

Stearns County, Minnesota - Aggregate Resources
Geologic Field Observations
stea_fobs

Metadata Summary

| | |
|---|---|
| <i>Originator</i> | Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section |
| <i>Abstract</i> | This dataset includes information gathered in the field. Fieldwork was completed through 2005 through 2011. It includes 2600 field observation sites within Stearns County, Minnesota. Observations include, but are not limited to: gravel pits, exposures of surficial geologic sediment, and glacial stratigraphy in road cuts or along stream banks, excavations for construction projects and trenches (cable, pipe, and tiling). This spatial dataset contains a field description of each site, the dominant type of material encountered, the source of information, geologic unit thickness, and geologic overburden thickness. |
| <i>Browse Graphic</i> | none available |
| <i>Time Period of Content Date</i> | 2005-2011 |
| <i>Currentness Reference</i> | Data were collected intermittently from 2005 through 2011 |
| <i>Access Constraints</i> | |
| <i>Use Constraints</i> | Acknowledgement of the Minnesota Department of Natural Resources is appreciated for products derived from these data. |
| <i>Distributor Organization</i> | Minnesota Department of Natural Resources, Division of Lands and Minerals |
| <i>Ordering Instructions</i> | <p>Stearns County's aggregate resource spatial datasets (shapefiles & file geodatabase) are included in the file Stearnsdata.zip, accessible from the MN DNR Aggregate Mapping web page: http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</p> <p>The spatial datasets include: sand and gravel resource potential, crushed stone potential, test-holes drilled, geologic field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.</p> |
| <i>Online Linkage</i> | Click here to download data. (See Ordering Instructions above for details.) By clicking here, you agree to the notice in "Distribution Liability" in Section 6 of this metadata. |

Full Metadata

Stearns County Aggregate Resources: stea_fobs (Geologic Field Observations)

| Section 1 | Identification Information | | |
|--|--|--|--|
| <i>Originator</i> | Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section | | |
| <i>Title</i> | Stearns County Aggregate Resources: stea_fobs (Geologic Field Observations) | | |
| <i>Abstract</i> | This dataset includes information gathered in the field. Fieldwork was collected intermittently from 2005 through 2011. It includes 2600 field observation sites within Stearns County, Minnesota. Observations include, but are not limited to: gravel pits, exposures of surficial geologic sediment, and glacial stratigraphy in road cuts or along stream banks, excavations for construction projects and trenches (cable, pipe, and tiling). This spatial dataset contains a field description of each site, the dominant type of material encountered, the source of information, geologic unit thickness, and geologic overburden thickness. | | |
| <i>Purpose</i> | To summarize the field observations collected in Stearns County, Minnesota. These field observations were made to confirm air photo interpretation that identified potential aggregate bearing landforms. | | |
| <i>Time Period of Content Date</i> | 2005-2011 | | |
| <i>Currentness Reference</i> | Data were collected intermittently from 2005 through 2011 | | |
| <i>Progress</i> | Complete | | |
| <i>Maintenance and Update Frequency</i> | None planned | | |
| <i>Spatial Extent of Data</i> | Stearns County, Minnesota | | |
| <i>Bounding Coordinates</i> | -95.13 -94.05 45.79 45.27 | | |
| <i>Place Keywords</i> | Stearns County, Minnesota | | |
| <i>Theme Keywords</i> | Field observations, aggregate resources, surficial geology. | | |
| <i>Theme Keyword Thesaurus</i> | | | |
| <i>Access Constraints</i> | | | |
| <i>Use Constraints</i> | Acknowledgement of the Minnesota Department of Natural Resources is appreciated for products derived from these data. | | |
| <i>Contact Person Information</i> | Aggregate Resource Mapping Program, Industrial Minerals Geologist or GIS Specialist Minnesota Department of Natural Resources, Division of Lands and Minerals 500 Lafayette Road St. Paul, MN 55155-4045 Phone: 651-259-5959 FAX: 651-296-5939 | | |

E-mail: aggregatemap@state.mn.us

Browse Graphic

none available

***Browse Graphic
File Description***

***Associated Data
Sets***

Stearns County's aggregate resource spatial datasets (shapefiles & file geodatabase) are included in the file Stearnsdata.zip, accessible from the MN DNR Aggregate Mapping web page:

http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html

The spatial datasets include: sand and gravel resource potential, crushed stone potential, test-holes drilled, geologic field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.

Section 2

Data Quality Information

Attribute Accuracy

Logical Consistency

Completeness

The data points were gathered at the location where field observations took place. Additional information is given in the Lineage section.

***Horizontal
Positional Accuracy***

The differential correction of the GPS unit for GPS located sites is +/- 2 meters.

***Vertical Positional
Accuracy***

Not applicable.

Lineage

A tablet PC, a GPS unit (Garmin Etrex), ArcGIS 9.3 software, and the GPS toolbar in ArcGIS 9.3 were used in the field to determine the track and location of the observer collecting the points. Field observation points were digitized in real time, as well as, the entered tabular attribute information. The combination of the GPS unit's location, USGS topographic maps (1:24,000), and aerial photographs (1:3,000 - 1:12,000) were used to assist in determining the observation's site location on screen. The GPS unit (with differential correction) is accurate to approximately a few meters.

***Source Scale
Denominator***

3000

Section 3

**Spatial Data Organization
Information**

***Native Data Set
Environment***

ArcGIS 9.3

***Geographic
Reference for
Tabular Data***

Spatial Object Type

Point

***Vendor Specific
Object Types***

Point

Tiling Scheme

None

| Section 4 | Spatial Reference Information | | |
|-------------------------------------|-------------------------------|--|--|
| <i>Horizontal Coordinate Scheme</i> | UTM | | |
| <i>Ellipsoid</i> | GRS80 | | |
| <i>Horizontal Datum</i> | NAD83 | | |
| <i>Horizontal Units</i> | Meters | | |
| <i>Distance Resolution</i> | | | |
| <i>Altitude Datum</i> | Not applicable | | |
| <i>Depth Datum</i> | Not applicable | | |
| <i>UTM Zone Number</i> | 15E | | |

| Section 5 | Entity and Attribute Information | | |
|---|---|--|--|
| <i>Entity and Attribute Overview</i> | This dataset consists of field observation unique id, type of site, type of geologic material, description of the observation, unit thickness, overburden thickness, sampled (Y/N), and gravel percentage of material if sampled. | | |
| <i>Entity and Attribute Detailed Citation</i> | See beyond Section 7 for detailed field and attribute information | | |

| Section 6 | Distribution Information | | |
|--|---|--|--|
| <i>Publisher</i> | Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section | | |
| <i>Publication Date</i> | 2012 | | |
| <i>Contact Person Information</i> | Aggregate Resource Mapping Program Industrial Minerals Geologist or GIS Specialist Minnesota Department of Natural Resources, Division of Lands and Minerals 500 Lafayette Road St. Paul, MN 55155-4045 Phone: 651-259-5959 FAX: 651-296-5939 E-mail: aggregatemap@state.mn.us | | |
| <i>Distributor's Data Set Identifier</i> | Stearns County Aggregate Resources, Sand and Gravel Potential | | |
| <i>Distribution Liability</i> | The State of Minnesota makes no representations or warranties express or implied, with respect to the use of the information contained herein regardless of its format or the means of its transmission. There is no guarantee or representation to the user as to the accuracy, currency, suitability, completeness, usefulness, or reliability of this information for any purpose. The user accepts the information "as is." The State of Minnesota assumes no responsibility for loss or damage incurred as a result of any user's reliance on this information. All maps, reports, data, and other information contained herein are protected by copyright. Permission is granted to copy and use the materials herein for any lawful noncommercial purpose. Any user of this information agrees not to transmit or provide access to all or any part of this information to another party unless the user shall include with the information a copy of this disclaimer. | | |

***Transfer Format
Name***

***Transfer Format
Version Number***

Transfer Size mb for data, mb for associated maps

***Ordering
Instructions***

Stearns County's aggregate resource spatial datasets (shapefiles & file geodatabase) are included in the file Stearnsdata.zip, accessible from the MN DNR Aggregate Mapping web page:
http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html
The spatial datasets include: sand and gravel resource potential, crushed stone potential, test-holes drilled, geologic field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.

Online Linkage [Click here](#) to download data. (See Ordering Instructions above for details.) By clicking here, you agree to the notice in "Distribution Liability" above.

Section 7

Metadata Reference Information

Metadata Date

2012

***Contact Person
Information***

Aggregate Resource Mapping Program, Industrial Minerals Geologist or GIS Specialist
Minnesota Department of Natural Resources, Division of Lands and Minerals
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St. Paul, MN 55155-4045
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FAX: 651-296-5939
E-mail: aggregatemap@state.mn.us

***Metadata Standard
Name***

Minnesota Geographic Metadata Guidelines

***Metadata Standard
Version***

2.1

***Metadata Standard
Online Linkage***

<http://www.lmic.state.mn.us/gc/stds/metadata.htm>

| Table Name | Field Name | Definition | Valid Values | Descriptions |
|---------------|------------|------------|------------------|---|
| stea_fobs.dbf | FIELD_ID | Text, 8 | Ex: stea_1 | Unique identifiers used in the field. |
| | SITETYPE_1 | Text, 50 | See Below | |
| | | | Borrow Pit | A pit usually dug in material that is not sand and gravel. |
| | | | Excavation | Usually due to human activity, such as digging of building, trenches, construction areas, or containment ponds. |
| | | | Exposure | Outcrop of material from erosional, biological processes, or construction processes. |
| | | | Gravel Pit | Gravel pits exposing sand and gravel material. |
| | | | Outcrop | A bedrock outcrop |
| | | | Quarry | Quarry (Construction Aggregate or Dimension Stone, See field 'Sitetype_2' for quarry type) |
| | | | Rock Pile | Pile of rocks, generally ranging in size from cobble to boulder. |
| | | | Sand Pit | Sand pit |
| | SITETYPE_2 | Text, 50 | See Below | Further description of the observation site specified in SITETYPE_1. |
| | | | Animal Hole | A hole dug by an animal which exposes sediment. |
| | | | Back Hoe | A hole dug by a backhoe. |
| | | | Basement | Excavation of a basement. |
| | | | Borrow Pit | A pit usually dug in material that is not sand and gravel. |
| | | | Construction | Mining or digging due to construction activity associated with building of houses, excavating, or roads. |
| | | | Containment Pond | Man-made impoundment of water. |
| | | | Crushed Stone | Crushed stone quarry |
| | | | Ditch | Material exposed in a ditch due to a slump or landscaping that has removed vegetation. |
| | | | Foundation | Materials exposed during the construction or excavation of the lowest structure of a building. |
| | | | Gravel Pit | Materials exposed in gravel pit. |
| | | | Gully | Material exposed in a gully. |
| | | | Power Pole | Sediment exposed due to drilling and |

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| | | | | installation of new power poles. |
| | | | Quarry | Materials exposed in quarry. |
| | | | Rail Road | Materials exposed along rail road tracks. |
| | | | River | Sediment exposed by river erosion. |
| | | | Road Construction | Materials exposed due to road construction. |
| | | | Road Cut | Materials exposed in a road cut. |
| | | | Rock Pile | Pile of rocks, generally ranging in size from cobble to boulder. |
| | | | Sand Pit | Materials exposed in sand pit. |
| | | | Stockpile | Stockpile/waste rock of dimension stone quarry. |
| | | | Storm Pond | Materials exposed in excavation of a storm pond. |
| | | | Stream | Sediment visible in the bottom or along the bank of a stream |
| | | | Stream Cut | Exposure of sediment due to erosion and down cutting of streams and rivers. |
| | | | Surface | Exposures of bedrock/material on the ground surface. |
| | | | Tree Tip | Exposure after a tree blows over and roots are tilted out of the ground revealing underlying sediment. |
| | | | Trench | Exposure of sediment viewed in human-made linear trench excavation |
| | MATERIAL_1 | Text, 25 | See Below | Describes the primary type of material encountered at each observation site and does not necessarily reflect stratigraphic order. |
| | | | Bedrock | General term to describe consolidated rock underneath the surface. Bedrock outcrop is where the bedrock can be seen above the surface. |
| | | | Conglomerate | A sedimentary rock consisting of individual clasts within a finer-grained matrix that have become cemented together. |
| | | | Granite Boulders | Presence of granite boulders. |
| | | | Sand | Sand is composed of rocks and minerals that range in diameter from 0.0625 to 2 mm. |
| | | | Sand and Gravel | Sediment that contains a mixture of rocks in varying sizes ranging from 0.0625 to 64 mm. This description is given to sediment that contains an approximate estimate of gravel greater |

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| | | | | than 15% by volume. |
| | | | Sand with Gravel | Sediment that contains a mixture of rocks in varying sizes ranging from 0.0625 to 64 mm. This description is given to sediment that contains an approximate estimate of gravel less than 15% by volume. |
| | | | Sandy Till | Till that contains a high percentage of sand. |
| | | | Silt and Clay | Sediment that is less than 0.0625mm in diameter. |
| | | | Silty Sand | Sand that contains some silt. |
| | | | Till | A term used to describe the unsorted sediment deposited by glaciers- contains a mixture of clay, silt, sand, gravel and boulders. |
| | MATERIAL_2 | Text, 25 | See Below | Describes the secondary (not primary) type of material at each observation site. |
| | | | Bedrock | General term to describe consolidated rock underneath the surface. Bedrock outcrop is where the bedrock can be seen above the surface. |
| C | | | Conglomerate | A sedimentary rock consisting of individual clasts within a finer-grained matrix that have become cemented together. |
| | | | Alluvium | Fine sediment ranging from fine sand to clay deposited by river or stream. |
| | | | Granite Boulders | Presence of granite boulders. |
| | | | Sand | Sand is composed of rocks and minerals that range in diameter from 0.0625 to 2 mm. |
| | | | Sand and Clay | Sediment that contains sand (as defined above) and sediment that is less than 0.0625mm in diameter. |
| | | | Sand and Gravel | Sediment that contains a mixture of rocks in varying sizes ranging from 0.0625 to 64 mm. This description is given to sediment that contains an approximate estimate of gravel greater than 15% by volume. |
| | | | Sand with Gravel | Sediment that contains a mixture of rocks in varying sizes ranging from 0.0625 to 64 mm. This description is given to sediment that contains an approximate estimate of gravel less than 15% by volume. |
| | | | Sandy Till | Till that contains a high percentage of sand. |
| | | | Silt and Clay | Sediment that is less than 0.0625mm in |

| | | | | |
|--|------------|-----------|--|--|
| | | | | diameter. |
| | | | Silty Gravel | Gravel that contains higher amounts of silt. |
| | | | Silty Sand | Sand that contains some silt. |
| | | | Till | A term used to describe the unsorted sediment deposited by glaciers- contains a mixture of clay, silt, sand, gravel and boulders. |
| | FIELDDESC | Text, 200 | Ex: Drill Hole (0-9 ft) 0-6 Till, 6-9 Gravel. | A short field description of the observation site. |
| | Thickness | Text, 15 | Ex: >10, <25, Not Available | The thickness of the deposit expressed in combination with a modifier. Not Available (NA) indicates that the measurement does not apply or was not observed. |
| | Thick_mod | Text, 1 | Ex: >,< | Modifiers to express numeric approximations observed for deposit thickness: > greater than < less than |
| | Thick_val | Number, 4 | Ex: 5, 10, 15...-999 | Gives the minimum value for thickness. (-999 is a null value) |
| | Overburden | Text, 15 | Ex: >10, <25, Not Available | Expresses overburden thickness by possibly using one or both the modifier and value. Not Available (NA) indicates that the measurement does not apply or was not observed. |
| | Ob_mod | Text, 1 | Ex: >,< | Modifiers to express numeric approximations observed for deposit thickness: > greater than < less than |
| | Ob_val | Number, 4 | Ex: 5, 10, 15...-999 | Gives the value for overburden thickness. (-999 is a null value). |
| | Sampled | Text, 3 | Yes or No | Samples include gradation from both drilling and hand samples. Join this dataset to the table titled stea_sieve for gradation information. |
| | Gravel_pct | Double | Ex: -999, 50 | Percent gravel from sieve results of sampled observation points. (-999 is a null value) |
| | | | | |