

## **MRD-160 METADATA DETAIL PAGE**

The following represents the Basic description of an information holding. To obtain more information about this holding, see the section named Contacts.

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### **GENERAL INFORMATION**

**Official Name of the Data Set or Information Holding:** Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS)

**Acronyms are Used to Identify the Data Set or Information Holding:** MRD160

**Describe the Data Set or Information Holding:** Ontario Geological Survey (Ministry of Northern Development and Mines) and Northeast Science and Information Section (Ministry of Natural Resources) (authors) The NOEGTS (Northern Ontario Engineering Geology Terrain Study) data set is a digital version of the 103 original cartographic NOEGTS maps. An engineering geology terrain study is an evaluation of near-surface geological conditions for the purpose of determining the engineering significance of the terrain. In this context, terrain refers to the physical aspect and characteristics of an area or landscape under observation. The main investigative techniques used to gather the information for such a study are air photo interpretation combined with literature searches and limited field work. A total of 370 000 km<sup>2</sup> of northern Ontario was mapped between 1977 and 1980. With conversion to a digital format additional geological interpretation was completed on many of the maps to improve the data set. In addition, standard legends and symbology were designed so as to provide an improved cartographic product. Base layer information includes lakes, townships, a shaded relief image and roads. TIFFs of the original maps were heads-up digitized on screen using a georeferenced image in ArcInfo. Where terrain polygon boundaries stop and start at water bodies, the digitizer used best judgement to close the polygon. Water polygons disappear as terrain boundaries are extended into the water and closed in the middle of the water body: the lines of closure are as far away from the shore as possible. Very large water bodies are coded as LAKE. Standard 1:100 000 NTS neatlines were produced based on geographic coordinates of the four corners of each map. The images were georeferenced again upon completion of final terrain polygon edits to UTM NAD83 using the georeferencing tool in ArcMap 8.1. The Natural Resource Values Information System (NRVIS) water data was used for georeferencing. The georeferenced image was stored in TIF format in UTM NAD83 projection. All line work was captured in double

coordinate precision.

**The Intended Use and Purpose for Collecting the Data Set or Information Holding:**

The original NOEGTS cartographic maps were created to be engineering geology terrain studies, which are evaluations of near-surface geological conditions with a view to determining the engineering capability of the terrain. Under this program a large part of the terrain conditions of northern Ontario between latitudes 45 degrees N and 51 degrees N were mapped. Upon completion of the program, 110 Studies, each containing a brief report and one or more maps on a scale of 1:100 000, were published. The original data, as well as the digital version of NOEGTS are at a reconnaissance level and designed to provide an overview of the terrain conditions. At this level of detail, the data are meant to provide a framework for regional planning studies and a database on which to undertake more site-specific studies. This data set was developed to provide northern Ontario with a digital soils and landform data layer at a scale of 1:100 000. The objective of this product is to collect and disseminate geoscience information for Ontario.

**Describe any Restrictions and Legal Prerequisites for Accessing the Data Set (Data Privacy/Security):** N/A

**Describe any Constraints for Using the Data Set:** This data set should always be used in conjunction with water polygons. A lakes layer is included with the data set. This constraint is required since the NOEGTS layer does not contain water polygons, a water layer must always be overlaid to insure that inappropriate estimates of area and inappropriate interpretations are not made. Rules were created to close polygons when they were edged by water, thus the underwater geologic information is not reliable. ISBN 0-7794-8023-6 (set) ISBN 0-7794-8024-4 (v.1) ISBN 0-7794-8025-2 (v.2)

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Ontario Geological Survey, Ministry of Northern Development and Mines, and Northeast Science and Information Section, Ministry of Natural Resources 2005. Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS); Ontario Geological Survey, Miscellaneous Release--Data 160.

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**Time Coverage:** from Monday, January 1, 1940 to Saturday, January 1, 1977

**Time Coverage Comments:** Published June 6, 2005. The NOEGTS data are based on stereoscopic air photo interpretation of black and white air photos taken prior to 1977. The original cartographic NOEGTS hard copy paper maps were interpreted and compiled between 1977 and 1979.

**Enter or Select the Current Status of the Data Set:** Complete

**Enter or Select the Frequency with which Changes or Additions are Made to the Data Set:** None Planned

**Keywords:**

AGGREGATE RESOURCES  
ALLUVIUM  
DEPOSITS  
DIGITAL DATA  
ENGINEERING GEOLOGY STUDY  
GLACIAL DEPOSITS  
GLACIAL TILL SOILS  
LANDFORMS  
MISCELLANEOUS RELEASE DATA  
MRD  
NORTHERN ONTARIO  
ORGANIC SOILS  
QUATERNARY SURFICIAL GEOLOGY  
SOIL CLASSIFICATION  
SOIL SURVEYS  
SOILS  
STRATIGRAPHY  
STREAM SURVEYS  
SURFICIAL GEOLOGY, GENERAL  
TOPOGRAPHY

**Business Theme:**

ENVIRONMENT  
FOREST MANAGEMENT  
GEOLOGICAL SURVEY  
GEOLOGY  
LAND MANAGEMENT  
LAND USE PLANNING  
NATURAL HERITAGE

**Digital Processing Environment for the Data Set:** Data georeferenced to UTM NAD83 in ESRI ArcInfo. Standard 1:100 000 NTS neatlines were produced based on the geographic coordinates of the four corners of the map sheet. All line work was captured in double coordinate precision with +/- 1 mm accuracy at source scale.

**Specify the Storage Formats for the Data Set:**

**Format:**GIS Database

**Format Description:**ESRI ArcGIS, ArcInfo coverage

**Internal Pointer to Data Set:****Physical Location of the Data Set:****GEOGRAPHIC INFORMATION****Selected geographic type:**Bounding Box only

North Bounding Coordinate: 51° 28'

South Bounding Coordinate: 45° 59'

West Bounding Coordinate: -95° 51'

East Bounding Coordinate: -76° 01'

**Geographic Completeness:** 100% Complete

**MAPPING INFORMATION**

**Grid Coordinate System Used:** Universal Transverse Mercator

**Map Projection:** Transverse Mercator

**Horizontal Geodetic Datum:** NAD83

**Vertical Geodetic Datum:** Not Applicable

**Position Accuracy of Features:**

**Horizontal:** +/- 200 m

**Vertical:** Not Applicable

**DATA SOURCE INFORMATION**

**Data Source Type:** Hard Copy Map

**Describe for the Source Data Contribution:** Heads up digitization of georeferenced raster TIFF scanned files of the Northern Ontario Engineering Geology Terrain Study hard copy paper cartographic maps.

**Time Period Comments:** Interpretation of air photos, map compilation and limited ground truthing done between 1977 and 1979 Data collected from 01/01/1977 to 31/12/1979

**Name of the Source Data Set:** Northern Ontario Engineering Geology Terrain Studies

**the Acronyms Used to Identify the Source Data Set:** NOEGTS

**Describe the Data Source:** The original cartographic maps were created through the review of relevant literature to provide a source of published information, air photo interpretation to identify and classify the terrain types, and field surveys to verify ground conditions at specific locations.

**Name of the Organization that Create the Source Data Set:** Ontario Ministry of Northern Development and Mines-Ontario Geological Survey

**Data Source Type:** Other Compiled Dataset

**Describe for the Source Data Contribution:** An MNDM Surficial Geologist used NTS cartographic maps and his expertise to make corrections to the digitized polygon layer. Specifically to divide polygons with multiple labels and to create labels for those polygons that lacked them.

**Time Period Comments:** Data collected from 01/01/2001 to 31/03/2004

**Name of the Source Data Set:** MNDM Surficial Geologist

**the Acronyms Used to Identify the Source Data Set:**

**Describe the Data Source:** Notes on the rationale for the changes to polygons exist for every map which was edited

**Name of the Organization that Create the Source Data Set:** Ontario Ministry of Northern Development and Mines-Ontario Geological Survey

**Data Source Type:** Aerial Imaging

**Describe for the Source Data Contribution:** The principal technique for obtaining terrain information was stereoscopic air photo interpretation. The terrain units were delineated on contact prints of these air photos and decisions were made regarding the terrain type and its distribution. Between 1977 and 1980, this interpretation was carried out on approximately 12 000 vertical air photos which varied in scale from 1:38 000 to 1:70 000. The interpretations were transferred manually from the contact prints onto photo mosaics at a scale of 1:100 000. From these mosaics, the information was traced to the finished base map at the same scale.

**Time Period Comments:**

**Name of the Source Data Set:** Ontario Ministry of Natural Resources Air Photos

**the Acronyms Used to Identify the Source Data Set:**

**Describe the Data Source:** 12,000 vertical air photos

**Name of the Organization that Create the Source Data Set:** Ontario Ministry of Natural Resources

**Data Source Type:** Direct Field Collection

**Describe for the Data Source:** Field surveys were undertaken to verify the terrain conditions obtained from the air photo interpretation; these were carried out by the senior interpreters. Because of the reconnaissance nature of the study and the inherent time

constraints, the field checking took the form of a "windshield survey". Prominent natural and man-made cuts were examined, and, in some cases, soil materials were sampled. Geological observations were recorded on a continuous basis along most of the accessible roads and highways within the map areas. A helicopter reconnaissance survey was conducted in the inaccessible area north of Lake Nipigon. A few shallow hand auger holes were drilled by some of the investigators, and a number of photographs were taken. The information from the field survey and literature research was combined with the airphoto interpretation results to produce the Data Base Map and written report for each map area.

**Time Period Comments:**

**Data Source Type:** Digital Map File

**Describe for the Source Data Contribution:** base map information

**Time Period Comments:**

**Name of the Source Data Set:** Land Information Ontario, Natural Resource Values Information System Base Map.

**the Acronyms Used to Identify the Source Data Set:** NRVIS

**Describe the Data Source:** water bodies and major roads

**Name of the Organization that Create the Source Data Set:** Ontario Ministry of Natural Resources

**Data Source Type:** Digital Map File

**Describe for the Source Data Contribution:** shaded relief raster image

**Time Period Comments:**

**Name of the Source Data Set:** Shuttle Radar Topography Mission Digital Elevation Model

**the Acronyms Used to Identify the Source Data Set:** SRTM

**Describe the Data Source:** acquired from the USGS web site in tiles and merged using ESRI GRID

**Name of the Organization that Create the Source Data Set:** NASA

**CONTACT**

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**METADATA**

**Date of this Metadata Description/Update:**Wednesday, June 1, 2005

**Date when Metadata Should be Reviewed:**Thursday, June 1, 2006

**Metadata Additional Location:** Additional Information and Metadata is found within readme files located on the distributed sales product

**DISTRIBUTION INFORMATION**

**General Distribution Information:**Ministry of Northern Development and Mines  
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**The Languages which are Data Distributed in:**English

**Off-Line Digital**

**File Size :**

**Specify Formats :**ArcInfo Coverages, TIFF's

**Methods :**2 CD-ROMs