

**Aitkin County, Minnesota - Aggregate Resources**  
**MnDOT Pit Sheets Summarized for Aggregate Quality**  
**aitk\_asisquality (relational table)**

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**Metadata Summary**

<b><i>Originator</i></b>	Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section
<b><i>Abstract</i></b>	This dataset consists of information about the quality of Minnesota Department of Transportation's evaluated gravel pits and other aggregate sources in the project area for Aitkin County, MN. In this report there were 11 pit sheets that had quality information that could be summarized. Quality information includes soundness, durability, and mineral content. This table contains the averages and ranges of values for the different quality tests and was summarized by the MN DNR from the MnDOT pit sheets.
<b><i>Browse Graphic</i></b>	none available
<b><i>Time Period of Content Date</i></b>	2011
<b><i>Currentness Reference</i></b>	The pit sheets are from 1936-1996, with these values compiled in 2011
<b><i>Access Constraints</i></b>	
<b><i>Use Constraints</i></b>	Acknowledgement of the Minnesota Department of Transportation and the Minnesota Department of Natural Resources is appreciated for products derived from these data.
<b><i>Distributor Organization</i></b>	Minnesota Department of Natural Resources, Division of Lands and Minerals
<b><i>Ordering Instructions</i></b>	Aitkin County's aggregate resource spatial datasets (shapefiles & file geodatabase) are included in the file Aitkindata.zip, accessible from the MN DNR Aggregate Mapping web page: <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a> The spatial datasets include: sand and gravel resource potential, test-holes drilled, geologic field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, MnDOT Aggregate Source Information System (ASIS) points, and MnDOT ASIS pit quality table.
<b><i>Online Linkage</i></b>	<a href="#">Click here</a> 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.

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## Full Metadata

# Aitkin County Aggregate Resources: aitk\_asisquality – Relational Table (MnDOT Pit Sheets Summarized for Aggregate Quality)

Section 1	Identification Information
<b>Originator</b>	Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section
<b>Title</b>	Aitkin County Aggregate Resources: aitk_asisquality (MnDOT Pit Sheets Summarized for Aggregate Quality)
<b>Abstract</b>	This dataset consists of information about the quality of Minnesota Department of Transportation's evaluated gravel pits and other aggregate sources in the project area for Aitkin County, MN. In this report there were 11 pit sheets that had quality information that could be summarized. Quality information includes soundness, durability, and mineral content. This table contains the averages and ranges of values for the different quality tests and was summarized by the MN DNR from the MNDOT pit sheets.
<b>Purpose</b>	This table summarizes the quality data that is presented on the MNDOT pit sheets. MNDOT has specifications that the aggregate must meet to be used for specific jobs. This table summarizes the quality data by averaging the values of the pit and giving the range of values. The data can be joined to the file titled, aitk_pits.shp, using the 'ASIS_NUMBR' field.
<b>Time Period of Content Date</b>	2011
<b>Currentness Reference</b>	The pit sheets are from 1936-1996, with these values compiled in 2011
<b>Progress</b>	Complete
<b>Maintenance and Update Frequency</b>	None planned
<b>Spatial Extent of Data</b>	Aitkin County, Minnesota
<b>Bounding Coordinates</b>	-93.81 -93.05 47.16 46.15
<b>Place Keywords</b>	Aitkin County, Minnesota
<b>Theme Keywords</b>	MnDOT, ASIS, Aggregate, Gravel Pits, Quality, Soundness, Durability
<b>Theme Keyword Thesaurus</b>	
<b>Access Constraints</b>	
<b>Use Constraints</b>	Acknowledgement of the Minnesota Department of Transportation and the Minnesota Department of Natural Resources is appreciated for products derived from these data.
<b>Contact Person Information</b>	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: [kevin.hanson@state.mn.us](mailto:kevin.hanson@state.mn.us)

***Browse Graphic***

none available

***Browse Graphic  
File Description***

***Associated Data  
Sets***

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

## **Section 2      Data Quality Information**

***Attribute Accuracy***

The ranges of values were taken directly from the MNDOT pit sheets. These numbers were also averaged to represent the entire pit. However, a pit may meet specifications on one end and not the other, or the top 10 feet may meet specifications and the bottom layers do not. Thus, care must be taken when interpreting this information. For further detail, refer to the pit sheets from MNDOT.

***Logical Consistency***

***Completeness***

All available data were summarized and are incorporated within this table.

***Horizontal  
Positional Accuracy***

Not applicable.

***Vertical Positional  
Accuracy***

Not applicable.

***Lineage***

The ranges of values were taken directly from the MNDOT pit sheets. These numbers were also averaged to represent the entire pit. However, a pit may meet specifications on one end and not the other, or the top 10 feet may meet specifications and the bottom layers do not. Thus, care must be taken when interpreting this information. For further detail, refer to the pit sheets from MNDOT.

***Source Scale  
Denominator***

## **Section 3      Spatial Data Organization Information**

***Native Data Set  
Environment***

***Geographic  
Reference for  
Tabular Data***

***Spatial Object Type***

Relational Table

***Vendor Specific  
Object Types***

***Tiling Scheme*** None

## **Section 4 Spatial Reference Information**

***Horizontal  
Coordinate Scheme*** UTM

***Ellipsoid*** GRS80

***Horizontal Datum*** NAD83

***Horizontal Units*** Meters

***Distance Resolution***

***Altitude Datum*** Not applicable

***Depth Datum*** Not applicable

***UTM Zone Number*** 15E north

## **Section 5 Entity and Attribute Information**

***Entity and Attribute  
Overview*** The ranges of values were taken directly from the MnDOT pit sheets. These numbers were also averaged to represent the entire pit. However, a pit may meet specifications on one end and not the other, or the top 10 feet may meet specifications and the bottom layers do not. Thus, care must be taken when interpreting this information. For further detail, refer to the pit sheets from MnDOT. These data can be related to their locations by using either the aitk\_pits shapefile or aitk\_asis0111 shapefile. The primary key in aitk\_asisquality is the 'ASIS\_NUMBR' field which can be related to the corresponding 'ASIS\_numbr' field in aitk\_pits shapefile or to the 'sourcenum' field in aitk\_asis0111 shapefile.

***Entity and Attribute  
Detailed Citation*** See beyond Section 7 for detailed field and attribute information

## **Section 6 Distribution Information**

***Publisher*** Minnesota Department of Natural Resources, Division of Lands and Minerals, Mineral Potential Evaluation Section

***Publication Date*** 2014

***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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***Distributor's Data  
Set Identifier*** Aitkin County Aggregate Resources, Sand and Gravel Potential

***Distribution  
Liability*** 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

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***Transfer Format  
Name***

***Transfer Format  
Version Number***

***Transfer Size***

***Ordering  
Instructions***

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

[http://www.dnr.state.mn.us/lands\\_minerals/aggregate\\_maps/completed/index.html](http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html)

The spatial datasets include: sand and gravel resource potential, test-holes drilled, geologic field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, MnDOT Aggregate Source Information System (ASIS) points, and MnDOT 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***

2014

***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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***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>

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Table Name	Field Name	Begin Column	Definition	Valid Values	Descriptions
aitk_asisquality.dbf	ASIS_NUMBR		Text, 10, 0	E.g., 09014	Unique identifier used by MNDOT to identify a pit - new numbering scheme. This is the primary key used to join this data to aitk_pits.shp or aitk_asis0111.shp
	SOURCEXX		Text, 10, 0	E.g., 09014	Unique identifier used by MNDOT to identify a pit - new numbering scheme.
	PITNO		Text, 10,0	E.g., 587	Unique identifier used by MNDOT to identify a pit - without letter (A or B).
	PITNOLTR		Text, 3	E.g., A, B, NA (none listed)	Unique identifier used by MNDOT to identify a pit - if more than one pit (A, B, or C).
	SHALE_SAND		Number,19,1	E.g., 0.9, 3.6	Average amount of shale found in the sand fraction (percent). Null values are displayed as -999
	SHALE_GRVL		Number,19,1	E.g., 1.4, 3.9	Average amount of shale found in the gravel fraction (percent). Null values are displayed as -999
	FEOXIDEPCT		Number,19,1	e.g., 1.4, 2.3	Average amount of iron oxide found in sample (percent).
	UNCHERTPCT		Number,19,1	e.g., 0.2, 0.6	Average amount of unsound chert found in sample (percent). Null values are displayed as -999
	LAR_A		Number,19,1	e.g., 7.7, 28.5	Average amount of material lost in the Los Angeles Rattler test (percent). Null values are displayed as -999

	LAR_B		Number,19,1	e.g., 24.2, 28.3	Average amount of material lost in the Los Angeles Rattler test (percent). Null values are displayed as -999
	LAR_C		Number,19,1	e.g., 23.5, 26.0	Average amount of material lost in the Los Angeles Rattler test (percent). Null values are displayed as -999
	HIGHSHSAND		Number,19,1	e.g., 3.3, 8.6	Highest amount of shale found in the sand fraction (percent). Null values are displayed as -999
	LOWSHSAND		Number,19,1	e.g., 1.1, 4.4	Lowest amount of shale found in the sand fraction (percent). Null values are displayed as -999
	RANGESHSND		Text, 10	e.g., 1.1- 3.3, 2.7- 8.8, No Range, NA	Range of shale found in the sand fraction (percent). 'No Range' indicates that the high and low values were the same. NA indicates there were null values in the high and low.
	HIGH_SHGVL		Number,19,1	e.g., 2.4, 6.8	Highest amount of shale found in the gravel fraction (percent). Null values are displayed as -999
	LOW_SH_GVL		Number,19,1	e.g., 1.3, 6.3	Lowest amount of shale found in the gravel fraction (percent).
	RANGESHGVL		Text, 10	e.g., 1.0- 2.6, 2.8- 6.3, No Range, NA	Range of shale found in the gravel fraction (percent). 'No Range' indicates that the high and low values were the same. NA indicates there were null values in the high and low.
	HIGHFEOXID		Number,19,1	e.g., 1.1-	Highest amount of iron oxide found in

				3.2	sample (percent). Null values are displayed as -999
	LOWFEOXIDE		Number,19,1	e.g., 0.2, 1.4	Lowest amount of iron oxide found in sample (percent). Null values are displayed as -999
	RANGE_FEOX		Text, 10	e.g., 0.5-1.1, 1.3-2.3, No Range, NA	Range of iron oxide found in sample (percent). 'No Range' indicates that the high and low values were the same. NA indicates there were null values in the high and low.
	HIGHUNCHRT		Number,19,1	e.g., 0.0, 0.4	Highest amount of unsound chert found in sample (percent). Null values are displayed as -999
	LOWUNCHERT		Number,19,1	e.g., 0.0, 0.6	Lowest amount of unsound chert found in sample (percent). Null values are displayed as -999
	RANGE_UNCH		Text, 10	e.g., 0.1-0.2, 0.4-0.4, No Range, NA	Range of unsound chert found in sample (percent). 'No Range' indicates that the high and low values were the same. NA indicates there were null values in the high and low.
	HIGH_LAR		Number,19,1	e.g., 25.3, 30.6	Highest amount of material lost in the Los Angeles Rattler test (percent). Null values are displayed as -999
	LOW_LAR		Number,19,1	e.g., 7.0, 26.6	Lowest amount of material lost in the Los Angeles Rattler test (percent). Null values are displayed as -999
	RANGE_LAR		Text,12	e.g., 19.9-25.3, 7.7-26.0, No	Range of material lost in the Los Angeles Rattler test (percent). 'No



				Range, NA	Range' indicates that the high and low values were the same. NA indicates there were null values in the high and low.
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