



Ministry of Agriculture and Lands

Integrated Land Management Bureau

**Crown Registry and
Geographic Base Branch**

**Specifications
for
Aerial Photographic
Indexing**

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| 3 | Richard Eppler APLS | 6 | Section 3.0 - Map Bases for Digital Indices | | | March 29, 2007 |
| | | 9 | Section 4.4 - Software to produce Plot Ready Digital Indices | | | |
| | | 13 | Section 6.0 - Index Submissions paper copies required | | | |
| 4 | Tim Brierley, APLS | 13 | Section 6.0 – Digital index Submissions required in two formats: PDF, and ESRI SHAPE file. Paper copies not required. | Andy Calarco Manager, APDI | PDF Signed by Andy Calarco | May 1, 2008 |

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Province of British Columbia
Ministry of Agriculture and Lands
Crown Registry and Geographic Base Branch

SPECIFICATIONS FOR AERIAL PHOTOGRAPHY INDEXING

2.0 GENERAL:

These specifications supersede all previous specifications.

The term "Branch" when used herein shall mean Crown Registry and Geographic Base Branch of the Ministry of Agriculture and Lands in the Province of British Columbia.

For the purpose of these specifications; the word "shall" indicates a mandatory requirement and "should" indicates a desirable requirement.

The Branch shall be the final authority on acceptance or rejection of submitted indices.

Where specifications are not achieved, remedial action by the contractor may be required or penalties as listed in Appendix C may be applied.

All aerial photography indices delivered to the Branch shall meet the following specifications.

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3.0 BASE MAPS:

Aerial Photography indices will be supplied on digital base maps provided by the Branch, or the Federal NTS series maps. The level of detail on the bases will conform to the 1:250,000 and 1:20,000 map series. Large scale photography and/or site specific operations will be indexed on bases with more detail.

The scale and type of the base map used for indexing will be determined by the scale and type of the aerial photography.

For indexing purposes, there will be two types of photography:

Block photography shall mean an area comprising a minimum of 1,500 square kilometres, with more than 5 parallel lines oriented in cardinal directions, unless otherwise determined by Branch staff.

All other aerial photography shall be deemed site specific photography.

The Branch reserves the right to select the appropriate map base and the appropriate information layers shown for any operation.

3.1 Block Photography

Generally, photo scales of 1:10,000 and smaller will be indexed on digital map bases with a level of detail associated with 1:250,000 NTS mapping.

3.2 Site Specific Photography

Site specific photography shall be delineated on digital map bases with a level of detail associated with the 1:20,000 TRIM series maps.

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4.0 AERIAL PHOTOGRAPHY INFORMATION:

The photography information shall be depicted as follows:

- The start and end of each line and the photo number ending in zero or five shall be depicted by circles located on the base map.
- The start and end of each line and the photo number ending in zero shall be labeled within the corresponding circle.
- The photo centres adjacent to the map sheet neat line must be numbered and plotted on the respective sheets.
- Only the essential digits need to be shown. e.g.: 40 not 040
- The flight line shall be broken to allow the insertion of the roll number at each end of the line and at intervals not greater than 30 cm. Where there is insufficient room, the roll number may be placed beyond the last photo centre with a small dash showing attachment to the flight line.
- The roll number shall include the focal length prefix.
(e.g. 15BCB91000, 30BCB91000)
- The flying height shall be draughted above the circle at each end of the flight line. In cases where a line crosses a neat line the flying height shall be draughted above the last circle on each sheet. Duplicate labeling of the same flying heights on the same line in the same area, such as reflights, is not necessary.

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- Comments:
 - Short forward overlap
 - Substandard lateral overlap
 - Lateral gap
 - Seasonal snow cover
 - Clouds / Cloud gaps
 - Cloud shadows
 - Tilt
 - Crab

Comments shall be shown as a line with a perpendicular dash at each end and broken in the centre to allow the appropriate comments to be inserted. The line shall show the area affected.

- The map detail shall be removed as required to increase the clarity of the air photo information. Photo information must be legible.

4.1 Line Weights

Lines and letters showing flight line information must stand out against the background information.

Lines and letters showing comment information shall be scaled back slightly from the lines and letters line weights.

4.2 Circle Sizes

The start and end of each line and the photo numbers ending in zero (e.g. 10, 20, 30...) shall have the correct photo number placed

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inside the circle centered as close to the actual photo position as is cartographically possible.

The photo numbers ending in five (e.g. 5, 15, 25...) shall have a smaller circle, centered as close to the actual photo position as is cartographically possible.

4.3 Character Sizes

The photo numbers and the roll numbers shall have characters 3 mm in height and a .35 mm line width.

The comments and flying heights shall have characters 2 mm in height and a .25 mm line width.

4.4 Plot sizes

Digital Index Files must be compiled using current ArcGIS software, to produce 'Plotter ready files', for plotting at the correct size to maintain respective map scale

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TITLE BLOCKS:

4.5 Aerial Photography Operations

Each sheet of each operation shall have a title block measuring 10 cm horizontally and 7.5 cm vertically.

The title block shall have the information in the following order:

Project no. - _____
Project name - _____
Date of photography - yy-mm-dd _____
Map sheet no. - _____
Project sheet no. - _____
f - _____
H - _____
Approximate scale - _____
Map scale - _____
Contractor - _____
Remarks - _____

BCB 00000 = Black and White BCC 00000 = Colour

ASL = Above Sea Level

The title block should appear in the lower right of the sheet as close to the neatline as is reasonable.

Each operation index shall have the BC Roll numbers and frames listed for that operation, in an area immediately above the title block:

e.g.:*

B-203-FS-92

| | |
|----------|-----------|
| BCB92300 | 2 - 43 |
| | 45 - 58 |
| | 73 - 87 |
| BCB92350 | 195 - 208 |
| BCB92355 | 87 - 110 |

* See Appendix A

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In addition, each sheet shall have the following information located in the upper right corner beginning not more than 23 cm left of the right side neat line (i.e.: right half of the mapsheet):

- The year of photography, the map sheet number, and the version number^{**}. The characters shall be 9 mm in height with a 1.2 mm line width.

^{**} Version number refers to the number assigned to that particular map sheet index by Branch staff, if more than one index of the same NTS or BCGS map sheet is required for a given year of photography.

e.g. 92G Sheet **1/05**, **92G** Sheet **2/05**

- The scale of photography. The characters shall be 4 mm in height with a .50 mm line width.
- The roll number key. The characters shall be 3 mm in height with a .35 mm line width. It shall have the following information:

BCB 00000 = Black and White

BCC 00000 = Colour

- The following statement:
Flying heights are Above Sea Level. The characters shall be 3 mm in height with a .35 mm line width.

e.g.: * **2005 92G Sheet 4/92** 1:15000

BCB00000=Black and White BCC00000=Colour

Flying heights are Above Sea Level

* **See Appendix B**

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Each sheet shall have the operation number(s), and the B.C. Roll numbers and frames listed for that sheet. This information shall be located in the lower right margin of the index as close to the neat line as is reasonable.

- The operation number characters shall be 4 mm in height with a .50 mm line width.
- The roll and frame number characters shall be 3 mm in height with a .35 mm line width.

e.g.:

C-201-FI-92

| | |
|----------|-----------|
| BCC92400 | 33 – 55 |
| | 78 - 167 |
| BCC92402 | 29 – 53 |
| | 101 - 128 |
| | 143 - 168 |
| BCC92403 | 176 - 201 |
| | 223 - 229 |
| BCC92405 | 40 – 63 |
| | 103 – 111 |
| BCC92406 | 1 – 22 |
| | 74 – 98 |
| | 110 - 134 |

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5.0 Interim Indices:

In cases where producing a Final Index will cause unacceptable delays to delivery, an Interim Digital Index displaying ALL work completed to date must be submitted. This must be included with each submission of film, prints, or scanned imagery.

These indices should be a copy of the full NTS or BCGS index mapsheet with the word - INTERIM - followed by a version number and date in large letters. To be located in the right margin area, under the title block.

In all cases, the air photo information must be clearly legible.

6.0 Index Submissions

Digital indices should be delivered in two formats:

- a) A PDF file of each mapsheet or if site specific to the area of interest at the appropriate map scale
- b) one ESRI SHAPE file for each operation containing flight line, photo centre, and date/time attributes of cumulative acquisition status

In cases when interim indices have been supplied with the contractor's submissions, the final indices shall be delivered to the Branch adhering to the following progressive delivery schedule.

6.1 Final Digital Index Delivery Schedule

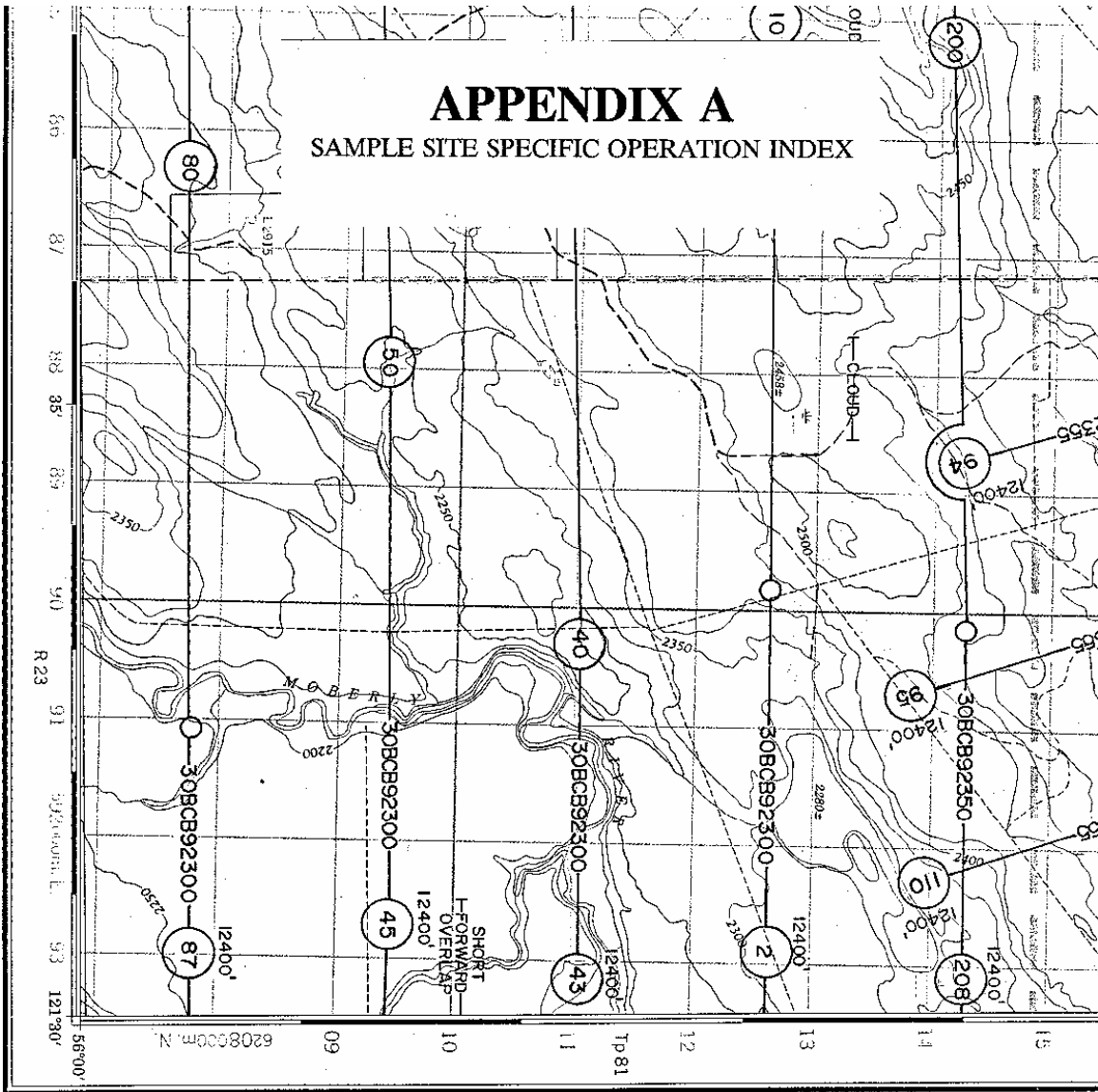
6.1.1 Site Specific Operations

To be delivered within 5 working days of the final photo shipment for each operation

6.1.2 Block Operations

To be delivered within 15 working days of the final photo shipment for each operation

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B-403-FS-92

| | |
|----------|-----------|
| BCB92300 | 2 - 43 |
| | 45 - 58 |
| | 73 - 87 |
| BCB92350 | 195 - 208 |
| BCB92355 | 87 - 110 |

Project no. - B-403-FS-92
 Project name - MOBERLEY RIVER
 Date of photography - 92-06-31
 Map sheet no. - 94 A/4, 94 A/3
 Project sheet no. - 1 of 2
 f - 305 mm
 H - 12400, ASL
 Approximate scale - 1 : 10000
 Map scale - 1 : 50000
 Contractor - _____
 Remarks - SAMPLE INDEX

BCB 00000 = Black and White BCC 00000 = Colour
 ASL = Above Sea Level

| | | | |
|--------|---------|--------|---------|
| 55°45' | 122°30' | 55°45' | 121°00' |
| 93A/15 | 93P/13 | 94A/4 | 94A/3 |
| 94B/8 | 94A/5 | 94A/6 | |
| 94B/1 | 94A/4 | 94A/3 | |
| 55°30' | 122°30' | 55°30' | 121°00' |

INDEX TO ADMINISTERING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

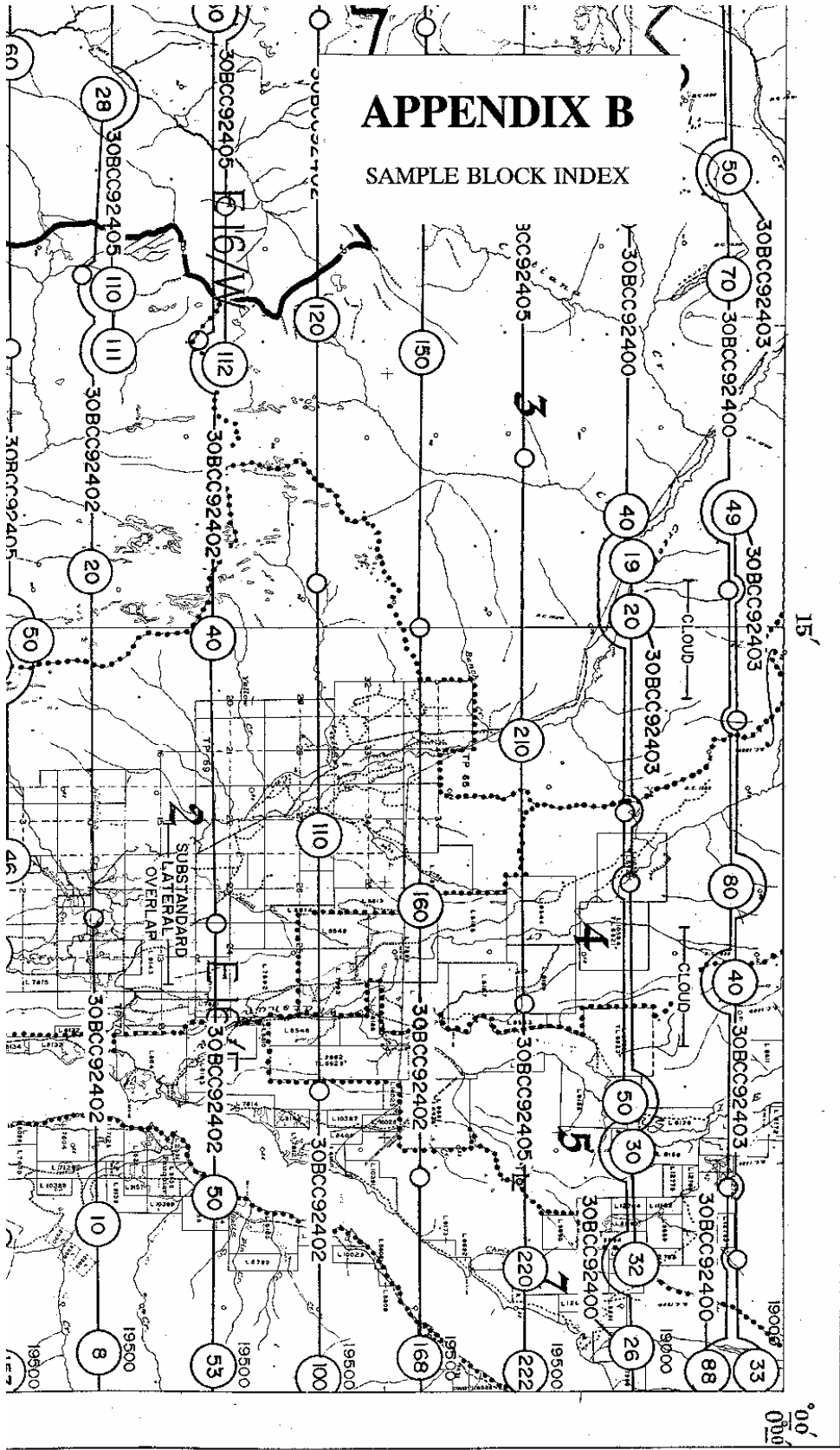
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RESTS

CHIEF FORESTER
BY DIVISION

1992 93/E Sheet 1/92 1:15000

BCB00000=Black and White BCC00000=Colour
Flying heights are Above Sea Level **CANADA SHEET 93/E, S.E. SAMPLE INDEX**



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APPENDIX C

AERIAL PHOTOGRAPHY INDEXING DISCOUNT SCHEDULE

Maximum penalties may be assessed as follows:

SECTION

| | | |
|-----|--|--|
| 3.0 | Aerial Photography Information Incorrect | - Remedial action or \$25 per occurrence |
| 3.2 | Line Weights Incorrect | - Remedial action or \$100 per sheet |
| 3.3 | Circle Sizes Incorrect | - Remedial action or \$100 per sheet |
| 3.4 | Character Sizes Incorrect | - Remedial action or \$100 per sheet |
| 4.0 | Title Blocks / Photo lists Incorrect | - Remedial action or \$100 per sheet |
| 5.0 | Interim Indices Incorrect or Incomplete | - Remedial action or \$50 per sheet |
| 6.0 | Final Indices Late | - \$25 per day |

All shipping costs incurred for remedial action will be the responsibility of the contractor.

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