface Recording__ Site Revisit__ Subsurface Testing__ Extensive Excavation__ Monitoring__ Surveillance__ Established Datum__ Alteration__ Unknown__ Other (please specify)___ Comments___	
E03	Change Since Last Visit*	Last Visit: (yyyy-mm-dd)	

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM			
Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
E04	Informant Name*		
E05	Images/Recordings	Digital Image (still)___ Digital Image (moving)___ Video___ Air Photo___ Photograph___ Slide___ Cast___ Rubbing___ Sketch___ Audio (digital)___ Audio (analog)___ Side Scan Sonar___ Ground Penetrating Radar___ Satellite Imagery___ Metal Detector___ Other (please specify)___	
F <i>CONDITION</i>			
F01	Condition Assessment (General)*	Good___ Fair___ Poor___ Destroyed___ Comments___	
F02	Disturbances (Impact Agents)*	CULTURAL: Borrow Pit___ Cultivation___ Development (Please specify)___ Dredging___ Environmental Testing___ Fire___ Grazing___ Landing Strip/Area___ Landscaping___ Logging___ Looting/Vandalism___ Military Activity___ Mining___ Previous Archaeological Investigation___ Railway___ Recreational Use___ Refuse Dumping___ Road___ Seismic Line___ Sewer/Septic___ Transmission Line___ Unauthorized Collecting___ Utility Trenching___ NATURAL: Bioturbation___ Decay___ Erosion (please specify)___ Ground Crack/Fissure___ Insect Infestation___ Rodent Burrowing___ Other Animal Activity (please specify)___ Vegetation Growth___ Other (please specify)___	
F03	Threatened Site?*	Threatened (T)___ Not Threatened (NT)___ Unknown Threat (UT)___; Justification___; Recommendations___; Comments___; Future Threat Assessment: High___ Medium___ Low___ Rationale___	
F04	Estimated % Disturbed/Impacted*	Destroyed (100%)___ Very Disturbed (50-90%)___ Disturbed (25-50%)___ Slightly Disturbed (5-25%)___ Intact (no observable disturbance)___	
G <i>DESCRIPTION</i>			
G01	Site Dimensions*	Length___ (m) Direction___ / Width___ (m) Direction___	
G02	Site Dimensions (Comments)	Estimated___ Exact___ Partial___ Whole___	
G03	Site Description (General)*	Surface___ Subsurface___ Underwater___ Undetermined___ Object Scatter___ Single Feature___ Multiple Features___	
G04	Features*		
G05	Isolated Find*	Yes___ Reported as an Archaeological Site?___ Rationale___	
G06	Site Type/Function*		
G07	Slope Angle	Degree___ / Percent___ %	
H <i>CULTURE</i>			
H01	Site Type Class*	Pre-contact___ Indigenous Historic___ Historic___ Contemporary___ Natural___ Undetermined___	
H02	Cultural Period*		
H03	Scientific Dates/ Radiocarbon Data*		
H04	Culture		
H05	Cultural Strata		

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM			
Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
<i>I</i>	<i>MANAGEMENT</i>		
I01	CRM Level*	Level I __ Level II __ "Other" __ Rationale __	
I02	Objects/ Samples (Collected)*	Stone Flakes __ Stone Tools __ Bone __ Ceramics __ Historic Objects __ Other (please specify) __ Repository __	
I03	Objects/ Samples (Not Collected)*	Stone flakes __ Stone Tools __ Bone __ Ceramics __ Historic Objects __ Other (please specify) __ No Archaeological Objects Observed __	
<i>J</i>	<i>COMMENTS</i>		
J01	Remarks		
J02	Recommendations*		
<i>K</i>	<i>REFERENCE</i>		
K01	Type of Documentation/ Archive*	Maps/Plans __ Still Photos __ Audio Recordings __ Video Footage __ Drawings __ Archival Information __ Field Notes _ Forms __ Archaeological Objects __ Articles __ Contacts __ Other (please specify) __	
K02	Field Notebook Reference*		
K03	Bibliographic References		

Parks Canada Archaeological Site Inventory Form Guide

This Guide is to be used in tandem with the “Parks Canada Archaeological Site Inventory Form”

Mandatory Data Fields (if applicable/available) are indicated with an asterisk ()*

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INTRODUCTION

Parks Canada's archaeological resources must be accurately recorded to ensure their consideration in Cultural Resource Management (CRM) decisions, and to establish a national database for research, public education, conservation, and other uses.

The Parks Canada Archaeological Site Inventory Form is used to record and report all newly discovered archaeological sites, and update the record of previously recorded or reported ones. Maintenance of the archaeological inventory is the responsibility of each of the Parks Canada Service Centres and special units located across Canada. The contents of the Parks Canada Archaeological Site Inventory Form and this Form Guide are based on an analysis of all provincial and territorial archaeological site inventory forms and guides (see bibliography), balanced with recording requirements specific to Parks Canada archaeological recording systems, as well as international archaeological data standards (see CIDOC 1998). These records, and the topographic or GIS maps on which most site locations are plotted, form the main components of Parks Canada's inventory of archaeological sites.

Though the fields in the Archaeological Site Inventory Form reflect the Borden System requirements for all the provinces and territories, it is recommended that the appropriate institution charged with administering Borden Site Numbers be consulted to assure all current requirements are met.

One of the greatest challenges faced in such a national inventory is to accommodate the vast array of archaeological recording requirements across Canada, while incorporating, to the greatest extent possible, the reporting requirements of provincial and territorial institutions charged with administering Borden Site Number assignment. In addition, as Canada is an active participant on the CIDOC committee for the International Council of Museums (ICOM), there is a need to meet international standards for the exchange of archaeological data (see CIDOC 1998).

How to Use this Guide

Specific instructions for each data field are provided in this Guide. These correspond with the left hand column of the "Parks Canada Archaeological Site Inventory Form." **An asterisk (*) indicates mandatory fields (where applicable, or where data is available).** The data fields and the form itself may be custom-tailored to meet the needs of the Service Centre responsible for recording and reporting of archaeological sites in their jurisdiction, but the fields indicated as mandatory must be filled out as accurately as possible when information is available, or if the field is applicable for the site in question.

This Guide and the associated Form are organized into generic categories that can be re-sorted and filtered, and custom-tailored as required for internal data management or recording purposes. Additional parameters for archaeological recording are outlined in the parent document "Parks Canada Archaeological Recording Manual: Excavations and Surveys" (2005). An archaeological site, regardless of its type or affiliation, should always be recorded in as much detail (and as accurately) as possible to ensure the Parks Canada inventory of archaeological sites is of maximum use for archaeological resource management, research, and conservation planning.

For assistance or clarification, please contact: Manager, Archaeological Resource Management, Archaeological Services Branch, National Historic Sites Directorate, Parks Canada Agency, 25 Eddy Street, 5th Floor (25-5-Y), Gatineau, Québec, K1A 0M5.

A. SITE IDENTIFICATION

A01 Parks Canada Site (Provenience) Number*

This is the official Parks Canada site identification (provenience) number (e.g., 130X1). It is determined by the Project Archaeologist, and must be entered if known. The parameters of “Provenience” are outlined in detail in the parent document “Parks Canada Archaeological Recording Manual: Excavations and Surveys” (2005).

Examples

5A
8B
1035G
1007T
130X1
300X100

A02 Site Name

Indicate all known sites names. Separate multiple entries by a semicolon. A site can be known by a number of names, including a local traditional (Aboriginal) name, a name attributed by a researcher, a name commonly used by people in the area, as well as the standard geographic place name noted on an NTS or other map. This field may also be used for shipwrecks.

Examples

Kittigazuit
Kittegazuit
Old Kitty
Kittygaryuit
Tsiigeh tshik
Button Point
Sannirut

A03 Project Name

Enter the name of the archaeological project. Separate multiple entries by a semicolon.

Example

Lower Fort Garry NHSC Boat Access Facilities Project
Wapusk NPC Archaeological Inventory Project

A04 Recorder's Site Number*

Indicate any temporary site number or name assigned by the researcher in the field. In the absence of an available Provenience/ Site Number, a suggested format to identify each site is to use the recorder's full name or initials, the year, and the sequential number of the site.

Examples

TR East-1
Jane Doe-2004-1
Jane Doe-2004-2
JD-2004-1
JD-2004-2

A05 Borden Number*

Leave blank for new sites. Indicate Borden (Site) Number if known (in the case of a revisit, for example). As soon as practicable, the Project Archaeologist must apply for a Borden Number from the appropriate provincial or territorial institution. Note that some archaeological sites recorded by Parks Canada may not meet provincial or territorial Borden Site criteria (e.g., due to date restrictions) and may not qualify for a Borden Number. They will remain as archaeological sites recorded under the Parks Canada provenience system (without a Borden Number). Borden Numbers are entered using the following format (additional information available online from the Canadian Museum of Civilization): first alpha character upper case, second alpha character lower case, third upper case, fourth lower case, followed by a hyphen and numeric. If the Borden block is known but a sequential has not been assigned, enter a zero for sequential number. If only the upper Borden is known, enter "z" for the lowercase characters (KzNz-0). If the Borden block is unknown, enter "Y" for upper and "y" for lower (YyYy-0). Separate extra characters after sequence number with a space (KeNi-1 A).

Examples

KeNi-1
KeNi-1 A
KeNi-1 -1
KeNi-0
KzNz-0
YyYy-0

A06 Permit Number*

Indicate the number of the Parks Canada, provincial or territorial archaeological research permit held by the researcher.

Examples

NWT 96-829
NWT 2001-987
94-6ASR

NUNAVUT 2001-018A
Parks Canada Permit No. 97-00004

A07 Researcher*

List the Principal Investigators/Project Archaeologists/permit holders who have been at the site. Enter in the following format: surname, given name, initials. Names of co-investigators should be separated by a semicolon.

Example

Adams, Gary F.; Burke, Charles A.

A08 Park or Site Code

This code establishes a grouping or relationship between archaeological sites (which may be numerous) within a single geographic entity, such as a National Park of Canada or National Historic Site of Canada. If applicable, consult the authority list at the appropriate Parks Canada Service Centre for a list of valid codes for protected heritage areas administered by Parks Canada. It is used primarily for data sorting and filtering in a Parks Canada Archaeological Database. The examples below are from the Western Canada Service Centre database in Winnipeg.

Examples

H51 (York Factory NHSC)
P37 (Aulavik NPC)

A09 Contract Number*

If applicable, enter the number of the contract held by the permit holder to conduct archaeological research. Separate multiple entries by a semicolon.

Examples

1630-79-67; 1630-82-25

B. LOCATION

Point Data (General Information)

When reporting spatial/geographic coordinate data for an archaeological site (or component of an archaeological site), include at least one of the following:

- Civilian UTM coordinates (See "UTM Coordinates" Field (Section B01));
- Geographic coordinates (See "Latitude" and "Longitude" fields (Sections B02 and B03)).

Both sets of readings are encouraged and accepted. The preferred standard is NAD 83 Civilian

UTM coordinates, as this is the most widely accepted in North America at the present time. Conversion programs for NADs other than 83 are readily available on the Internet (such as the Geomatics Canada website). Decimal degrees are often requested for use in GIS databases.

Where NAD 83 Civilian UTM coordinates are not available, the following point data will be accepted:

- NAD 27 MGRS coordinates;
- NAD 83 MGRS coordinates;
- NAD 27 latitude and longitude coordinates in either degrees:minutes:seconds or decimal degrees;
- WGS 84 latitude and longitude coordinates in either degrees:minutes:seconds or decimal degrees;
- an NTS field map showing site locations.

In all cases, NTS maps showing site locations as points are required and mandatory. NTS maps at the 1:50,000 scale (or photocopy of portion thereof, to scale) are acceptable in paper or electronic format (i.e., .jpg). It is preferable that site forms be provided in Excel, Access or tab-delimited text files.

Guidelines for the Use of GPS

Detailed guidelines for the use of GPS are offered online in the document “*Guidelines for Recording Archaeological Site Coordinates with Global Positioning System (GPS)*”, which is available through the Prince of Wales Northern Heritage Centre (PWNHC) website (PWNHC n.d., accessed online June 2005, at <http://pwnhc.learnnet.nt.ca/programs/downloads/20Jun05NWTGPSSStandards.pdf>). The guidelines are recommended as a standard for Parks Canada archaeological sites. In addition, the guidelines are a requirement for all Northwest Territories archaeology permits.

Based on the Guidelines noted above, the following information, at a minimum, should be recorded, preferably in the Field Notebook (parameters and/or examples are provided for each item):

- Site identification number (Provenience Number highly recommended);
- The GPS model and type (e.g., Garmin 12 XL);
- The date the coordinates were taken (yyyy-mm-dd);
- Units (metric highly recommended);
- The datum used (e.g., NAD 83);
- Coordinate system used (UTM or Decimal Degrees highly recommended. See above.);
- Geographic coordinates (for small archaeological sites less than 100 square metres, a single coordinate reading will suffice. For large sites, five readings are recommended. These should be taken at the site centre, and at the furthest extents of each of the cardinal directions. Multiple readings for large sites are of particular use in GIS applications);
- Antenna height (use the top of your backpack or a tripod and enter this height. Note that low level vegetation may effect readings);
- The PDOP value for each coordinate reading (should be no greater than 6);
- 3-D Manual Mode (minimum of four satellites);

- Signal strength (minimum level of 6);
- Satellite elevation (minimum 15 degree angle of unobstructed visibility above the horizon is required);
- Weather conditions (e.g., overcast).

Site Map (General Information)

The site map is essential for accurate plotting of the site's location and will become a critical permanent record of the site area. Two types of maps are required for the Parks Canada Archaeological Site Inventory Form: a 1:50,000 NTS map with the site accurately plotted and a detailed site map ("Site/Sketch Map", Section B21). A 1:20,000 scale map may be included if further site location information is needed to accurately locate or plot the site. A detailed site map is: 1) essential for monitoring changes occurring at the site over time; 2) helpful in assessing the site's significance compared to other sites in the area; and 3) useful in responding accurately and quickly to various institutions without requiring another field check to determine boundaries of sites in close proximity. Please see B20 in the Form Guide for specific site mapping requirements.

B01 UTM Coordinates*

Enter the Civilian UTM Zone, the six-digit Easting and the seven-digit Northing. These coordinates should be obtained using a GPS unit. If obtained by other means (e.g., digital maps, reading from an NTS map), please note in the "Determination Method" field (Section B05), or the "Remarks" field (Section J01). Locational notations or grid overlays regarding the UTM Grid system appear on most NTS maps, and the basic method for calculating UTM coordinates is explained on the border of most gridded maps. On gridded NTS maps, the distance between each grid line is 2 cm (1000 m in the field), therefore a metric ruler can be used to calculate an Easting and Northing to the nearest hundred metres. Civilian UTMs should be used as a best practice, though the Military Grid Reference System (MGRS) may be also used if required.

Examples

UTM Zone: 10; Easting: 621700; Northing 7557350 [Civilian]
12WEF E1234 N5678 [MGRS]

B02 Latitude*

Calculate site latitude to the nearest second. Provide in degrees, minutes and seconds, or in decimal degrees format if required (e.g., for a GIS database). In the "Remarks" field (Section J01), indicate whether the coordinates were acquired using a GPS unit or calculated from an NTS map.

Examples

56d 45m 20s N
45.12345

B03 Longitude*

Calculate site longitude to the nearest second. Provide in degrees, minutes and seconds, or in decimal degrees format if required. In the "Remarks" field, indicate whether the coordinates were acquired using a GPS unit or calculated from an NTS map.

Examples

90d 40m 30s W
124d 32m 23s W
75.12345

B04 Elevation*

Record both the elevation above sea level (ASL) and the local elevation of the site above the adjacent terrain or water. Reporting elevation in metres is preferred (to convert feet to metres multiply by 0.3048). Underwater sites should be recorded in metres above or below hydrographic datum. Enter elevation as a single number followed by BSL (Below Sea Level) or ASL. If an accurate range of elevations is available, indicate elevation "FROM" and "TO" as in the example.

Examples

30 mASL
30 mBHD
FROM: 30 (mASL) TO: 30 (mASL)

B05 Datum (Geodetic)

Indicate the geodetic datum used.

Examples

NAD 83
NAD 27
WGS 84

B06 Determination Method (Coordinates)*

Check the appropriate boxes and/or enter the method(s) and/or the instrument(s) used in calculating the coordinates of the site (including elevation), and the estimated error of each calculation. Any additional notes may be included in the "Remarks" field (section J01). Please specify to which coordinates the determination method is referring.

Examples

Derived from GPS (differential)
Wallace and Tierman surveying altimeter
Estimated from NTS map
AutoCAD Digitizing System
Hand-held GPS

B07 Location*

The purpose of the information in this entry is to make it possible for anyone to accurately plot the site on the appropriate 1:50,000 scale NTS map. Describe the site in a logical manner from general

to specific, starting with a fairly general area description. Describe the site location in relation to geographic features or permanent landmarks noted on a NTS 1:50,000 map. Site location may be determined by compass triangulation (specify true, grid or magnetic north) and calculation of distances from features appearing on the NTS map (e.g., hilltop, mountain peak, river or creek mouth, esker, headland). Unmapped features, such as trees or buildings, should not be used as datum points. Distances must be measured accurately, using a tape measure, vehicle odometer, pace chart or other precise measure.

Example

Located between Campbellford and Meyersburg, west of Highway 50, on the west bank of the Trent River, 300 m west of its confluence with the Crowe River.

B08 Access*

Explain precisely how to access the site and whether the site can be reached by foot or by vehicle (motorised or other). The purpose of the information in this entry is to make it possible for anyone to readily re-locate the site in the field (or underwater) by indicating the method of travel required to access the site. Access information should complement the locational data by referring to features not necessarily found on the NTS map (e.g., local geographic features, human or animal trails) and by indicating the method of travel required. Be attentive to all details and use cardinal directions (N, S, E, W, NW, etc.) and not "left" or "right" unless accompanied by the cardinal direction.

Example

Located approximately 2 km SW of the Green Cabin, W of site 130X120, on a high bluff 300 m W of the Thomsen River. Five tundra ponds and an expansive rock outcrop are visible below site to the NE. Access by helicopter, canoe or on foot.

B09 Map Reference Number *

Indicate the reference number for the appropriate 1:50,000 (or other scale, such as 1:250,000) scale National Topographic Series (NTS) map. Non-standard maps should be recorded in the "Other Map" field.

Examples

97A (Erly Lake)
25K
25K/3W
103P/10

B10 Map Scale*

Enter the scale of the map (NTS or other) on which the site is plotted.

B11 Other Map*

Enter the name and/or number of any other (non-NTS) map(s) relevant to the site, as well as the map or issuing agency, and the scale. Please do not enter detailed site plans/sketch maps in this field (those are entered in "Sketch Map/Site Plan" field. Historic maps such as archival maps, traplines, etc. should be noted, along with scale, if available. This may include Hydrographic Chart Number(s) for underwater sites.

Example

082F Stuiie, 1:250,000

B12 Minor Drainage*

The name of the body of water with which site is most closely associated. For shipwrecks: enter the name of the minor water body (harbour, body, cove, bay, etc.) within the major body containing the site of the shipwreck. Enter the smaller, immediate fresh water drainage or lake if the site is on an interior waterway.

Examples

Muskox Creek

unnamed creek

Peggy's Cove (for Coastal Shipwrecks/underwater sites)

Lake Ontario (for Interior Shipwrecks/underwater sites)

B13 Major Drainage*

The major drainage system into which the local drainage on which the site is located flows. For shipwrecks: enter the name or description of the major water body such as a strait, inlet, channel, etc. that contains the site of the shipwreck. Enter the major drainage if the site is on an interior waterway.

Examples

Thomsen River

unnamed river

Labrador Sea (for Coastal Shipwrecks/underwater sites)

Hudson Bay (for Interior Shipwrecks/underwater sites)

B14 Aerial Photo Reference Number*

Enter the aerial (air) photo reference number. Separate multiple entries by a semicolon.

Examples

A-16098-7

A-17242

Q287-45

B15 Province/Territory*

This field indicates the province or territory in which the site is located. Enter, in abbreviated format, the name of the province or territory. Use the Canada Post Province/Territory codes. Entry must be made in upper case. Note that the code "NL" includes Labrador.

Examples

AB, BC, MB, ON, PE, QC, NS, NL, NU, NT, SK, YT

B16 District/County*

Enter the name of the district, county or shire (if applicable) in which the site is located. It may also apply to regional districts, counties or townships within the provinces.

Examples

Keewatin [District]
Simcoe [County]

B17 Township*

Enter the name of the township in which the site is located, if applicable.

Examples

Fitzroy
Nottawasaga

B18 Nearest Named Place

Enter the nearest named place(s).

Examples

Aklavik
Campbellford
Sydney

B19 Cultural Region

List the name(s) of the cultural region(s) or ethnographic area(s) in which the site is located.

Examples

Champagne-Aishihik First Nations
Kwanlin Dun First Nation
White River First Nation

B20 Aspect

Indicate the principal direction that the site faces. Use standard or cardinal indicators of direction (N, E, S, W, NNW).

B21 Site/ Sketch Map*


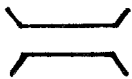
The British Columbia Archaeological Site Inventory Form Guide (revised 2003, available online) offers excellent minimum detailed mapping standards, which are highly recommended for Parks Canada archaeologists.


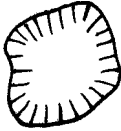

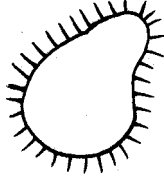

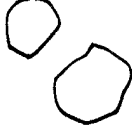



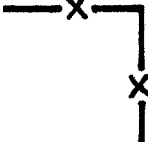
The Guide to the Saskatchewan Archaeological Resource Record (1992, available online) offers basic guidelines. Plot the boundaries of the site and the surface features or activity areas in relation to: 1) major topographic landforms and/or vegetation, such as streams, hills, meadows, etc.; 2) existing permanent landmarks such as roads, buildings, fences, geodetic markers, etc.; and 3) where appropriate, areas of erosion, proposed land use, development, etc. which could adversely impact the site. As well, indicate where authorised archaeological investigations were conducted or where objects were collected, and any areas that have been adversely impacted. Include a north arrow (north is normally toward the top of the page) along one of the map margins indicating whether this is a grid, magnetic, or true north. In addition, include feature and structure distributions, datum points, compass bearings, map scale (in metric), and map symbols in a legend. Where possible, relate the feature locations in the Site Plan/Map with features noted in the NTS Map(s) and Site Access and Location Fields.

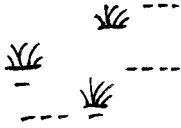
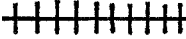
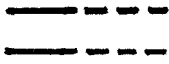




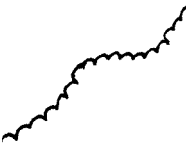
Standard Symbols for Drawings and Maps

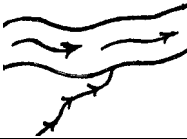


A basic list of standard symbols for drawings and maps is offered in Table 1. These symbols are recommended as a best practice, and represent some of the more common symbols found in archaeology guides and manuals across Canada, many of which can be found in Fry (c. 1975).

Table 1. Recommended Standard Symbols for Maps and Drawings.

Description	Top View	Side View
Archaeological Site Boundary		
Bridge		

Description	Top View	Side View
Crest of Slope		
Depression (small)		
Mound/Hill (small)		
Stones		
Upright Stones		
Datum		
Transit/Theodolite Station		
Fence		

Description	Top View	Side View
Marsh/Swamp		
Railway		
Road		
Shovel Test <i>(Negative, positive)</i>		
Soil Probe Test <i>(Negative, positive)</i>		
Trail (animal or human)		
Tree		
Vegetation Extent		

Description	Top View	Side View
Watercourse (River, Creek)		
Lake/Pond		
Tent Ring/Stone Circle		

C. ENVIRONMENT

C01 Environmental Setting

Describe the natural setting of the site: drainage, vegetation, and landforms. If applicable, report the ecoregion in which the site is located. Useful guidelines for recording site landforms are provided in Appendix 3 of the Guide to the Saskatchewan Archaeological Resource Record (1992), available online. Habitat descriptions are also available online on the Maritime Archaeological Resource Inventory (2004) form. For vegetation, a suggested guideline is that found in the Yukon Archaeological Site Inventory Form (2004, available online): Enter the names of the dominant flora at the site. A suggested guideline is to classify the vegetation under the following headings: Trees, Shrubs, Ground Vegetation. Use either common or scientific names; list in order of most to least abundant. Indicate degree of forest cover (e.g., closed, open, parkland, secondary regrowth.) For underwater sites, include information on shorelines, exposure, wave action, visibility factors, proximity to shipping lanes, etc.

C02 Soil Type

Provide a general description of the soil matrix and soil strata, including a description of the colour, texture, depth and composition of each stratum. Use natural soil horizon terminology, with arbitrary level designations within a horizon, if required.

One of the most widely used particle size classification systems used in North America is the logarithmic "Wentworth Grade Scale", which is shown in Table 2 below. It provides a conventional particle size classification system for soils, with a scale ranging from "boulder" (greater than 256 mm) to "clay" (less than 0.0039 mm), and intermediate ranges defining cobbles, pebbles, sand and

silt. Sieves with specific mesh sizes are available so that the proportions of these various particles can be readily calculated. Common mesh and sieve sizes are described in Fladmark (1978).

Table 2. The Wentworth Grade Scale – a conventional particle size classification system, from Fladmark (1978).

Class Terms	Millimetres (mm)	Comments
Boulder	Anything over 256	
Cobble	64 – 256	
Pebble	4 – 64	
Granule	2 – 4	Granule is not a commonly encountered size or term
Very Coarse Sand	1 – 2	
Coarse Sand	0.5 – 1.0	
Medium Sand	0.25 - 0.5	
Fine Sand	0.125 – 0.25	
Very Fine Sand	0.062 – 0.125	
Silt	0.0039 – 0.062	
Clay	Under 0.0039	

For comparison, note that the Province of Saskatchewan (1992) provides a simplified list of soil terms shown in Table 3 below:

Table 3. Simplified particle size classification, from Province of Saskatchewan (1992).

Class Terms	Millimetres (mm)
Boulder	Anything over 256
Cobble	64 – 256
Gravel	2 - 64
Sand	0.05 - 2
Silt	0.002 - 0.05
Clay	0.0002 – 0.002

D. TENURE

D01 Owner*

Enter the name of the legal owner of the property, as opposed to political jurisdiction, on which the site is located. See also the "Political Jurisdiction" field (D02).

Examples

Parks Canada
 John Doe
 Kluane First Nation

D02 Political Jurisdiction*

Indicate whether the site is under federal, provincial, municipal, or Aboriginal (First Nation/ Inuvialuit/ Inuit) political jurisdiction. If "other", please specify.

Examples

Federal
Provincial
Inuvialuit

D03 Legal Description*

Enter the coded reference to the area in which a site occurs as surveyed for Land Title Registration (Archaeology). Units and practices vary by province and territory. This field indicates the legal description of the site referenced in the Borden Number field. Legal descriptions result from surveys required for Land Title Registration purposes. For instructions on reading and reporting legal descriptions, consult the Guide to the Saskatchewan Archaeological Resource Record (1992), and the British Columbia Archaeological Site Inventory Form Guide (2003), which are both available online.

Example

1/4 NW. 1/4 of Section T-16N. R21E. W. of Meridian.

E. VISIT HISTORY

E01 Date Visited (From/To)*

Enter the date(s) you (or the informant) visited or worked at the site. Indicate complete date of last visit if known (yyyy-mm-dd). For unknown date elements, enter zeros (0000-00-00) for each missing element as required. Enter any comments in the "remarks" field.

Examples

FROM: 2004-05-31 TO: 2004-06-04
FROM: 2004-05-00 TO: 2004-05-00

E02 Nature of Work Done (Visit Activity)*

Check off as many items on the Archaeological Site Inventory Form as appropriate and/or describe the range of work done at the site in the "Remarks" (J01) field.

E03 Change Since Last Visit*

For previously documented sites, have disturbances/impacts increased or decreased? Conduct a qualitative or, where possible, quantitative assessment. Use the guidelines in the "Estimated % Disturbed/Impacted" field (F04), if applicable. Describe any observed changes based on available

data. Indicate complete date of last visit, if known (yyyy-mm-dd). For unknown date elements, enter zeros (0000-00-00) for each missing element as required.

E04 Informant Name*

Record the full name(s) and address(es) of any persons having special knowledge about the site (e.g., informant-reported sites).

E05 Images/ Recordings*

Indicate the type(s) of image(s) generated during the current site visit, and any digital or analog recording instruments from which records were generated. Check off as many items on the Archaeological Site Inventory Form as applicable.

F. CONDITION

F01 Condition Assessment (General)*

Indicate one of the three categories. These may be applied to the site as a whole, or to site components, as required (please specify). Any recommendations for the management or protection of the site may also be indicated here, or in the Recommendations (J02) field.

Good = Stable. No appreciable damage to or deterioration of known archaeological resources. No work other than regular maintenance and monitoring is required to ensure integrity of archaeological resources.

Fair = Minor damage to or deterioration of known archaeological resources, resulting in minor or potential loss of integrity. May require preservation, enhanced monitoring, mitigation, or other measures.

Poor = Major damage to or deterioration of known archaeological resources. Requires urgent preservation or mitigation (e.g., salvage) or other measures to prevent further loss of integrity or to capture information before it is lost.

Destroyed = The site is destroyed or so severely damaged that the data potential/scientific research value is deemed insufficient to warrant further archaeological monitoring or investigation.

Add any comments as required for clarification/rationale for assessment. Also note if a condition assessment has not been done. *Note:* These are suggested guidelines based on the general criteria used in the *State of the Parks 1997 Report* (Parks Canada 1998) and Parks Canada's May 2005 draft rating guide for Commemorative Integrity Statements. Additional discussion will be required to finalise official criteria. The "Destroyed" category was borrowed from the US National Parks Service (2003) "Guidance on Determining Archaeological Site Condition for ASMIS" (National Parks Service 2003).

F02 Disturbances (Impact Agents)*

Check off as many cultural and/or natural disturbance factors as appropriate on the Archaeological Site Inventory Form and provide a brief description, if required (or possible).

Examples

eroding (slumping)
disturbed by pothunters/looters
threatened by road construction
disturbed by ATV traffic
destroyed by unauthorised collection

F03 Threatened Site? *

Select one of three categories (Threatened, Not Threatened, or Unknown Threat). “Unknown Threat” may be used when it is not possible to determine or assess potential threats to the integrity of cultural resources.

Justification: Indicate the basis/rationale of your assessment.

Recommendations: Provide suggestions for action to alleviate impacts on cultural resources based on field inspection.

Comments: general or specific information, interpretations, etc. not previously noted.

Future Threats: Estimate future threats (disturbances/impacts) according to the following scale: High, Medium, or Low.

Rationale: Indicate the basis/rationale for your assessment, and record any potential disturbances to the site and when these disturbances are likely to occur.

F04 Estimated % Disturbed/Impacted*

This section provides more detail than the general condition of the site (see Condition Assessment field, F01). With reference to the horizontal and vertical site extent, estimate the percentage of site disturbed/impacted.

The recommended guidelines, based on the Yukon Archaeological Site Inventory Form Guide (Government of Yukon 2004) are:

- Destroyed (100%);
- Very Disturbed (50-90%);
- Disturbed (25-50%);
- Slightly Disturbed (5-25%);
- Intact (no observable disturbance).

Indicate the source of impact in the “Disturbances (Impact Agents)” field (F02). If a site has been destroyed, indicate the source of the destruction where possible.

G. DESCRIPTION

G01 Site Dimensions*

The following guidelines for recording site dimensions are based on those outlined in Province of British Columbia (2003).

Length: Enter the length of the site in metres followed by the cardinal direction (example NNW, ENE, N, S, E, W). Length represents the longest dimension regardless of direction. However, for a site with an irregular shape where the length varies, provide the maximum length and direction.

Width: Enter the width of the site in metres followed by the cardinal direction. Width represents the maximum direction perpendicular to length. However, for a site with an irregular shape where the width varies, provide the maximum width and direction.

Include any comments (such as previously recorded dimensions, reasons for changes, etc.) in the “Site Dimensions (Comments)” field (G02) or in the “Remarks” field (J01).

Examples

Length 200 m E/W.

Width 50 m N/S.

G02 Site Dimensions (Comments)

Discuss any previous dimensions recorded for the site and, if applicable, reasons for the amendments, as well as any other pertinent details. Indicate whether the measurements are estimates based on observation, or exact, in that the site boundaries have been determined through subsurface testing. Note whether the measurements apply to the whole site or only part of the site. Site dimensions must reflect the site boundary illustrated on the site map when using the bar scale.

Example

“In 1978, site dimensions were recorded as 100 m N/S by 25 m E/W, but in 2004 riverbank erosion had decreased site width. Site width varies from 20-25 m.”

G03 Site Description (General)*

Check off as many items as appropriate on the Archaeological Site Inventory Form to describe the site and its components.

Categories include: Surface, Subsurface, Underwater, Undetermined, Object Scatter, Single Feature, Multiple Features.

Note that "Isolated Archaeological Finds" ("Isolated Finds") are treated in the "Isolated Find" field (G05).

G04 Features*

These are non-moveable elements of a site. Indicate the kind and number of features observed. Use a controlled vocabulary if possible (e.g., internally consistent with the appropriate Parks Canada Service Centre, or provincial/territorial heritage institutions, or the Canadian Heritage Information Network (CHIN)). Separate multiple entries by a semicolon.

Examples

cache (descriptor)

grave

hearth

inuksuk

medicine wheel

midden (descriptor)

rock alignment (descriptor - e.g., drive lane, caribou)

structure (descriptor - e.g., cellar, dam, furnace, rampart, well)

tent ring

hunting blind

G05 Isolated Find*

Check "Yes" if this is an Isolated Archaeological Find ("Isolated Find"), and provide a rationale if it is to be reported as an "Archaeological Site". The Parks Canada definition of "Isolated Archaeological Find" (Isolated Find) is: "A single archaeological object that is or was located *in situ* on, below or above the ground, or lands under water, such as a single projectile point, or fragments from a single ceramic vessel. Other criteria may be applied to the definition at the discretion of the archaeologist, provided a rationale is included." All Isolated Finds must be recorded, and must be assigned a Provenience Number. Isolated Finds may be reported as an archaeological site at the discretion of the Project Archaeologist, provided a rationale is included.

G06 Site Type/ Function*

Enter the site type as determined by the researcher. Use the examples provided here as a general guideline, or use the site type appropriate to your jurisdiction. Use of the criteria or authority lists, if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. For the site type "campsite", it is recommended to enter "campsite (purpose, type, season)". "Season" is listed in the following order: spring, summer, fall, winter. Indicate tentative assignments with a space and a "?" after the term. An excellent example of site classes, types, and functions can be found in Appendix 3 of the British Columbia Archaeological Site Inventory Form Guide (2003, available online).

Examples

administrative centre
battlefield
campsite (hunting, caribou, spring)
campsite ?
ceremonial/religious (cemetery, grave, mortuary pole, spirit house, platform, sweat lodge)
commercial
cultural depression (menstrual lodge, sweat lodge, plank house, cache pit)
defensive
earthwork (trench embankment, mound, fortification)
food harvesting (killsite, corral, drive lane, trap, deadfall)
fort
habitation (platform, cave, rock shelter, refuge)
irrigation farming
landmark (NHSC plaque)
material harvesting (oil refinery, mining)
mission
port
subsistence (fishing, hunting, fowl)
trading post
transportation (trail)
undetermined
wharf
workshop (lithic)

G07 Slope Angle

Estimate the angle (degree) or percent of the slope on which the site or resource rests. A clinometer, found on most compasses (e.g., Brunton), can be used to estimate the angle.

H. CULTURE

H01 Site Type Class*

This field indicates a first level classification of the site type based on its broadly defined associated period of occupation and/or function. Use the site type class appropriate to your jurisdiction. Use of the criteria or authority lists, if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. As a general guideline, it is recommended to use the Canadian Museum of Civilization criteria: choose one or combination of: pre-contact; indigenous historic; historic; contemporary; natural, undetermined. Tentative assignments are identified by the entry of a space and a “?” after the term. Separate multiple entries by a semicolon.

Examples

Pre-contact
Pre-contact ?
historic

indigenous historic
contemporary
natural
undetermined

H02 Cultural Period*

Indicate the period of occupation of the site as determined by non-laboratory means, by the Project Archaeologist/Principal Investigator. Indicate relative dates, if known.

Examples

pre-White River Ash
15th century ?
17th-18th century
4000-2000 B.P.

H03 Scientific Dates/ Radiocarbon Data*

Indicate absolute dates acquired from the site or site components, if available. Enter each date, the error margin and the lab number. If a technique other than radiocarbon dates is used, enter the technique in parenthesis after the lab number. Specify the material, context and associations of the date, and the investigator acceptance/rejection of the date with rationale.

Examples

1690 +/- 50 (Beta-99129)
1380 +/- 105 (S-466) (NMC-302)
1930 +/- 200 (RIDDL-325)

H04 Culture

The Canadian Museum of Civilization's approach is suggested as a guideline. Enter the archaeological culture(s) thought to be represented at the site. Use of the criteria (or authority lists), if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. Tentative assignments are identified by the entry of a space and a "?" after the term. Modifiers may be appended in parenthesis after the term. Separate multiple entries by a semicolon.

Examples

Dene
Pre-Dorset ?
Eurocanadian
French-Canadian
Métis
Innu

H05 Cultural Strata

Provide a concise description of the general classes of cultural materials found in each soil horizon. Include a description of the colour, texture and composition of the soil matrix and a short summary of shovel tests, soil probes or test units. For the Yukon, if White River ash is present in the site deposits, indicate depth of cultural materials below ash.

Examples

Fine grain yellowish brown sandy loam (Munsell: 10 YR 5/4, Particle Size 0.25-0.5 mm) charcoal

I. MANAGEMENT

I01 CRM Level*

List the site's overall Cultural Resource Management (CRM) level, or the CRM level of site elements if required (please specify), based on Parks Canada's CRM Policy criteria (Parks Canada 1994:106-8). Also indicate rationale for your evaluation.

I02 Objects/Samples (Collected)*

Indicate the general range of archaeological objects/samples that were collected; check off as many as appropriate on the Archaeological Site Inventory Form. Also note the repository where they will be housed (see example). Add any comments in the "Remarks" field (J01).

Examples

PARKS CANADA (WCSC Calgary)
PWNHC
CMC

I03 Objects/Samples (Not Collected)*

If present, indicate the general range of archaeological objects or samples observed at the site but not collected (check as many as appropriate). Also indicate whether archaeological objects are present (observed) or absent.

J. COMMENTS

J01 Remarks

Enter general and descriptive information on the site features, research activities, factors that might have affected GPS use and/or coordinate readings (i.e., topography, readings acquired while hovering in helicopter, operational error, etc.). Enter any recommendations in the "Recommendations" field (J02).

Examples

"Unable to plot accurately due to dense forest cover."

"Original GPS coordinates submitted as (NAD not specified): 643068N 1381457W."

"Sites 130X213 (PiPw-20) and 130X214 (PiPw-21) reported by Webster in 1995 might, in fact, be an extension of the same site."

"The main area of the site comprises 3 circular tent rings (Features 1 to 3). Feature 1 has a clearly defined central line of small flat rocks. Surface lithics and bone (all apparently culturally modified) were observed at Features 1 and 2."

J02 Recommendations*

Enter any recommendations pertaining to site or site components, including monitoring, surveillance, and additional research.

Example

"Annual monitoring is recommended as the site is highly visible and is located in a high visitor traffic area during the warmest months of the year."

K. REFERENCE

K01 Type of Documentation/ Archive*

Check off as many items as applicable on the Archaeological Site Inventory Form. This field indicates the type of documentation or archive associated with the site (e.g., still or moving images, field notes).

K02 Field Notebook Reference*

Indicate the page(s) of the Field Notebook where the site is referenced. 2004-7P-1 to 4

K03 Bibliographic References

Enter the unpublished and published references specifically related to the site. The Canadian Museum of Civilization's format, noted below, is recommended.

For unpublished references:

MS000123

ASC ARCHIVES Ms. 2980

For published references:

1955 Collins, H. B. "Dorset Dwellings" SCIENCE Volume 122, No. 3175, Nov. 4

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Province of Saskatchewan (1992) *Guide to the Saskatchewan Archaeological Resource Record*. June 1992. Saskatchewan Culture, Youth and Recreation, Heritage Resources Unit, Archaeological Resource Management, Regina. (Available online at: <http://www.cyr.gov.sk.ca/assets/pdf/SARR92 - Guide to the SARR 1992 version updated Nov18-04.pdf>. Updated. November 2002. Accessed online June 2005).

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APPENDIX B: Image Catalogue Form and Form Guide

IMAGE CATALOGUE FORM

PHA:						Site/Project Name:		Roll No.	Image Type:	Page ___ of ___
Image Cat. No.	Site No.	Code	Op	Subop	Lot	Exp./Rec. No.	Subject	Date	Recorder	Direction

IMAGE CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Image Cat. No.*	Image Catalogue Number. The catalogue numbers assigned to the selected exposures are entered in these columns on the left-hand side of the form. To conserve space, the Site Number and hyphen may be entered once at the top of the columns, and the remaining portions of the catalogue numbers may be entered opposite the selected exposures. It will be convenient to enter the Site Number at the top of these columns when the form is initiated; the entries in the columns themselves, however, are the last step in completing the form for input.	1H-0043T
Provenience*	"Provenience" includes the following fields: Site Number (Site No.), Province or Territory Alpha Character/Code (Code), Operation (Op), Suboperation (Subop), and Lot. The smallest inclusive provenience of the subject of the exposure is entered in these fields.	134H12A11 for a Lot; 134H17B for a Suboperation, 134H10 for an Operation and (rarely)134H for an image of an entire site or of some element of a site that has not been assigned an Operation Number.
Site No.*	Enter the Site Number (Part of Provenience).	9
Code*	Enter the Province or Territory Alpha Character Code.	K
Op*	Operation (Numeric).	1
Subop*	Suboperation (Upper Case Alpha Character).	A
Lot*	Lot Number (Numeric).	1
Exp./Rec. No.*	Exposure or Record Number. For traditional film photography, enter the exposure numbers in sequence. These numbers should be entered as the exposures are made, not in advance, since the amount of vertical space required for the subject description cannot generally be predicted (unless an electronic version is used). For digital images, enter the automatically generated number.	01 (film); P0000223 (digital)
Subject*	In this column, enter the identity of the subject of the photograph, always putting the name of the structure or area first, followed by an identification of the details. The terminology used to identify the subject of an excavation or survey photograph should be the same as that which appears on any other form that is used which records the description of the subject of the image. Use consistent terminology in all recording documents.	"New Bakehouse, oven foundation"; "Thule dwelling, before excavation"
Date*	Indicate the date on which the picture was taken, in yyyy-mm-dd format (numeric).	2004-06-31
Recorder*	Enter the Staff Field Number or the full name of the person taking the picture/image.	7P, Gary Adams

IMAGE CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Direction*	In this column, record the cardinal direction the camera is facing when the photograph is taken, using N for north, E for east, S for south, W for West, D for down, U for up, etc.	N, E, S, W, NNW, D, U
Page	Enter the number of forms required to record the roll of film and the number of the form.	Page 1 of 2
Site	Enter the Site Name.	Nasogaluak
Roll No. *	Film Roll Number. To conserve space, the roll number portion of the exposure number is entered once at the top of the form. The roll number for the thirty-second roll of 35 mm colour slide (transparencies) film used in 2004 would be written as in the example to the right.	2004-R32 -T
Card No.*	Memory Card Number. Enter a Memory Card Number in numerical sequence, if applicable (e.g., assigned to a CompactFlash Card, if the card is to be used as a storage medium.) The numbering system used is at the discretion of the Project Archaeologist. Memory card technology is rapidly changing. Some current (2004) examples include: CompactFlash, SmartMedia, Multimedia Card (MMC), Secure Digital (SD), Memory Sticks, microdrives.	FC01 ("Flash Card 01")
Site/Project Name	Enter the name of the project.	York Factory Icehouse Mitigation
PHA	Protected Heritage Area: Enter the name of the NPC, NHSC, or NMCA.	Aulavik National Park
ImageType*	Enter the Image Type Code (use Image Type Code List in Section 7.2.1.)	T (Colour Slide), M (Black and White Negative), E (Electronic/ Digital), etc.

Note: An asterisk (*) indicates a mandatory data field, if applicable/available.

APPENDIX C: Media Catalogue Form and Form Guide

MEDIA CATALOGUE FORM

<i>Site(s):</i>					<i>Project Name:</i>		<i>Media Type:</i>	<i>Page: ___ of ___</i>	
Media Cat. No.	Format	Timer	Provenience(s)	Reel No.	Subject	Date(s)	Recorder(s)	Direction	

MEDIA CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Site(s)*	Enter the Site Name.	Nasogaluak
Project Name*	Enter the name of the project.	York Factory Icehouse Mitigation
MediaType*	Enter the Media Type Code (use the Media Type Code List in Section 8.4.2.)	A (Audio), F (Forms), G (Geographic Data), R (Remote Sensing Data), S (Instrument Survey Data), V (Video), etc.
Page	Enter the number of forms required to record the roll of film and the number of the form.	Page 1 of 2
Media Cat. No.*	Media Catalogue Number. Enter the Media Catalogue Number. Physically label the memory storage medium (e.g., Flash Card, Beta Video) with the appropriate catalogue number, according to current Collections Management practices.	5H-2004-101H-A1; 134H-2004-101H-G2
Format*	Indicate whether the record is in digital or analog format.	Digital (D), Analog (A)
Timer*	Enter the timer data (from/to), if applicable.	
Provenience(s)*	Enter the provenience(s) included in the media record. The smallest inclusive provenience of the subject of the exposure is entered in these fields.	134H12A11 for a Lot; 134H17B for a Suboperation, 134H10 for an Operation and (rarely) 134H for a record of an entire site or of some element of a site that has not been assigned an Operation Number.
Reel No.	Enter the number of the reel.	5
Subject*	In this column, enter the identity of the subject of the photograph, always putting the name of the structure or area first, followed by an identification of the details. The terminology used to identify the subject of an excavation or survey should be the same as that which appears on any other form that is used which records the description of the subject. Use terminology consistently in all recording documents.	"New Bakehouse, oven foundation"; "Thule dwelling, before excavation"
Date(s)*	Indicate the date(s) on which the record was taken, in yyyy-mm-dd format (numeric).	2004-06-31

MEDIA CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Recorder*	Enter the Staff Field Number or the full name of the person recording the media.	7H (Jane Smith)
Direction	If applicable, record the cardinal direction the camera is facing when a video is taken, using N for north, E for east, S for south, W for West, D for down, U for up, etc.	N, E, S, W, NNW, D, U

APPENDIX D: Suboperation Summary Form

SUBOPERATION SUMMARY FORM

Pg ____ of ____

Suboperation:

Recorder:

Date Started:

Date Completed:

Rationale for Suboperation:

Spatial Characteristics:

Dimensions – Shape:

Coordinates:

Relationship to Period Features/Structures:

Features Exposed:

Significance of Suboperation:

Suboperation Completion Checklist:

- | | |
|--|--|
| <input type="checkbox"/> Excavation Completed | <input type="checkbox"/> Excavated to Sterile |
| Plan Views: <input type="checkbox"/> Drawn | <input type="checkbox"/> Photographed |
| Profiles: Drawn- <input type="checkbox"/> North | <input type="checkbox"/> South <input type="checkbox"/> East <input type="checkbox"/> West |
| Photo'd- <input type="checkbox"/> North | <input type="checkbox"/> South <input type="checkbox"/> East <input type="checkbox"/> West |
| <input type="checkbox"/> Lot Summaries Completed | <input type="checkbox"/> Lot/Layer Summaries Completed |
| <input type="checkbox"/> Structure Summaries Completed | <input type="checkbox"/> Matrix Chart Completed |

Comments:

APPENDIX E: Lot Summary Form and Form Guide

LOT SUMMARY FORM			
Section	FIELD NAME	FORM CHECK BOXES	DATA/COMMENTS
<i>A</i>	<i>BASIC LOT DATA</i>		
A01	Date Started (yyyy-mm-dd)*		
A02	Date Completed (yyyy-mm-dd)*		
A03	Excavation Method*	Trowel__ Shovel__ Scrape__ Screen (dry)__ Screen (wet)__ Floatation__ Mechanical Excavation (please specify)__ Other (please specify)__	
A04	Lot Number*		
A05	Staff Name(s)/Staff Field Number(s)*		
<i>B</i>	<i>COMMENTS</i>		
B01	Archaeological Objects	Ceramics__ Glass__ Metal__ Lithics__ Other (please specify)__	
B02	Exposed Features		
B03	Special Finds		
B04	Field Discards		
<i>C</i>	<i>INTERPRETATION</i>		
C01	Interpretation (preliminary)*		
C02	Rationale for Lot		
C03	Significance of Lot		
<i>D</i>	<i>LOCATION</i>		
D01	Coordinates*		
D02	Coordinates (Determination Method)*	GPS__ Differential GPS__ Total Station__ NAD 27__ NAD83__ Other (please specify)__	
D03	Elevation*	Elevation (top)__ Elevation (bottom)__	
D04	Elevation (Determination Method)*		
D05	Location/Elevation Plan		
D06	Plan View Sketch*		
D07	Spatial Characteristics	Dimensions__ Thickness__ Volume__ Shape/Boundary Contour__ Stratigraphy__	

LOT SUMMARY FORM			
Section	FIELD NAME	FORM CHECK BOXES	DATA/COMMENTS
<i>E</i>	<i>NATURE OF LOT</i>		
E01	Cultural Period	Pre-contact__ Historic__ Indigenous Historic__ Contemporary__ Geologic__ Undetermined__ Other (please specify)___	
E02	Type of Lot*	Sample__ Interface__ Object Cluster__ Occupation Level__ Fill__ Rubble__ Feature (please describe)___ Natural Stratum (please describe)___ Undetermined__	
<i>F</i>	<i>CROSS-REFERENCES</i>		
F01	Event		
F02	Lot Correlations*		
F03	References*	Field Notebook Page(s) __ Image Catalogue Number(s)___ Drawings__ Level Book __ Other (please specify)___	
<i>G</i>	<i>SOIL/SUBSTRATE</i>		
G01	Deposition	Natural__ Primary__ Secondary__ Undetermined__	
G02	Inclusions/Materials*	Roots__ Wood__ Charcoal__ Ash__ Brick__ Mortar__ Plaster__ Cement__ Concrete__ Brick__ Chalk__ Sandstone__ Schist__ Other (please specify)___	
G03	Soil Type*		
G04	Lot Context*	Sealed__ Unsealed__ Disturbed__ Intrusive (please specify)___	
G05	Soil Consistency*	Very Loose__ Loose__ Medium__ Hard__ Very Hard__ Dry__ Damp__ Wet__ Other (please specify)___	
G06	Soil Colour (Munsell)*		

LOT SUMMARY FORM (FORM GUIDE)

Section	Field Name	Description/Instructions	Examples
A	BASIC LOT DATA		
A02	Date Started (yyyy-mm-dd)		2004-06-11
A02	Date Completed (yyyy-mm-dd)		2004-06-12
A03	Excavation Method*	Check off as many items as applicable.	Other (please specify): Dental pick and horsehair brush
A04	Lot Number*	Enter the complete provenience	9K24A1
A05	Staff Name(s)/Staff Field Number(s)*	Enter the full name and/or Staff Field Number of the crewmember who excavated or recorded the Lot. If necessary, the name of the person who completed the form could also be entered.	Gary Adams (7P)
B	COMMENTS		
B01	Archaeological Objects	Check off as many items as applicable.	Other (please specify): fossil, unidentified
B02	Exposed Features	Indicate or list features exposed in Lot	NW corner of hearth; SE edge of dwelling (tent ring)
B03	Special Finds		Projectile Point,
B04	Field Discards	Describe any archaeological objects discarded/not collected during excavation, and provide a rationale for not collecting. Indicate specific quantities where possible.	bolt, machine; modern (Quantity n=1); Rationale: From recent foundation repair activities.
C	INTERPRETATION		
C01	Interpretation (preliminary)*		
C02	Rationale for Lot		
C03	Significance of Lot		
D	LOCATION		
D01	Coordinates*	Indicate two- or -three-dimensional spatial coordinates	
D02	Coordinates (Determination Method)*	Check off as many items as applicable.	

LOT SUMMARY FORM (FORM GUIDE)

D03	Elevation*	Enter the elevation for top and bottom (centre point) of Lot (e.g., using DBD or DBS.) Metric units are recommended.	Elevation (top) 45.6 cm DBD, Elevation (bottom) 57.4 cm DBD;
D04	Elevation (Determination Method)*	GPS __ Differential GPS __ Total Station __ NAD 27 __ NAD83 __ Other (please specify) __	
D05	Location/Elevation Plan		
D06	Plan View Sketch*	Include cardinal direction.	
D07	Spatial Characteristics		
E	NATURE OF LOT		
E01	Cultural Period		
E02	Type of Lot*		
F	CROSS-REFERENCES		
F01	Event		
F02	Lot Correlations*	Indicate unit, lot, layer or stratum correlations	
F03	References*		
G	SOIL/SUBSTRATE		
G01	Deposition		
G02	Inclusions/Materials*	Indicate Size, Frequency, and Sample Number, if applicable	
G03	Soil Type*	Indicate the soil composition, degree of compaction, and gradient. For soil gradient, the soil classification table(s) in Appendix A (under "Soil Type") are recommended.	
G04	Lot Context*		
G05	Soil Consistency*		
G06	Soil Colour (Munsell)*	Developed by Munsell and the United States Department of Agriculture (USDA) Soil Conservation Service, the Munsell Color System is the field and laboratory standard for classifying soil colour, rocks, and archaeological objects and samples. It contains 322 colour chips.	

APPENDIX F: Stratigraphy Summary Form and Form Guide

STRATIGRAPHY SUMMARY FORM

STRATIGRAPHY SUMMARY FORM											
						Site/Project Name:				Page: ____ of ____	
Layer/Event	Site No.	Code	Op.	Subop.	Lot	Structure/Area	Description	Date & Source of Deposit	Drawings	Staff Field No.	Date

STRATIGRAPHY SUMMARY FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Site/Project Name		Fort Henry Survey
Layer/Event	Enter the code/description (if applicable/assigned)	III/Loam
Site No.	Enter the Site Number	9
Code	Province or Territory (alpha character)	K
Op	Operation (Numeric)	1
Subop	Suboperation (upper case alpha character)	A
Lot	Lot code (Numeric)	1
Structure/Area	Enter brief data regarding structures, features and activity areas	
Description	Enter a concise description of stratigraphic layer/level	
Date and Source of Deposit	Enter if known; indicate era (e.g., AD, BC, BP, etc.)	post-1850 AD
Drawings	Enter the Drawing Catalogue Number references	2004-7P-D18
Field No.	Indicate Staff Field Number, or full name of recorder	7P
Date	Indicate date (numeric) as yyyy-mm-dd	2004-06-31

APPENDIX G: Human Remains, Cemeteries, and Burial Grounds

Cemeteries, burial grounds, human remains, funerary objects, and grave markers found on federal Crown lands, lands under water, and in waters under the administration and control of Parks Canada are managed in accordance with *Management Directive 2.3.1: Human Remains, Cemeteries and Burial Grounds* (Parks Canada 2000). Management Directive 2.3.1 applies to all human remains, and their associated sites and material culture, Aboriginal and non-Aboriginal alike.

It provides direction and guidance:

- To Parks Canada Agency personnel or other agencies, organizations, groups and individuals undertaking activities involving a NPC, NPRC, NMCAC, NHSC, historic canals, and other lands and waters administered and controlled by Parks Canada;
- Concerning where the responsibility and authority lies for decision-making concerning any activity relating to burials, burial grounds, cemeteries, human remains and funerary objects;
- When a burial site, burial, human remains or funerary objects are discovered accidentally during the course of an archaeological field project or other activities;
- When human remains are discovered in association with a shipwreck;
- When human remains and funerary objects are found in collections;
- For investigation, identification, and consultation;
- For the repatriation and/or disposition of human remains and associated funerary objects;
- For the management and maintenance of cemeteries, burial grounds, and grave markers; and
- For the management and use of documentation, images, or replicas.

The directive stresses the requirement to follow provincial and territorial laws in that the coroner and/or the police must be notified when human remains are discovered. If the site is deemed to be of forensic significance, the coroner and/or the police will lead the investigation. Where human remains are associated with a shipwreck, the Canadian Coast Guard, Department of Transport must be notified.

The directive emphasises that all human remains, funerary objects, cemeteries and burial grounds, shall be treated with respect and dignity. Moreover, any activity related to them must be undertaken, where applicable, in consultation and cooperation with the appropriate group, next of kin, the RCMP, or Veterans Affairs Canada.

APPENDIX H: Digital Multimedia – Recommendations for Preservation

The following recommendations are based on Parks Canada (2003a) "Report to Parks Canada: Digital Multimedia Asset Management (DMAM) System Policy Requirements Version 2.0." Digital preservation is still in its infancy. As a result, it is difficult to determine which format is the best for long term preservation of digital assets. Despite these obstacles, Parks Canada (2003a) currently recommends the following guidelines. Due to the dynamic nature of digital media, please consult the appropriate specialists to determine latest trends and standards adopted by the Parks Canada Agency.

Preservation Formats for Images, Audio, and Video (General)

For preservation formats, Parks Canada generally recommends:

- *Images* - high resolution TIFF 8 x10 at 600dpi;
- *Audio* - WAV format or MPEG 2 format;
- *Video* - MPEG 2, 4:2:2 compression standard. The MPEG 2 format that has been an ISO standard since 1996.

Image Formats for Storage/Preservation

As noted in Parks Canada (2003a), the Image Quality Working Group of ArchivesCom (associated with Columbia University) recommends the following image formats for preservation storage purposes:

- TIFF w/CCITT Fax 4 Compression - ideally suited for black and white text documents, this format provides a high level of detail (600 dpi), combined with a small file size (less than 100 kilobytes for 5"x8" text page);
- PhotoCD - well suited for 35 mm slide and 35 mm negatives, PhotoCD provides up to 6 resolutions (up to 4096x6144), colour management, and a storage medium that works on all major computer platforms;
- TIFF w/LZW Compression - A 24-bit, lossless (no information lost) compression format. This TIFF format may be used to store colour images, and may be used as preservation file format. With lossless compression, the picture quality of the compressed file is exactly the same as the original, uncompressed file.

Different original media types will require different digital conversion techniques as well as different file storage formats. This is an area that is evolving, as both conversion techniques improve (better scanners and digital cameras) and new file formats develop.

Multimedia File Format Recommendations

Table 1, copied verbatim from Parks Canada (2003a), represents a set of recommendations for a variety of media, derived from the United States National Digital Library.

Table 1. Parks Canada recommendations for digital multimedia.

Media Type	Conversion Method	Resolution	Archive File Format	Screen Presentation Format	Print Presentation Format
Black & White Text Document	Flatbed Scanner or Digital Camera	1-bit, 600 dpi	TIFF w/CCITT Fax 4 Compression	GIF, 4-bit, 120 to 200 dpi	Acrobat (PDF), 1-bit, 300 or 600 dpi
Illustrations, Maps, Manuscripts, etc.	Flatbed Scanner or Digital Camera	8-bit greyscale or 24-bit color, 200 to 300 dpi	TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
3-dimensional objects to be represented in two-dimensions	Digital Camera	24-bit colour, 200 to 300 dpi	TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
35 mm Black & White & Colour slide or negative	PhotoCD or Slide Scanner	24-bit, 2048x3072	PhotoCD or TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
Medium to Large Format photograph, slide, negative, transparency or colour microfiche	ProPhotoCD or Drum Scanner	24-bit, 4096x6144	PhotoCD or TIFF	Multiple JPEG, 24-bit, Quality Level 50	JPEG, 24-bit, 4096x6144, Quality Level 50-100
Black & White Microfilm	Microfilm Scanner	1-bit 600 dpi	TIFF w/ Fax 4	GIF, 4-bit, 120 to 200 dpi	PDF, 1-bit, 300 or 600 dpi
		8-bit, 300 dpi	TIFF	GIF, 8-bit 120 to 200 dpi	PDF, 8-bit, 300 or 600 dpi

APPENDIX I: Provenience Application – Additional Examples

Atlantic Service Centre (Halifax)

By Charles Burke

The archaeological survey of the Fortress of Louisbourg NHS led to the discovery of hundreds of surface remains of features constructed during the 18th century sieges. In general, the features correspond to "works" identified on period maps and plans. For example, 16 unique structural features (stone foundations that can be seen as a single analytical unit) were clustered in the location identified on siege plans as the site of Lt. Gen. Lascelle's 47th Regiment Camp. This area is within Archaeological Site Number 61L. At the time of recording, the next available Operation Number was 13 and we assigned consecutive Suboperation Letters to each feature. Consequently, all known features associated with Lascelle's Camp are identified, recorded, and catalogued as 61L13A -13R. This approach was consistently applied to the discovery of more than 800 features.

A second example involves archaeological testing of a new road corridor through the historic park. The corridor was 2.60 km long with 22,000 square metres to test. The tests were .50 m square units at 7.0 m. intervals on each survey transect. Since the corridor intersected three archaeological site areas (54L, 59L, 60L), we assigned three Operation Numbers (54L52, 59L13, and 60L2) to the test. Within each operation, a single Suboperation was designated to geographic zones. In 59L, for example, tests in the corridor south of Route 22 were designated 59L13A and those on the north side as 59L13B. Each shovel probe was excavated as a single lot. When we encountered "sites" that required additional excavation, we reverted to the provenience system's standard usage.

Ontario Service Centre (Cornwall)

By Brian Ross

Following is a brief description of how I have applied the system to my work. The key element of my interpretation of the system is the application of a rigid geographic hierarchy to my provenience numbering. As my numbers are read from left to right, one hones in, closer and closer, to a specific location. As applied to excavations, any artefact or record can be pinpointed, through the provenience number alone, to a 5 cm deposition and 1x1 m distribution. For example:

Site Number: As the largest unit of the provenience system, Site Numbers have been assigned to each of the National Parks or National Historic Sites (e.g., 11H = Point Pelee National Park).

Operation: As a subdivision of the site, this number is used to designate specific areas within the parks and sites (e.g., 11H15 = the Marsh Boardwalk Day Use Area at Point Pelee).

Suboperation: In excavations, each unit is assigned a Suboperation Letter. Generally speaking, I try to always dig in 2X2 m units. In surveys, Suboperations are used to subdivide the operation into smaller, more manageable or more descriptive areas (e.g., 11H15D = the main parking lot at the Marsh Boardwalk, 11H15E = the back dune area, etc.)

Lot Number: In pace-and-shovel surveys, Lot Numbers are assigned to productive test pits and in walkover surveys, they can be used to designate surface finds (e.g., 11H15E1-124). In excavations, the Lot Number depicts the specific vertical sequence for each Suboperation or to discrete cultural features. It has been my use of Lot Numbers in excavations that distinguishes my provenience system most from the true Parks Canada system. Each number within the three-digit field conveys specific information:

The first character (1_ _, 2 _ _, 3 _ _, etc.) indicates the vertical sequence of natural soil stratigraphy.

The second character (_1_, _2_, _3_, etc.) indicates the sequence of arbitrary 5-cm levels within natural strata that are more than 5-cm thick. For shallow strata that do not exceed 5 cm in thickness, then only the designation "1" (for a single level) need be assigned.

The last character identifies the specific quadrant within the Suboperation where the strata occur. Quadrants are identified in a clockwise direction from the north west as follows: __ 1 = NW quad, __ 2 = NE quad, __ 3 = SE quad and __ 4 = SW quad.

Features are dealt with, in sequence, as any other stratum.

Ontario Service Centre (Ottawa), Underwater Archaeology Unit

By Jim Ringer

Here is an example of a somewhat artificial system used during the survey of shipwrecks at Fathom Five National Marine Conservation Area. A Site Number (38M) was used to designate the park. Operation and Suboperation 1A were purely artificial and referred to nothing in particular. Each shipwreck was given an individual Lot Number so that, for example, 38M1A17 refers to the Arabia. This system was adopted as no excavation was carried out and our work only entailed assessment and documentation of the visible remains. The provenience system functioned mainly as a device to control the records generated by the project.

Western Canada Service Centre (West Coast)

By Daryl Fedje

We use the provenience system in a somewhat different manner than is the case in other regions. In large part, this is a result of our work focussing on First Nations archaeology rather than military or fur trade historic archaeology.

Each archaeological site, whether an isolated find or a large village, is identified by a unique site number. We use the Operation Number to identify an excavation block or a single test if not contiguous with others.

The Suboperation is used (beyond the default Suboperation 'A') when there is a need for systematic division of an Operation. Most commonly these are 1.0, 0.5 or 0.25 m squares. The reason for using

a quadrant or grid division is that the prehistoric sites we normally excavate have no superficial evidence of structural/activity elements and these often are only derived from 3-D mapping or statistical analysis (i.e., nearest neighbour, etc. of grid-provenience artefact assemblages).

The Lot is primarily used to define a stratigraphic unit, whether a natural or arbitrary layer. Features are also given Lot Numbers but not consecutive with those assigned to layers (e.g., a hearth feature, posthole or artefact cluster, may be designated Lot 101, 102, etc.)