

**PUBLISHING SERVICES SUB-DIVISION
CARTOGRAPHIC SERVICES SECTION**

**QUALITY ASSURANCE INSTRUCTIONS
CSS-02 Geological Map/Poster Production**

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1.0 PURPOSE

- 1.1 The purpose of this document is to describe the cartographic production for geological maps/posters using the Geological Mapping System (GEMS) ArcInfo interface or CorelDraw.

2.0 SCOPE

- 2.1 The scope of this document is to provide the Geoscience community with published geological map/posters using on-demand print or offset press methods.

3.0 RESPONSIBILITIES

- 3.1 Digital Cartographers are responsible for having a working knowledge of this QAI.
- 3.2 Digital Cartographers are responsible for ensuring all necessary steps outlined in this QAI are adhered to and the product is released in a timely manner.
- 3.3 Quality Control is responsible to ensure the product adheres to all cartographic specifications and standards.
- 3.4 The Production Coordinator and Technical Officer are responsible for ensuring all archival material is properly stored and catalogued.
- 3.5 The designated manager of this QAI is responsible for considering all DCRs and NCRs issued against this QAI, writing new instructions when necessary and informing end-users of the changes made.
- 3.6 The Webmaster is responsible for updating the controlled version of this QAI on the Internet in a timely manner.
- 3.7 ESSInfo Publishing Services employees and other users of this QAI are encouraged to provide feedback to the Quality Management Representative, Production Coordinator, and Head Publishing Services on its accuracy, completeness, simplicity, and usefulness by issuing a Document Change Request or Quality System Improvement Request.

4.0 INSTRUCTIONS

(All instructions apply to Digital Cartographers unless stated otherwise)

4.1 INFORMATION ANALYSIS

- Review the following information included in the QAE file:

INFORMATION SUPPLIED BY DIVISION/CLIENTS FOR ALL SERIES OF MAPS

- Permission to Publish Form
- Map Production Information Form
- Products supplied by the client, digital or traditional manuscripts
- Digital files and/or hard copy of legend, references, and descriptive notes
- Hard copy of the topographic sheets with required names highlighted
- Adjoining sheet mockup if part of project area
- Special instructions from the client

INFORMATION SUPPLIED BY EDITORIAL FOR A-SERIES/P-SERIES

- QAE from Scientific and Technical Editing
- Hard copy of editorial changes
- Edited versions of digital files and/or hard copy of legend, references, and descriptive notes
- Translation text (if applicable)
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.1 - "Information analysis".

4.2 COMPILATION AND PLANNING

- Verify and analyze the digital data supplied by the client.
- Compile/organize data and plan the layout design of the map.
- Select symbology using client's manuscripts and applicable GSC symbolsets. Symbol colours shall be selected from applicable hardcopy sample (on-demand or offset)
- Prepare the design layout of the map by sketching an outline of all the components and requirements received from the client. Some components are standard for all maps that must adhere to the GSC Cartographic Design Specifications. The Internal Map Checking Guide can also be used as a reference.
- Quality Control or the Production Coordinator shall sign and date the final approval of the preliminary design layout sheet and the Cartographic Production Control Form under process 4.2 - "Design approval".
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.2 - "Compilation & planning".

4.3 TOPOGRAPHIC BASE PREPARATION

- Obtain a hardcopy of topographic base from ESIC map library if none provided by Division/clients.
- Obtain NTDB (National Topographic Data Base) digital files from the Subscription Officer (if required) or from the Division/clients.
- Create the neatline and map border. The map projection will be in UTM NAD 83 unless otherwise specified.
- Import/convert, geo-reference, separate, and attribute the base information into the appropriate covers as per GSC Cartographic Digital Standards.
- Select required base symbology from GSC symbolsets.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.3 - "Topographic base preparation".

4.4 GEOLOGICAL INFORMATION

- Acquire digital files supplied by author or request scans for conventional manuscripts by using the Graphic Production Control Form.
- Import/process, geo-reference, separate, and attribute the geological information into the appropriate covers as per GSC Cartographic Digital Standards.
- Select required geological symbology from GSC symbolsets.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.4 - "Geological information".

4.5 FIGURES, INSETS, CROSS-SECTIONS AND POSTERS

- These items can appear as a stand-alone product or may accompany a map.
- Import/process the information that is received in a variety of digital/traditional formats.
- Verify the content for accuracy against the main map (if applicable).
- In certain cases, geo-reference, separate, and attribute the information into the appropriate covers as per GSC Cartographic Design Specifications and GSC Cartographic Digital Standards.
- Select required geological symbology from GSC symbolsets.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.5 - "Insets, Figures, Cross-sections and Posters".

4.6 SURROUND INFORMATION

- Create/place legend, title, copies of note, logos, recommended citation, and index maps ensuring they follow the GSC Cartographic Design Specifications.
- Place figures, insets, cross-sections and tables
- Create trim marks and registration marks (if applicable) ensuring they follow the GSC Cartographic Design Specifications.
- Import word processor files into CorelDraw to produce descriptive notes and references and then format/export them according to GSC Cartographic Design Specifications.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.6 - "Surround information".

4.7 REVISIONS/DIGITAL UPGRADES

- Repeat processes 4.1 – 4.6 for any new information or additions to the map by the Division/client and/or Editorial.
- Upgrade the archived map data to the latest standards using the Upgrading Digital Data instructions as reference.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.7 - "Revisions/Digital Upgrades".

4.8 QUALITY CONTROL – HARD COPY

- Submit a plot with all manuscripts, QAE file, and NTDB topographical map covering the map area to Quality Control.
- All plots used for Quality Control, Client or Editorial checks must contain the words "DRAFT COPY" in red in a visible location on the plot.
- Quality Control shall verify the content and design layout of the map during a 1st drafting check.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.8 - "Quality Control -1st drafting check".

4.9 CORRECTIONS

- Perform corrections indicated by Quality Control on 1st drafting check plot.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.9 - "Corrections from 1st drafting check".
- Submit a PDF file or new plot (if requested by Quality Control) along with the 1st drafting check plot to Quality Control for verification of corrections.
- All plots used for Quality Control, Client or Editorial checks must contain the words "DRAFT COPY" in red in a visible location on the plot.
- Quality Control shall verify that the corrections have been performed during a 2nd drafting check.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.9 - "Quality Control 2nd drafting check".

4.10 DIVISION/CLIENT AND/OR EDITORIAL FINAL CHECK

- Prepare a new plot containing corrections from 4.9 if none already exist.
- All plots used for Quality Control, Client or Editorial checks must contain the words "DRAFT COPY" in red in a visible location on the plot.
- Send the plot to the Division/client and/or Editorial for review.
- If any minor additions and corrections of data are indicated by the Division/client and/or Editorial, repeat processes 4.1 – 4.9
- If the Division/client and/or Editorial indicate any major additions and corrections of data, repeat processes 4.1 – 4.9 and add another Cartographic Production Control Form to the QAE file. Check the box "This form is used to control additional data only" to indicate additional data is being added to the map.
- Name and date the completion of these steps on the Cartographic Production Control Form under process 4.10 - "Client final check" and/or "Editorial final check".
- Perform final corrections indicated by the Division/client and/or Editorial.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.10 - "Final corrections".
- Submit a PDF file or new plot (if requested by Quality Control) along with the Division/client and/or Editorial check plot(s) to Quality Control for verification of corrections from the Division/client and/or Editorial check.
- Quality Control shall verify that the corrections have been performed during a final drafting check.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.10 - "Quality Control -Final drafting check".

4.11 QUALITY CONTROL - DIGITAL

- Finalize the workspace as per GSC Cartographic Digital Standards.
- Submit the digital workspace, QAE file, and hard copy to Quality Control.
- Quality Control shall verify the digital data during a digital check.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.11 - "Quality Control -1st digital check".
- Perform corrections indicated by the Quality Control digital check.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.11 - "Digital corrections".
- Re-submit the digital workspace, QAE file, and hard copy to Quality Control for verification of corrections.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.11 - "Quality Control - Final digital check".

4.12 NEGATIVE PRODUCTION (OFFSET PRESS ONLY)

- Prepare digital postscript files, one file for each plating colour. Cyan (111), Magenta (125), Yellow (165), Black (101) for map features and Drainage Blue (112) and Brown (130) for base features. Other postscript files may be necessary if special printing inks are to be used.
- CorelDraw components cannot be separated in-house therefore one digital postscript file is created for separation by Cartographic Imaging and Printing (CIP).
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.12 - "Colour Separation".
- Submit a reduced scale plot of each postscript file to Quality Control.
- Quality Control shall verify the contents of each plot.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.12 - "Quality Control - Separates".
- Perform corrections indicated by Quality Control.
- Prepare final digital files
- Fill out the digital file "CIP Work Request Form" and transfer it and the digital postscript files via FTP to CIP. Send a second copy of the digital CIP Work Request Form to the Production Coordinator.
- The Barco Imagesetter processes the digital postscript files into negatives.
- Check and record the content, screen angles, and screen percentages of the negatives on the Screen Percentage Form.
- Grip the negatives using the proper Press Guide (Roland or Miller Press).
- Affix Final negative labels to each negative for identification.
- Check negatives for any scratches or blemishes and repair accordingly.
- Affix slip-sheets to each negative to protect them.
- Build an envelope from corrugated cardboard and insert negatives.
- Fill out a Plating Instruction Card and insert the card in a small envelope affixed to the outside of the map envelope containing the negatives.
- Fill out an Envelope Label and affix to the map envelope.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.12 - "Negative Preparation".
- Submit the map envelope to Quality Control.
- Quality Control shall verify the negatives are properly labeled, repaired, and protected as well as the envelope being properly labeled.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.12 - "Quality Control - Negatives".

4.13 COLOUR PROOF

- Request a colour proof by using the CIP Work Request Form.
- Write information such as work size, paper size and trim dimensions on the colour proof. Affix colour chips next to all coloured legend blocks; NTS index map and location map. Affix a Colour Proof Label to the colour proof as well.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.13 - "Colour proof".
- Submit the colour proof to Quality Control.
- Quality Control shall verify the information written on the proof.
- Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.13 - "Quality Control - Colour proof".

4.14 PRINTING

4.14.1 ON-DEMAND

- Create one zipped postscript file, transfer it via FTP to the On-demand Plotting System website and select appropriate archival option.
- The Production Coordinator will review the archived plot and notify the Digital Cartographer that the product is approved for release. The archived plot is then sent to Digital Design.
- Send a Notification of Release email to Digital Design, Sales Office, On-demand Plotting Manager, Geoscan Coordinator and the Production Coordinator which includes the following information: Map number, Release date, Author, Author's Division, Project number, Title, Size of map, and the Postscript file name.
- The On-demand Plotting system operator plots and trims the required initial number of copies of A-series maps only for the GSC bookstore and Depository Services Program (DSP).

4.14.2 OFFSET

- The Production Coordinator shall sign and date the approval of this product on the Colour Proof Label that is affixed to the colour proof.

4.14.3 The Production Coordinator shall sign and date the approval of either product on the Cartographic Production Control Form under process 4.14 - "Approval of final product"

4.15 GEOSCIENCE DATA REPOSITORY

- Process the digital workspace for entry into the Geoscience Data Repository (GDR) according to GSC Cartographic Digital Standards.
- Zip the "warehouse" folder and copy it to the network drive folder for GDR submission.
- Notify the GDR manager by email that a new file is ready for submission.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.15 - "Geoscience Data Repository".

4.16 DIGITAL RELEASE

- Process the digital workspace for digital release according to GSC Cartographic Digital Standards.
- Sign and date the completion of this step on the Cartographic Production Control Form under process 4.16 - "Digital release".
- Submit the final CDROM of the digital release to Production Coordinator or Quality Control for verification.
- The Production Coordinator or Quality Control shall verify the information on the digital release for completeness and performance.
- The Production Coordinator or Quality Control shall sign and date the completion of this step on the Cartographic Production Control Form under process 4.16 - "Approval of final digital product".

4.17 ARCHIVE / STORAGE

4.17.1 DIGITAL FILES

- Produce 2 CD-ROMs of workspace for archiving.
- Submit both copies of the CD and the QAE file or file folder to the Production Coordinator for on-site storage in an archive cabinet and off-site storage.

4.17.2 MANUSCRIPTS

- For on-demand products, return all manuscripts to the client, otherwise dispose of them along with all check plots.
- For offset press products, insert a printed copy of the map, the colour proof, all drafting check plots, and all client manuscripts in the map envelope.

4.17.3 NEGATIVES

- Check the negatives for scratches and refit the slip-sheets (if required) when the map envelope is returned after offset printing.
- Send map envelope containing final negatives and all manuscripts mentioned above to the Technical Officer for storage.
- The Technical Officer performs the following:
 - Publishing Services and the Bookstore retain some products in anticipation of popularity and possible reprint.
 - Ensures the map envelope is properly labeled.
 - Assigns a Storage number to all map products, which consists of the vault number and shelf number.
 - The Technical Officer logs storage information into a database. The information consists of the assigned storage number, date stored, and publication number.

4.17.4 The Production Coordinator shall sign and date the approval of this product on the Cartographic Production Control Form under process 4.17 - "Archiving"

4.17.5 The Production Coordinator shall update the data in the Production Database

5.0 REFERENCES

- Cartographic Services QAE File
- Cartographic Production Control Form
- Map Production Information Form
- Scientific and Technical Editing QAE file
- GEMS (Geological Mapping System)
- GSC Cartographic Design Specifications
- GSC Cartographic Digital Standards
- Offset hardcopy of shadeset GSC.SHD
- Quality Control Checklist
- Production Database
- CIP Work Request Form (Digital)
- Plating Instructions form
- Screen Percentages form
- Press guides (Roland or Miller Presses)
- QAI CSS-01 Contract Review
- QAI CSS-09 On-demand Plotting
- QAI CSS-05 Offset Press
- QAI CSS-04 Quality Control
- Document Change Request (DCR)
- Quality System Improvement Request (QSI)

6.0 WORKFLOW CHART

