MINERALS AVAILABILITY SYSTEM
NON PROPRIETARY
(MASNP)
DATA BASE

DEPOSIT INFORMATION MANUAL & DATA DICTIONARY

Version 98.05.02

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WHO IS THIS MANUAL FOR?

This Manual is intended to be the Data Dictionary for the MAS Data Base. It provides users with detailed field definitions, data limits, and edit criteria for every item required to identify any mineral location, operation, and resource in the MAS (Non-Proprietary) Data Base. This manual is provided for the user of ASCII file dumps of the non-proprietary portion of the database, to allow those users to re-create parts of the database on their own system with their own software.

PREFACE

The Minerals Availability System (MAS) Data Base was created under the Bureau of Mines for the collection, validation, interpretation, analysis, and dissemination of minerals information. The Bureau of Mines was assessing the worldwide availability, economic issues of impacting legislation, and environment issues of selected mineral locations and operations and wanted a single repository for the data collected. Some of the data collected and entered was proprietary in nature, and therefore only of limited use, just within the Bureau of Mines for various programmatic functions assigned to the Bureau. These functions, and those of maintaining the data, were not transferred to the USGS in January 1996, before the closure of the Bureau of Mines, therefore the USGS is not responsible the accuracy of the data. The data is available upon request to anybody wanting the non-proprietary data collected by the Bureau of Mines prior to it's closure.

The MAS Data Base was a working file of the U.S. Bureau of Mines. Quality of the information could range from preliminary, unconfirmed data to validated assessments. This information is for use and further review within the U.S. Geological Survey and by specialists in relevant disciplines in other organizations. Neither the U.S. Geological Survey nor the U.S. Government can assume responsibility, financial or otherwise, for any consequences arising out of the use of information contained within the database or decisions based upon reports from the data base.

For further information, comments or corrections, please contact the Minerals Availability System (MAS) Data Base Administrator, Bill Ferguson, USGS - MMAS,Box 25046, MS-750, Denver Federal Center, Denver, CO 80225, Telephone (303) 236-8747 Ext 321.

DEPOSIT INFORMATION MANUAL

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MAS DATA BASE CONVENTIONS

1. TABLE NAMES AND PUBLIC SYNONYMS

Each table will have many names; the formal name that is used in this manual, many view names to support ORACLE's data base security and an SQL*PLUS public synonym to simplify query commands. The formal table name used in this manual denotes data content (e.g., BIBLIOGRAPHY table contains bibliographical references, COMMENTS table contains referenced comments about the data within the various tables, GEOMETRY table contains a detailed description of the formation characteristics and mineralization location of a deposit's ore.) Users are provided access to the information within each table through specific views, which control the field level security of the ORACLE data base. Public synonyms have been created for each table to simplify SQL*PLUS commands, usually the first letter of the formal table name (e.g., C for COMMENTS table, B for BIBLIOGRAPHY table, D for DEVELOPMENT schedule table, G for GEOMETRY table, etc.).

2. DATA ELEMENT NAMES (Element Identifiers)

Within each table the individual data fields or elements are identified by unique names. These are usually three-character names which are either the first characters of the full name (e.g., SEQ for sequence number, STA for state, etc.), or a three-character acronym (e.g., YFC for Year Field Checked, DLM for Date Last Modified, etc.). These abbreviations were implemented rather than full names which are frequently cumbersome and invite misspellings, or labels which are frequently difficult to associate with the contents of the data fields (e.g., A1, A2, A3, B1, B2, etc).

3. DATES

The standard forms adopted for all dates in the data base are YYMMDD and YYMM, where YY is the year, MM is the month, and DD is the day (e.g., April 24, 1978 will appear as 780424). This form simplifies comparisons of dates (e.g., 780615 is greater (more recent) than 771222, etc.).

4. CODES

When standard alphanumeric data is being input into the computer, entries can be made as either alphabetic descriptions, left-justified numeric data codes, or on-line value selection. For ease of entry leading zeros for numeric code values are optional. Alphabetic entries will be edited for correct spelling and numeric codes will be converted to their alphabetic equivalents by the field edits. While alphabetic entries will probably incur a higher edit rejection rate due to misspellings, a wrong code will be accepted provided it falls within a valid range. The entry person must review the translated or edited results to insure the desired entry is achieved. Another option is to press the [Key-List-Val] key and select a value from the list of valid entries for the specific field displayed on the screen. This will automatically copy the alphabetic value for the selected code. Unless an UNKNOWN entry is specifically allowed, data fields should remain blank when their contents are unknown, undetermined, or otherwise unavailable; do not fill the field with either zeros or nines to indicate this condition.

DATA/EDIT SUMMARY TABLES

At the beginning of each table definition describing a particular Oracle Table in Appendix A, there is a Data/Edit Summary description that provides a quick reference (i.e., item name, field length or size,

edit criteria, and acceptable character type) for the contents of that particular Oracle Table. The labels used to denote type of edit criteria are defined as follows:

SSSCCC - State & County Codes
State - State boundaries
N/S - N or S (North or South)
Fix Dec - Fixed Decimal as shown
Dec OK - Decimal allowed as shown
Month - Current month or before
Range - Valid for county limits
Table - Edit from Value Table
Req. - Required
Free - Free form
FOC - Field Operations Center code
Y/N - Y or N (Yes or No)
NE - Not Equal to value

ADDENDUMS

A number of the tables included as supportive data are supplied as is.

FILE NAME CONVENTIONS

state_name.bib	Bibliography Table data
state_name.cmt	Comments Table data
state_name.com	Commodity Table data
state_name.geo	Geometry Table data
state_name.hp	Production Table data
state_name.hx	Exploration Table data
state_name.lit	Lithology Table data
state_name.mil	MILS Table data
state_name.min	Minerals Table data
state_name.nam	Names Table data
state_name.own	Ownership Table data
state_name.ras	Resource_Assay Table data
state_name.res	Resource table data
state_name.roc	Rock table data
state_name.sta	State Table data
state_name.val	Values Table data

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APPENDIX A

MAS DATA DICTIONARY

APPENDICES

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APPENDIX A - BIBLIOGRAPHY TABLE

The **BIBLIOGRAPHY TABLE** contains reference material relating to this mineral property. While the format of each line is free-form, the evaluator should follow the U.S.B.M. Style Guide for Bibliographies:

BIBLIOGRAPHY TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 char.	SSSCCC
***TAB**le reference	2 char.	Table
***LIN**e number	3 char.	
BIBliography	65 char.	

* - Required items

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

TABle is two characters which relates the bibliographic reference to a specific data base table (e.g., a blank **TAB**le indicates general reference material; if the literature reference is related to Mode of Transportation, **TAB**le should contain an TM; a **TAB**le of U indicates a reference to Underground mining, etc.). An exception to this would be that all bibliographic references to Hazardous Waste should have a TABle field value of "HW".

TAB ID	Table Name	TAB ID	Table Name	TAB ID	Table Name
A	Adit	EQ	Equipment	N	Name
AA	Adit Assay	F	Feeds	O	Ownership
B	Bibliography	G	Geometry	P	Product
C	Comments	HP	History of Production	Q	Quantity
CO	Commodity	HX	History of Exploration	QA	Quantity Assay
D	Development Schedule	K	Concentrator	R	Resource
E	Environmental	LA	Labor	RA	Resource Assay
EC	Environmental Commodity	LI	Lithology	S	Surface Mining
EK	Environmental Category	LR	Lithology-Rock Description	T	Transportation
EP	Environmental Production	M	Minerals	TM	Transportation Mode
		MI	MILS	U	Underground Mining
				W	Water Extraction
				Y	Yields

LINe number (3 digits) contains a unique value (from 001 to 999) for each line of Bibliography relating to a referenced table.

BIBliography contains a single 65-character line of reference material source description.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this specific record.

APPENDIX A - COMMENTS TABLE

The **COMMENTS TABLE** encompasses the evaluator's Comments or remarks relating to this mineral property. The format is free-form, permitting the evaluator to use narrative, outlines, etc. The evaluator, wherever appropriate, should relate the comments to a particular table within the data base.

COMMENTS TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 char.	SSSCCC
***TAB**le reference	2 char.	Table
***LIN**e number	3 char.	
COMments	65 char.	

* - Required items

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

TABle is two characters which relates comments to a specific data base table (e.g., a blank **TAB**le indicates general remarks, while a **TAB**le of O ties the comments to Ownership, etc.). An exception to this would be that all comment references to Hazardous Waste should have a TABle field value of "HW".

TAB ID	Table Name	TAB ID	Table Name	TAB ID	Table Name
A	Adit	EQ	Equipment	N	Name
AA	Adit Assay	F	Feeds	O	Ownership
B	Bibliography	G	Geometry	P	Product
C	Comments	HP	History of Production	Q	Quantity
CO	Commodity	HX	History of Exploration	QA	Quantity Assay
D	Development Schedule	K	Concentrator	R	Resource
E	Environmental	LA	Labor	RA	Resource Assay
EC	Environmental Commodity	LI	Lithology	S	Surface Mining
EK	Environmental Category	LR	Lithology-Rock Description	T	Transportation
EP	Environmental Production	M	Minerals	TM	Transportation Mode
		MI	MILS	U	Underground Mining
				W	Water Extraction
				Y	Yields

LINe number (3 digits) must have a unique value (from 001 to 999) for each line of Comments relating to a table.

COMments contains a single 65-character line of remarks.

APPENDIX A - COMMODITY TABLE

The **COMMODITY TABLE** identifies the numerous products that can be recovered from a mineral deposit. These products, or commodities, cover a wide spectrum (e.g., pure metals, liquids, gases, mineral compounds, stone, etc.). The commodity categories used in this data base are established by the U.S. Bureau of Mines and shown in Minerals Facts and Problems. In addition this data base includes H_2O and LOI assay quantities which though not "marketable" directly affect costs of recovery of other commodities. The evaluator should enter all commodities recoverable at present market value, as well as commodities which may potentially be recovered. The evaluator should also note unmarketable commodities which affect the recovery and marketability of other commodities. The Commodity table consists of the following:

COMMODITY TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 char.	SSSCCC
*__REC__ord number	2 char.	NE 00
COMmodity name	14 char.	Table
#**MOC** Modifier Of Commodity	22 char.	Table
MARketability	1 char.	Table
SIC Standard Industrial Code	4 digit	Table
#**CCC** Commodity Classification Code	1 char.	Table
#**IRC** Industry Report Code	1 char.	Table
#**DLM** Date Of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the same sequence number in the MILS table.

RECord number (2 digits) must have a unique value (from 01 to 99) for each commodity defined for a mineral property.

COMmodity name (14 characters) must be taken from appendix B-3. If a four digit commodity-modifier code is used for input, it is to be left-justified in this field. An alphabetic entry can only be used for a commodity name without a modifier.

MOC Modifier Of Commodity (22 characters) is an integral part of the **COM**modity, and cannot be added, modified or deleted as an independent field. A four digit commodity-modifier code must be entered or chosen to specify a modifier (**MOC**). See appendix B-COM.

MARketability is a single-character indicator of this commodity's market status, using the following abbreviations:

code	description	definition
P	Primary Product	Major product affecting revenue
C	Co-product	A product of equal or near equal value to another product in terms of producing revenue
B	Byproduct	A product that helps the economic viability of a property, but which would not be produced unless other primary products or co-products are being recovered
R	Recoverable	A product that is not identifiable as a primary product, co-product, or byproduct, but is recoverable or potentially recoverable. The evaluator should identify in the comments

		if this is a commodity proposed for stockpiling if no market presently exists, or if revenues will exist, but the status (P, C, B) of the commodity is unknown.
A	Affecting	Deleterious products or impurities that affect the marketability of the marketability recovered product(s)

SIC Standard Industrial Classification code, as defined by the Office of Management and Budget, is a four-digit optional entry (Appendix B-SIC).

CCC Commodity Classification Code (1 Character) groups the basic chemical compound types found in appendix B-COM).

IRC Industry Report Code (1 Character) indicates the group into which industry normally categorizes this commodity (See appendix B-COM).

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this specific record.

APPENDIX A - GEOMETRY TABLE

The formation characteristics, overall shape (with relative orientation), and dimensions of the ore body are described in the **GEOMETRY TABLE**:

GEOMETRY TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
***MAT**rix number	1 digit	
***COL**umn number	1 digit	
TOB1 1st Type of Ore Body	12 char.	Table
TOB2 2nd Type of Ore Body	12 char.	Table
TOB3 3rd Type of Ore Body	12 char.	Table
ORI1 1st ORIgin (mode of)	16 char.	Table
ORI2 2nd ORIgin (mode of)	16 char.	Table
SOB1 1st Shape of Ore Body	10 char.	Table
SOB2 2nd Shape of Ore Body	10 char.	Table
SOB3 3rd Shape of Ore Body	10 char.	Table
ORE1 1st ORE control	12 char.	Table
ORE2 2nd ORE control	12 char.	Table
DWA Degree of Wallrock Alteration	8 char.	Table
TWA1 1st Type of Wallrock Alteration	15 char.	Table
TWA2 2nd Type of Wallrock Alteration	15 char.	Table
TWA3 3rd Type of Wallrock Alteration	15 char.	Table
SAD Strike And Dip of mineral. zone	8 char.	Table
ADM Average Depth to Mineralization	9 digit	999999.99
MDM Minimum Depth to Mineralization	9 digit	999999.99
ATU Avg. Thickness of Unconsol. mat.	7 digit	9999.99
MTU Min. Thickness of Unconsol. mat.	7 digit	9999.99
ALM Average Length of Mineralization	9 digit	999999.99
AWM Average Width of Mineralization	9 digit	999999.99
ATM Average Thickness of Mineral.	7 digit	9999.99
CON	1 char.	
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

MATrix (1 digit) must contain a unique number (from l to 9) relating this deposit GEOMETRY description to a specific Quantity matrix. A blank **MAT** relates to all existing matrices.

COLumn number (1 digit) must have a unique value (from l to 9) relating this deposit description to a specific column of the Quantity matrix referenced in **MAT**. A blank **COL** relates to all existing columns.

TOB# Type of Ore Body designates a twelve-character data item that classifies the form that the mineral zone assumes.

TOB1 Primary ore body type from table below.

TOB2 Secondary ore body type from table below.

TOB3 Third ore body type from table below.

code	entry	description

APPENDIX A - GEOMETRY TABLE

00	UNKNOWN	Type of ore body unknown.
01	FISSURE VEIN	Mineral mass filling open spaces along a fracture with or without chemical alteration of adjoining rock.
02	SHEAR ZONE	Zone of fissuring or shearing that has been mineralized by impregnating solutions, by replacement, or by filling of open spaces.
03	STOCKWORK	An area through which numerous mineralized veins traverse the rock in all directions, forming a network through mutual intersection. Individual veins are small and are considered collectively as a deposit.
04	BRECCIA FILL	(Breccia filling) Zone of shattering in which mineralization has cemented or replaced the shattered mass of angular fragments and comminuted material.
05	DISSEMINATED	Mineralization occurring as minute particles or narrow veinlets or stringers throughout a large mass of enclosing country rock.
06	PLACER	An alluvial, beach, eolian, glacial or residual deposit, as of sand and gravel, containing particles of valuable minerals.
07	SEDIMENTARY	Minerals deposited by chemical or mechanical concentration in sediments.
08	REPLACEMENT	Replacing of the country rock or other minerals by valuable minerals from a solution.
09	PEGMATITE	Valuable minerals found in a pegmatite.
10	OTHER	Any other type of Ore Body.
11	MASS SULFIDE	Any mass of concentration of unusually abundant sulfide minerals.
12	LATERITE	A deposit of highly weathered red subsoil or material rich in secondary oxides of iron, aluminum, or both and sometimes containing secondary nickel as a silicate or nickel-cobalt as mineraloids in clay.
13	STRATIFORM	A conformable deposit where the desired rock or ore constitutes one or more sedimentary, metamorphic or igneous layers and appears bedded.
14	STRATABOUND	A deposit where the desired rock or ore is found within specific sedimentary units as cross-cutting veins, pore-space fillings and solution cavity fillings.
15	BRINES	Brines or sea water
16	CARBONATITE	A deposit of highly carbonate rich rock derived from hot magmatic fluids.

ORI# mode of **ORI**gin designates a 16-character data item that identifies the most significant processes involved in the formation of the mineralized area referred to by **MAT**.

ORI1 Primary mode of origin from the following table.

ORI2 Secondary mode of origin from the following table.

code	entry	description
00	UNKNOWN	Mode of origin unknown.
01	HYDROTHERMAL	Mineral deposition by heated, ascending solutions.
02	CONT METASOMATIC	Mineral deposition by partial or complete replacement of a pre-existing rock by emanations issuing from an intrusive. Formed at high temperatures.
03	OXIDATION	Surface waters containing abundant oxygen oxidize minerals near the surface, encouraging solution of metals from the upper part of an ore deposit and redeposition at depth causing enrichment of underlying ore. May also cause enrichment of surface ores where oxides and carbonates are ore minerals.
04	MAGMATIC DIFFER	(Magmatic differentiation) Process by which different types of igneous rocks are derived from a single parent magma, or by which different parts of a single molten mass assume different compositions and textures as it solidifies.
05	SEDIMENTATION	Mechanical or chemical precipitation, or settling of solid particles of soil, coal forming materials, or minerals from liquids.
06	EVAPORATION	Deposition of sediments or minerals from an aqueous solution as a result of extensive or total evaporation of the solvent.
07	RESIDUAL CONCENT	Residual concentration of a valuable mineral by solution and removal of other material.
08	METAMORPHISM	Ore formation by the transformation of a rock or mineral into a new type with or without the introduction of new material, produced by exterior agencies-- deformation or change in temperature.
09	LATERITE	A deposit of highly weathered red subsoil or material rich in secondary oxides of iron, aluminum, or both and sometimes containing secondary nickel as a silicate or nickel-cobalt as mineraloids in clay.
10	OTHER	Any mode other than the above.

SOB# Shape of Ore Body designates a ten-character data item that describes the Shape of the Ore Body, in order of importance.

SOB1 Primary shape description from the table on the next page.

SOB2 Secondary shape description from the table on the next page.

SOB3 Third shape description from table below.

code	entry	description
00	UNKNOWN	Shape of ore body is unknown.
01	TABULAR	Ore body relatively long in two dimensions and short in one dimension.
02	LENTICULAR	Ore body thinned out from the center to a thin edge all around. Shaped approximately like a double convex lens.
03	IRREGULAR	No distinct shape. Lacking characteristic symmetry.

code	entry	description
04	MASSIVE	Large ore body developed in three dimensions with variable shape.
05	PIPELIKE	Roughly cylindrical ore body with marked vertical continuity and subordinate horizontal dimensions.
06	DOMELIKE	Roughly symmetrical ore body shaped like a dome.
07	OTHER	Any other ore body shape.
08	MANTLELIKE	Essentially a thin deposit reflecting the topography on which the deposit occurs.

ORE# controls designates two 12-character data items, that identifies the features that controlled the formation, extent, and/or tenor of the ore body.

ORE1 Primary control feature from table below.

ORE2 Secondary control feature from table below.

code	entry	code	entry
00	UNKNOWN	05	BEDDING
01	FOLDING	06	CONTACT ZONE
02	FRACTURING	07	LITHOLOGY
03	FAULTING	08	OTHER
04	IGNEOUS		

DWA Degree of Wallrock Alteration (8 characters) describes the relative extent of mineralogical or chemical change in the rock surrounding the ore body.

code	entry
00	UNKNOWN
01	NONE
02	SLIGHT
03	MODERATE
04	INTENSE

TWA# Type of Wallrock Alteration designates a 15-character data item that classifies the mineralogical or chemical changes affecting the wallrock.

TWA1 Primary type of wallrock alteration from the following table.

TWA2 Secondary type of wallrock alteration from the following table.

TWA3 Third type of wallrock alteration from the following table.

code	entry	description
00	UNKNOWN	Undetermined
01	ADV ARGILLIC	Advanced argillic characterized by pure clay minerals; very common facies adjacent to many mineralized zones; characteristic mineral--clay minerals, quartz, sericite, alunite (less common).
02	SERICITIC	(phyllic) Characterized by micaceous minerals; most abundant and widespread facies; characteristic minerals--sericite, quartz, pyrite (topaz, tourmaline, potassium- feldspar, biotite--less common).
03	INTERM ARGILLIC	Intermediate argillic increased complexity representing a lessening of cation removal; common in plagioclase feldspar rocks; characteristic minerals - montmorillonite group clays, kaolinite group clays, amorphous clays, green and brown biotite.
04	PROPYLITIC	Characterized by its green color; found in a wide range of geologic environments; characteristic minerals-- epidote, albite, chlorite, carbonate minerals, pyrite, montmorillonite (less common).
05	POTASSIC	Potassium silicate frequently associated with porphyry coppers and moly deposits; characteristic minerals-- potassium- feldspar, biotite, sericite, anhydrite, pyrite, chalcopyrite, molybdenite.
06	CARBONATE SILIC	Silication of carbonate rocks found particularly in contact aureoles around intrusives; frequently called skarns or tactites; includes a variety of silicate minerals associated intimately with sulfides in pyrometasomatic deposits; characteristic minerals-- garnets, epidote, diopside, wollastonite, biotite, chlorite, amphiboles, Fe oxides, potassium-feldspar sulfides.
07	SILICIFICATION	Silicification increase in amount of quartz or opal in country rock, commonly closely associated with sulfide deposition; minor volume of rock in many different environments.
08	DOLOMITIZATION	Characterized by the entire or partial conversion of limestone to dolomite.
09	BLEACHING	Characterized by a rock of lighter color than normal, where original textures are commonly preserved, and the bleached rock appears to have undergone no significant change in chemical composition or in grain size.
10	PYRITIZATION	Characterized by introduction of or replacement by pyrite; often consists of the introduction of fine-grained pyrite disseminated as specks in rock adjacent to mineral veins.

11	CARBONITIZATION	Characterized by replacement of minerals by carbonates.
12	OTHER	Alteration other than described above.

SAD (8 characters) the Strike And Dip of the mineralized zone:

position	contents
l	Direction of strike
2-3	Angle in degrees
4	Other component of direction
5	Colon (:)
6-7	Angle of dip
8	Compass direction of dip (not required when angle of dip is 90°)

For example, a strike of north 30° east and a 20° westerly dip would be entered as N30E:20W.

ADM (9 digits) contains the Average Depth to the Mineralized zone in meters.

MDM (9 digits) contains the Minimum Depth to the Mineralized zone in meters.

ATU (7 digits) records the Average Thickness (in meters) of the Unconsolidated material covering the mineral-bearing zone.

MTU (7 digits) records the Minimum Thickness (in meters) of the Unconsolidated material covering the mineral-bearing zone.

ALM (9 digits) contains the Average Length of the Mineralization in meters, using the longest strike dimension.

AWM (9 digits) contains the Average Width of the Mineralization in meters, using the dip dimension (or optionally the shortest dimension).

ATM (7 digits) contains the Average Thickness of the Mineralization in meters, measured perpendicular to the dip.

CON (1 character) The field should be left blank.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this geometry data.

APPENDIX A - HISTORY OF EXPLORATION TABLE

The history of exploration relating to a deposit is described in multiple records of the HISTORY OF EXPLORATION table:

EXPLORATION TABLE (History of)

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
***REC**ord number	2 digit	NE 00
METhod employed	20 char.	Table
TENt employed	9 char.	Table
SUPport of evaluation	9 char.	Table
YOW Year Of Work YYYY	4 digit	
STAtus	8 char.	Table
YOI Year Of Information YYYY	4 digit	
CON	1 char.	C
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

RECord number (2 digits) contains a unique number (from 01 to 99) for each exploration record entered.

METhod (20 characters) records the exploratory method employed, using the following table:

code	entry	code	entry
10	GEOLOGICAL	36	ECHO-SEISMIC PROFILE
11	SURFACE GEOL MAPPING	37	SIDE SCAN SONAR
12	SUBSURF GEOL MAPPING	38	BOTTOM PHOTO
13	GEOLOGICAL INFERENCE	39	TELEVISION
14	OTHER GEOLOGICAL	40	GEOCHEMICAL
20	GEOPHYSICAL	41	STREAM SEDIMENT SAMP
21	GRAVITATIONAL SURVEY	42	RECON SOIL SAMPLING
22	MAGNETIC SURVEY	43	DETAIL SOIL SAMPLING
23	SEISMIC SURVEY	44	HUMUS SAMPLING
24	RADIOACTIVITY SURVEY	45	MERCURY SNIFFER
25	SELFPOTENTIAL SURVEY	46	BIOLOGICAL SAMPLING
26	RESISTIVITY SURVEY	47	OTHER GEOCHEMICAL
27	ELECTROMAGNETIC SUR	48	CONT ANALYTICAL
28	INDUCED POLARIZATION	50	DRILLING
29	AERIAL PHOTOGRAPHY	51	CORE DRILLING
30	AERIAL COLOR PHOTOG	52	CHURN DRILLING
31	INFRARED PHOTOGRAPHY	53	PERCUSSION DRILLING
32	RADAR SURVEY	54	AUGER
33	SATELLITE SURVEY	55	ROTARY DRILLING
34	OTHER GEOPHYSICAL	56	OTHER DRILLING
35	OTHER REMOTE SENSING	57	BOX CORE

APPENDIX A - HISTORY OF EXPLORATION TABLE

code	entry	code	entry
58	PISTON CORE	80	TEST PIT
59	OTHER CORE	81	TRENCHING
61	TEST SHAFT	86	PIPE DREDGE
62	TEST RAISE	87	TRAWL DREDGE
63	TEST WINZE	88	OTHER DREDGE
70	HORIZONTAL TEST	90	BEDROCK SAMPLING
71	TEST ADIT	91	WIRE LINE GRAB
72	TEST DRIFT/CROSSCUT	92	FREE FALL GRAB
73	TEST TUNNEL	99	OTHER

TENt (9 characters) indicates the ex**TEN**t to which the exploration method (**MET**) was employed:

code	entry
01	LITTLE
02	MODERATE
03	EXTENSIVE

SUPport (9 characters) indicates the degree that **MET** supports this evaluation:

code	entry
01	LITTLE
02	MODERATE
03	EXTENSIVE

YOW (4 digits) contains either the first or last Year Of Work and is modified by **STA**.

STAtus (8 characters) modifies the Year Of Work in **YOW** by giving the current status of the exploration activity.

code	entry	description
01	ONGOING	Work began in **YOW** and is ongoing as of **YOI**.
02	PRIOR TO	Work was completed before or during **YOW**.
03	ONE YEAR	Work was both begun and completed during **YOW**.

YOI (4 digits) allows the evaluator to record the Year Of the above Information.

CON The field should be blank.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this exploration history data.

APPENDIX A - LITHOLOGY TABLE

The **LITHOLOGY TABLE** is used to describe when and how mineralization occurred among the rock formations associated with the deposit.

LITHOLOGY TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
MATrix	1 digit	
*__REC__ord number	1 digit	NE 0
GFN Geologic Formation Name	23 char.	
GAF Geologic Age of Formation	6 char.	Table
#**GAE** Geologic Age Era	3 digit	
DENsity, in situ	7 digit	99999.9
RELation of Mineral. to deformation	20 char.	Table
DEF1 1st DEFormation description	12 char.	Table
DEF2 2nd DEFormation description	12 char.	Table
DEF3 3rd DEFormation description	12 char.	Table
DEF4 4th DEFormation description	12 char.	Table
GAD Geologic Age of Deformation	6 char.	Table
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

MATrix (1 digit) must contain a unique number (from l to 9) relating this deposit LITHOLOGY description to a specific Quantity matrix. A blank **MAT** refers to all matrices.

RECord (1 digit) must contain a unique number (from l to 9) enabling the evaluator to define multiple LITHOLOGY descriptions within the specific Quantity matrix referenced in **MAT**.

GFN Geologic Formation Name (23 characters) is a free form field that states the name of the geologic formation represented in this LITHOLOGY record. A recommended source of formation names is the Lexicon of Geologic Names of the United States, U.S.G.S. Bull. 1200.

GAF (6 characters) contains the Geological Age of the Formation named in **GFN**. Where the formation crosses time boundaries enter the youngest age. Pre and Post geologic age designations may be used, but only when it is not at all possible to ascertain a more precise geologic age of occurrence. On the data base listings **>** indicates pre or in an age greater than (occurrence preceding) a given age, and **<** indicates post or in an age less than (occurrence following) a given age.

code	entry	description
100	CENOzoic	
110	QUAternary	
111	RECENT	
112	PLEISTocene	
118	<QUAternary	post Quaternary
119	>QUAternary	pre Quaternary
120	TERTiary	
121	PLIOcene	
122	MIOcene	
123	OLIGOcene	
124	EOCENE	
125	PALEOCene	

128	<TERTiary	post Tertiary
129	>TERTiary	pre Tertiary
200	MESOzoic	
210	CRETaceous	
211	U CRETaceous	
217	L CRETaceous	
218	<CRETaceous	post Cretaceous
219	>CRETaceous	pre Cretaceous
220	JURassic	
221	U JURassic	
224	M JURassic	
227	L JURassic	
228	<JURassic	post Jurassic
229	>JURassic	pre Jurassic
230	TRIassic	
231	U TRIassic	
234	M TRIassic	
237	L TRIassic	
238	<TRIassic	post Triassic
239	>TRIassic	pre Triassic
300	PALEOZoic	
310	PERMian	
311	U PERMian	
317	L PERMian	
318	<PERMian	post Permian
319	>PERMian	pre Permian
320	PENNsylvanian	
321	U PENNsylvanian	
324	M PENNsylvanian	
327	L PENNsylvanian	
328	<PENNsylvanian	post Pennsylvanian
329	>PENNsylvanian	pre Pennsylvanian
330	MISSissippian	
331	U MISSissippian	
337	L MISSissippian	
338	<MISSissippian	post Mississippian
339	>MISSissippian	pre Mississippian
340	DEVonian	
341	U DEVonian	
344	M DEVonian	
347	L DEVonian	
348	<DEVonian	post Devonian
349	>DEVonian	pre Devonian
350	SILurian	
351	U SILurian	
354	M SILurian	
357	L SILurian	
358	<SILurian	post Silurian
359	>SILurian	pre Silurian
360	ORDovician	
361	U ORDovician	
364	M ORDovician	
367	L ORDovician	
368	<ORDovician	post Ordovician
369	>ORDovician	pre Ordovician
370	CAMBrian	
371	U CAMBrian	

374	M CAMBrian	
377	L CAMBrian	
378	<CAMBrian	post Cambrian
379	>CAMBrian	pre Cambrian
400	PRECAMbrian	

GAE Geologic Age Era (3 digits), contains the code for **GFN** from the chart above.

DENsity (7 digits) records the in-situ or in-place density of the rocks being mined. This density is expressed in grams per cubic centimeter, specified to a tenth of a unit. The decimal point must be entered in the sixth position of this field.

RELationship of mineralization to deformation (20 characters) is to be selected from the following:

code	entry	description
00	UNKNOWN	Unknown
01	MIN PRECEDING DEF	Mineralization preceding deformation
02	MIN DURING DEF	Mineralization during deformation
03	MIN PREC-DUR DEF	Mineralization preceding-during deformation
04	MIN FOLLOWING DEF	Mineralization following deformation
05	MIN PREC-FOL DEF	Mineralization preceding-following deformation
06	MIN DUR-FOL DEF	Mineralization during-following deformation
07	MIN PREC-DUR-FOL DEF	Mineralization preceding-during-following deformation.
08	COMPLEX	

DEF# DEFormation description designates a twelve-character data item that describes the type of structural formation. **DEF1** Primary deformation description from table below. **DEF2** Secondary deformation description from table below. **DEF3** Third deformation description from table below. **DEF4** Fourth deformation description from table below.

code	entry	description
00	UNKNOWN	Unknown
01	MIN FOLDING	Minor folding
02	FAULTING	Faulting
03	MAJ FAULTING	Major faulting
04	METAMORPHISM	Metamorphism
05	INTRUSION	Intrusion
06	OTHER	Other
07	MAJ FOLDING	Major Folding
09	NO DEF	No deformation

GAD (6 characters) contains the Geologic Age in which the DEFormation occurred, using the table shown in GAF.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this LITHOLOGY data.

APPENDIX A - LITHOLOGY-ROCK TABLE

The **ROCK TABLE** provides a description of individual rock types that comprise the LITHOLOGY of this mineral formation.

ROCK TABLE (Lithology-Rock description)

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
#**MAT**rix	1 digit	
#**REC**ord number	1 digit	NE 0
***LIN**e number	2 digit	NE 00
NAMe of rock type	18 char.	Table
RE1 1st RElationship to ore	16 char.	Table
RE2 2nd RElationship to ore	16 char.	Table
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

MATrix (1 digit) must contain a unique number (from l to 9) relating these descriptions of ROCK to a specific QUANTITY matrix. A blank **MAT** refers to all matrices.

RECord (1 digit) must contain a unique number (from l to 9) enabling the evaluator to list ROCK descriptions for multiple LITHOLOGY formations within the specific Quantity matrix referenced in **MAT**.

LINe (2 digits) contains a unique number (from 01 to 99) for each rock description related to a specific LITHOLOGY record.

NAMe (18 characters) contains a rock name from appendix B-R-NAM.

RE# RElationship designates a 16-character data item that relates the rock described in **NAM** to the ore in the associated Q-MATrix. Select the Primary RElationship **RE1** and Secondary RElationship **RE2** from the table below.

code	entry
00	OTHER
01	ORE IN FRACTURES
02	LIES ALONG ORE
03	LIES OVER ORE
04	LIES UNDER ORE
05	REPLACED BY ORE
06	ENCLOSES ORE
07	GANGUE
08	NEAR ORE
09	IS ORE
10	NONE

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this ROCK data.

APPENDIX A - MINERALS TABLE

The **MINERALS TABLE** describes the mineralogy of the deposit:

MINERALS TABLE

Table Field NAME/Item Description		Size	Edit
#**SEQ**uence number	10 digit	SSSCCC	
*__MAT__rix	1 digit		
*__REC__ord number	2 digit	NE 00	
GAM Geologic Age of Mineralization	6 char.	Table	
OGS Overall Grain Size	17 char.	Table	
NAMe of mineral	20 char.	Table	
CLAss	30 char.	Table	
GRAin size	17 char.	Table	
AMOunt	8 digit	9999.999	
UNIts	7 char.	Table	
CON	1 char.		
#**DLM** Date of Last Modification	6 digit		

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

MATrix (1 digit) must contain a unique number (from l to 9) relating this deposit MINERAL description to a specific Quantity matrix. A blank entry relates this table to the entire mineral property.

RECord number (2 digits) must contain a unique value (from 01 to 99) enabling the evaluator to define multiple mineralogy descriptions within the specific Quantity matrix referenced in **MAT**.

GAM (6 characters) contains the Geologic Age of Mineralization, using the table shown for LITHOLOGY as **GAF**.

OGS (17 characters) describes the Overall Grain Size of **NAM**e minerals in this **MAT**rix or area from the following:

code	entry	description
00	UNKNOWN	Unknown
01	APHANITIC	Aphanitic
02	PHANERITIC-FINE	Phaneritic-fine (less than l mm)
03	PHANERITIC-MEDIUM	Phaneritic-medium (l-5 mm)
04	PHANERITIC-COARSE	Phaneritic-coarse (greater than 5 mm)
05	PEGMATITIC	Pegmatitic
06	VARIABLE	Variable

NAMe (20 characters) contains the Mineral Name from appendix B-M-NAM.

CLAss (30 characters) gives a general chemical classification of the mineral named in **NAM** from the following:

code	entry
01	NATIVE ELEMENT
02	SULFIDES
03	SULFOSALTS
04	OXIDES (EXCLUDING SIO2)
05	MULTIPLE OXIDES CONT. NB, TA, TI

06	HALIDES
07	CARBONATES
08	NITRATES & BORATES
09	SULFATES & CHROMATES
10	PHOSPHATES
11	VANADATES & URANATES
12	ARSENIC AND ANTIMONY COMPOUNDS
13	SELENIUTELLURIUM COMPOUNDS
14	MOLYBDATES AND TUNGSTATES
15	FORMS OF SIO2
16	SILICATES
17	OTHER
18	HYDROCARBON COMPOUNDS
19	CARBON COMPOUNDS

GRAin size (17 characters) of the mineral named in **NAM** is recorded from the table listed in OGS.

AMO (8 digits) describes the relative AMOunt or concentration of the mineral named in **NAM**.

UNIts (7 characters) are to be entered from the following:

code	entry
01	WT-PCT
02	VOL-PCT
13	G/MT
15	TRACE

CON (1 character) The field should be blank.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this mineralogy data.

APPENDIX A - MILS TABLE

The **MILS TABLE** encompasses operational status & location of a deposit and includes: primary identification, latitude/longitude, basic topography, and Public Land Survey. The SEQ, NAM, TYP, CUR, LAT, LON and UTM are required data items for every MAS data base property.

The table element identifier/name, field/item length, edit criteria, and acceptable character type for each data element in the MILS table is outlined in the following summary chart:

MILS TABLE SUMMARY

Table Field NAME/Item Description	Size	Edit
#**STA**te code (NATION - FMAS users only)	3 char.	Table
#**COU**nty code (PROVINCE - FMAS users only)	3 char.	Table
***SEQ**uence number	10 char.	SSSCCC
***NAM**e of deposit or operation	35 char.	Req.
***TYP**e of operation	12 char.	Table
***CUR**rent status	13 char.	Table
***LAT**itude	7 char.	State
***LON**gitude	8 char.	State
POR Point Of Reference	8 char.	Table
POP Precision Of Point	5 digit	
ELEvation (in meters)	6 digit	
ELP ELevation Precision	4 digit	
DATum of elevation	1 char.	Table
YFC Year Field Checked YYYY (SITE)	4 digit	
***ZON**e	2 digit	Req.
***HEM**isphere	1 char.	N/S
***NOR**thing	7 digit	Req.
***EAS**ting	6 digit	Req.
#**QUA250 QUA**drangle 1:250,000 scale	18 char.	Table
MAP name	17 char.	Free
SCAle	7 char.	Table
DOMain	14 char.	Table
HOL1 1st type of mineral holding	13 char.	Table
HOL2 2nd type of mineral holding	13 char.	Table
HOL3 3rd type of mineral holding	13 char.	Table
EVAluator	10 char.	
MPF Mineral Property File	12 digits	
MMR Mine Map Repository	1 char.	FOC
GSC Geologic Survey Computer system	7 char.	
TOE Type Of Evaluation	1 char.	Table
#**YOI** Year Of Initial file entry YYYY	4 digit	
DMR Date of Maintenance Review YYMM	4 digit	Month
PLT PLant Type	6 char.	Table
PID Plant IDentifier	6 char.	Table
MERidian	14 char.	Table
TWN township	5 char.	Range
RNG range	5 char.	Range
SECtion	2 digit	1 to 36
SUBdivision	6 char.	Table
SURvey status	6 char.	Table
HDM History Discovery Method	25 char.	
YOD Year Of Discovery YYYY	4 digit	
YIP Year of Initial Production YYYY	4 digit	
YLP Year of Last Production YYYY	4 digit	
MDN Mining District Name	15 char.	
ROAd (in km)	4 digit	
WATer (in km)	4 digit	

APPENDIX A - MILS TABLE

POWer (in km)	4 digit	
TOPography	8 char.	Table
PREcipitation	10 digit	999.9
DIStribution	7 char.	Table
TEMperature	4 char.	Table
VEGetation	9 char.	Table
SOIl texture	9 char.	Table
USE of Land	11 char.	Table
WORking season	7 char.	Table
LABor supply	25 char.	Table
MLA Mineral Land Assessment study area	15 char.	
PUR Primary Updating Responsibility	1 char.	
#**FOD** Foreign Or Domestic	1 char.	F or D
#**DLM** Date Last Modification	6 digit	
#**LDM** Last Deposit Modification	6 digit	
#**DLAT** Latitude in Decimal degrees	9 digit	
#DLON Longitude in Decimal degrees	10 digit	
FEDLAND Federal Land Status	10 char.	
FEDSCAle Scale of Federal Land Status Map	7 char.	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by this table. Because no spaces are permitted in the SEQuence number, it is essential that all zeros be entered as such. SEQ consists of three subfields:

- The three-digit state/nation code (or ocean code) from appendix B-NAT and B-STA is assigned to field positions 1-3.

- The three-digit county/province code is assigned to field positions 4-6. For the U.S. this is the county code from the Department of Commerce (see, appendix B-STA). For foreign deposits this is the province or political subdivision code as defined by the Minerals Availability Field Office. For ocean mining the code is the marsden square, a unique three digit number from 001 to 999 which represents an area on the earth's surface of 10^{o} latitude by 10^{o} longitude.

- The four digits in field positions 7-10 designate a deposit reference number assigned by the evaluator to insure uniqueness of each deposit within state and county (or within nation and province).

STAte/nation code will be automatically copied by the update system from positions 1-3 of the SEQuence number and cannot be modified by the evaluator.

COUnty/province code will be automatically copied by the update system from positions 4-6 of the SEQuence number and cannot be modified by the evaluator.

FOD will be automatically be set to a D or an F to indicate whether this is a Domestic deposit (a State or territory of the United States) or a Foreign deposit.

NAMe of the deposit or operation (35 characters) is the primary or most common name. Since this field is frequently used for search and retrieval it is recommended that the most widely used name be given preference; the addition of mine numbers, commodities, type of operation, etc., are acceptable provided the key word or phrase appears first (e.g., EAGLE #4 will be easier to retrieve than #4 EAGLE).

TYPe of operation (12 characters) refers to the existing/proposed type of operation at this site from the table below. It identifies the existing operation when CURrent status equals 'PRODUCER,

PAST PRODUCER, TEMP SHUTDOWN or DEVEL DEPOSIT'. It identifies the proposed operation when CURrent status equals 'EXP PROSPECT or RAW PROSPECT'. All processing plants will be coded 'PROC PLANT' here and further defined with the PLant Type (PLT) and Plant IDentifier (PID) fields.

code	entry	description
00	UNKNOWN	Unknown or undetermined by evaluator
01	SURFACE	Surface operation
02	UNDERGROUND	Underground operation
03	SURF-UNDERG	Surface-underground operation
04	UNDERWATER	Underwater operation
05	WELL	Geothermal well
06	PROC PLANT	Processing plant
09	PLACER	Placer operation
10	LEACH	Leach operation
11	BRINE OP	Brine recovery operation
12	GEOTHERMAL	Natural hot spring
	OFFSHORE	Underwater operations

CURrent status (13 characters) must be selected from the following table:

code	entry	description
00	UNKNOWN	Unknown or undetermined resource.
01	PRODUCER	Currently operating mineral property.
02	PAST PRODUCER	Previously operating mineral property, where the equipment or structures have been removed or abandoned.
03	DEVEL DEPOSIT	Resource defined, development initiated.
04	EXP PROSPECT	Resource defined by exploration methods.
05	RAW PROSPECT	Resource not defined by exploration methods.
06	INTERMITTENT_PRODUCER	Operates only part of the year. Production interrupted due to seasonal, stockpiling, or other physical restrictions on a regular basis.
07	TEMP SHUTDOWN	Temporary halt in mineral production, where the property is under care and maintenance status or this status is designated by the current owner and/or operator.
08	RECLAIMED	Location has been reclaimed.
	MINERAL LOCATION	Mineral prospect or claims without workings
10	OTHER	Status other than one of the above.

The **LAT**itude and **LON**gitude (**LAT**/**LON**) are required items, but the evaluator has the option of entering the **LAT**/**LON** or the **UTM** (Universe Transverse Mercator). When the **LAT**/**LON** location is entered or changed the MENU system will compute the **UTM.** However, if both the **UTM** and the **LAT**/**LON** fields are entered or changed the MENU system will recompute the **UTM** from the **LAT**/**LON** before it will commit the altered record to the MILS table. This is to insure that both the identify the same location.

LATitude is a seven-character field consisting of four subfields:

a. Direction (either N or S) must be entered in field position 1.
b. Field positions 2 and 3 are degrees (maximum value is 90).
c. Field positions 4 and 5 are minutes (maximum value is 59).
d. Field positions 6 and 7 are seconds (maximum value is 59).

LONgitude is an eight-character field consisting of four subfields:

a. Direction (either E or W) must be entered in field position 1.
b. Field positions 2-4 are degrees (maximum value is 180).

c. Field positions 5 and 6 are minutes (maximum value is 59).
d. Field positions 7 and 8 are seconds (maximum value is 59).

POR (8 characters), Point Of Reference, indicates the physical determination point for the elevation, latitude and longitude data, as selected from the table that follows.

code	entry	code	entry
01	MAIN ENT	06	PLANT
02	TRENCH	07	TOWN
03	ORE BODY	08	PIT
04	CLAIM		

POP Precision Of Point (5 digits right-justified) gives the precision or maximum deviation from exact POR in meters (e.g. 10, 500, 5000). POP is a required if POR is entered. An entry of 99999 indicates that the precision is over 10000 meters.

code	entry	code	entry
1	10	5	1000
2	100	6	5000
3	250	7	10000
4	500	8	99999

ELEvation (6 digits including optional sign) is the right-justified elevation of the Point of Reference (**POR**) in meters; leading zeros will be blanked by ORACLE. Locations with an elevation below the reference datum must have a minus (-) sign immediately preceding the numeric value (e.g., a location with an elevation 1800 meters below the datum would be entered as " -1800").

ELP ELevation Precision (4 digit - right-justified) gives the precision or standard deviation for the elevation measurement in meters. (e.g. 10, 100, 500). An entry of 9999 indicates that the precision is over 500 meters.

DATum of elevation provides for elevations to be expressed above or below either sea level or a local datum. It is recommended that elevations be referenced to sea level whenever possible. Input the appropriate letter from the list below:

entry	description
S	Sea level
L	Local datum
D	Depth of water

YFC Year Field Checked is a four-digit year of an on-site evaluation check made by either personnel or contractors of the Minerals Availability Program.

The following four items (**ZON**, **HEM**, **NOR**, and **EAS**) contain the Universal Transverse Mercator (**UTM** - an international grid coordinate system) location of this mineral property. When the **UTM** is entered or changed the MENU system will compute the **LAT**/**LON**. However, if both the **UTM** and the **LAT**/**LON** fields are entered or changed the MENU system will recompute the **UTM** from the **LAT**/**LON** before it will commit the altered record to the MILS table. This is to insure that both the identify the same location.

ZONe is a 2-digit field for the **UTM ZON**e number (01 through 60).

HEMisphere is the **UTM HEM**isphere (either N or S).

NORthing (7 digits) In the northern hemisphere, this represents the distance in meters **NOR**th of the equator; the equator is 0 meters with numbers increasing northward. In the southern

hemisphere, it represents the distance in meters **NOR**th from about 80 degrees south latitude; the equator is 10 million meters, with numbers decreasing southward.

EASting (6 digits) represents the distance in meters from a central meridian in each **UTM** zone. The central meridian is given an arbitrary value of 500,000 meters. Measurements increase to the east and decrease to the west of the central meridian, and are terminated by the respective east and west boundaries of each of the 60 zones.

QUA250 QUAdrangle is an 18-character data field which, for domestic deposits, identifies the U.S. Geological Survey 1:250,000 series map on which the deposit can be located. These codes and their 18-character entries are shown in appendix B-QUA250. This field will be computed by the entry system for domestic deposits and is not used in foreign or ocean evaluations.

MAP name (17 characters) is for entry of the name of the largest-scale map available for the area of the deposit. If the name is larger than 17 characters it should be shortened to a recognizable name. For ocean mining, the largest scale map should be entered.

SCAle (7 characters) indicates the scale of the map identified field above:

code	entry	description
01	7.5 MIN	7.5 minutes
02	15 MIN	15 minutes
03	30 MIN	30 minutes
04	1:250K	1:250,000
05	1:500K	1:500,000
06	1:1 MIL	1:1,000,000

DOMain (14 characters) describes the type of public or private domain of the deposit area:

code	entry	code	entry	code	entry
00	UNKNOWN	33	STATE OFFSHORE	47	INDIAN RES
05	MIXED	40	FEDERAL	48	NAT OFFSHORE
10	PRIVATE	41	NAT FOREST	49	BLM ADMIN
15	MUNICIPALITY	42	NAT RECREATION	50	MILITARY RES
20	COUNTY	43	NAT WILDERNESS	61	FORGN OFFSHORE
30	STATE	44	NAT PRIMITIVE	71	INTERNAT WATER
31	STATE FOREST	45	NAT PARK	72	UN ADMIN
32	STATE PARK	46	NAT MONUMENT		

HOL# designates a 13-character data item for entry of mineral and access rights (holdings) available for the resources contained on this property. **HOL-1** is the primary type of mineral holding from the table below. **HOL-2** is the secondary type of mineral holding from the table below. **HOL-3** is the third type of mineral holding from the table below.

code	entry	code	entry
00	UNKNOWN	05	PRIVATE LEASE
01	LOCATED CLAIM	06	FEE OWNERSHIP
02	PATENTED	07	MINERALS ONLY
03	FEDERAL LEASE	08	OTHER
04	STATE LEASE		

EVAluator is a 10-character data field for the evaluator's name or a readable abbreviation thereof. If no evaluation was done on contractor supplied data, the name of the contract monitor and initials referencing the contractor should be entered. If significant work has been done, by a MAS evaluator, to create, modify, or update the information/evaluation of a particular deposit, that person's name should be entered and the previous evaluator's name, if present, moved to COMMENTS table.

Detailed information related to the following five fields should be entered into the COMMENTS table with a value of 'HW' (Hazardous Waste) in the TABle field.

MPF Mineral Property File (6 digits) contains the file number of the Bureau's Mineral Property File. The third position is a decimal point. Note: All Mineral Property files were distributed to various National and Archive Centers upon closure of the Bureau of Mines (see USBM Special Publication 96-2).

MMR Mine Map Repository is a single-character which indicates the presence of a mine map. If a map or microfilm record exists, enter the first character of the Field Operations Center where the map or microfilm record is stored (A, E, F, I, or W), otherwise leave the character blank. Note: the eastern mine map library was moved to the Office of Surface Mining in Pittsburgh, therefore some original EFOC deposits will have an 'E' entry. Note2: All records were transferred from the Field Operations Centes to the Office of Surface Mining upon closure of the Bureau of Mines

GSC Geological Survey's Computerized seven character deposit number for their Mineral Resource Data System (MRDS) data base entry that relates to this MAS deposit entry.

TOE Type Of Evaluation is a single-character representing the type of deposit information currently on the data base. Valid entries are:

A	MILS default from ADIT database.
M	Location information resulting from general sources; data may not be confirmed.
L	Location information with validity confirmed through investigation by an evaluator.
R	Resource data present, in addition to MILS information.
C	Complete deposit description, often indicates thorough MAS evaluation.

#YOI Year Of Initial data entry contains the four-digit year of initial entry of this property into the MAS data base. The contents of this field should not be changed when data is entered for update purposes. System will default to current year for new entries.

DMR Date of Maintenance Review is the two-digit year and two-digit month date that the information for this property was last reviewed by a MAS evaluator.

PLT and **PID** are available when an evaluator wishes to identify a processing plant (mill, smelter, refiner, etc.) and show its location, owners, feed, etc. The mill would be assigned a unique sequence number and TYPe of operation would be entered as code 06 "PROC PLANT". The following two data fields further identify the plant.

PLT (6 characters) PLant Type identifies the primary type of processing plant, from the following table.

Code	entry	description
10	BENEF	beneficiation (mill)
20	LEACH	leach
30	AGGLOM	agglomeration
31	DRI	Direct Reducted Iron plant
32	PELLET	pellet plant
33	SINTER	sinter plant
40	SMELTR	smelter
50	SYNRTL	synthetic rutile
51	PIG	pigment plant
52	METAL	metal plant
60	REFINR	refiner
70	SMLREF	smelter/refiner
80	ACID	acid plant
90	MANUF	manufacturing plant

PID (6 characters) Plant IDentifier is a more detailed subdivision of plant type listing the primary processing method used, from the table on the next page.

code	entry	description
01	DRY	dry
02	WASH	wash
03	CRUSH	crush
04	GRAV	gravity
05	FLOAT	flotation
06	MAG	magnetic
07	ESTAT	electrostatic
08	E-M	electrostatic-magnetic
10	TI-CL	TIO2 pigment-chloride
11	TI-S	TIO2 pigment-sulfide
12	TI	TI metal
21	PPT	precipitation
22	SX-EW	solvent extraction-electrowin
23	IX-EW	ion exchange-electrowin
31	SINTER	sinter
32	PELLET	pellet
33	NODULE	nodule
34	COMPCT	compact
35	BRIQUT	briquette
41	S-PYRO	smelter-pyrometallurgy
42	REDUCT	reduction
61	R-PYRO	refiner-pyrometallurgy
62	HYDRO	hydromet
63	ELECT	electrowinning
64	DISTLL	distillation
65	CRYSTL	crystallization
66	CAL-DB	calcination/dead burn
70	BAYER	Bayer
71	HARRIS	Harris
72	PARKES	Parkes
78	FERRO	ferro alloy plant
79	FIBRE	fibre plant (e.g. asbestos plant)

MER, **TWN**, **RNG**, **SEC**, **SUB** and **SUR** contain the deposit's Public Land Survey location information.

MERidian (14 characters) contains the name of the Principal Meridian from the following table:

code	entry	code	entry	code	entry
01	1ST PRINCIPAL	16	HUNTSVILLE	31	UTE
02	2ND PRINCIPAL	17	INDIAN	32	WASHINGTON
03	3RD PRINCIPAL	18	LOUISIANA	33	WILLAMETTE
04	4TH PRINCIPAL	19	MICHIGAN	34	WIND RIVER
05	5TH PRINCIPAL	20	MONTANA PRINC	35	OHIO
06	6TH PRINCIPAL	21	MOUNT DIABLO	36	GT MIAMI RIVER
07	BLACK HILLS	22	NAVAJO	37	MUSKINGUM RIV
08	BOISE	23	NEW MEXICO	38	OHIO RIVER
09	CHICKASAW	24	ST HELENA	39	1ST SCIOTO RIV
10	CHOCTAW	25	ST STEPHENS	40	2ND SCIOTO RIV
11	CIMARRON	26	SALT LAKE	41	3RD SCIOTO RIV
12	COPPER RIVER	27	SAN BERNARDINO	42	ELLICOTTS LINE
13	FAIRBANKS	28	SEWARD	43	12 MILE SQUARE
14	GILA & SALT R	29	TALLAHASSEE	44	KATEEL RIVER
15	HUMBOLDT	30	UINTAH SPECIAL	45	UMIAT

96 UNKNOWN
99 VARIOUS

TWN ToWNship (5 characters) includes the township number and direction: the first three characters are the township number with leading zeros, the fourth character is either blank or contains a plus sign (+) to indicate a fractional township, and the fifth character locates the township north (N) or south (S) of the base line (e.g., T 32 N is entered as "032 N", and T 104-1/2 S is "104+S").

RNG RaNGe (5 characters) includes the range number and direction, using the same conventions outlined in **TWN.** Except that the directions use for ranges are either east (E) or west (W) of the base line.

SECtion (2 digits) is the section number, 01 to 36, including the leading zero.

SUBdivision (6 characters) uses the accepted practice of section subdivision naming (e.g., NWSESW is the northwest quarter of the southeast quarter of the southwest quarter). Numerical codes cannot be used for entry of this left-justified field; the following alphanumeric abbreviations must be used:

entry	description	entry	description
C	Center	NE	Northeast quarter
N2	North half	NW	Northwest quarter
S2	South half	SE	Southeast quarter
E2	East half	SW	Southwest quarter
W2	West half	(blank)	No section subdivision

SURvey status (6 characters) is to be selected from the following table:

code	entry	description
00	UNK	unknown
01	UNSURV	unsurveyed
02	SURVEY	surveyed
03	GRID	superimposed grid

HDM History Discovery Method (25 characters) states the method by which the deposit was discovered, using an entry from the following table:

code	entry
00	UNKNOWN
01	ORE-MINERAL IN PLACE
02	ORE-MINERAL NOT IN PLACE
03	AUX-MINERAL IN PLACE
04	AUX-MINERAL NOT IN PLACE
05	GEOCHEMICAL ANOMALY
06	GEOPHYSICAL ANOMALY
07	GEOCHEM & GEOPHY ANOMALY
08	GEOLOGICAL INFERENCE
09	OTHER

YOD (4 digits) indicates the Year Of Discovery of the deposit.

YIP (4 digits) records the Year of Initial significant Production from the deposit. If a commodity other than that presently being considered had significant production on this property, the evaluator may either enter the initial year of this production or leave this data item/field blank. In either case, any production could be noted in COMMENTS.

YLP (4 digits) records the Year of Last Production. If the deposit is currently producing, leave this field blank. Use this field for either a past producer or temporary shutdown deposit.

MDN (15 characters) contains the Mining District Name, when applicable. The field is free-form, although an effort should be made to geographically standardize entries.

ROAd requirement (4 digits) is the estimated distance, in kilometers, of road that must be built to adequately support operations on the mine site. An entry of 9999 indicates that more than 100 kilometers of road is needed.

WATer (4 digits) contains the estimated distance, in kilometers, to an adequate **WAT**er supply. An entry of 9999 indicates that it's more than 10 kilometers to an adequate water supply.

POWer (4 digits) contains the estimated distance, in kilometers, to an adequate electrical **POW**er supply. An entry of 9999 indicates that it's more than 100 kilometers to an adequate electrical power supply.

TOPography (8 characters) of the mine site is to be selected from the following table:

code	entry	description
00	UNKNOWN	Undetermined.
01	FLAT	Flat--essentially no local relief.
02	GENTLE	Gently rolling--up to 30 meters of relief.
03	ROLLING	Rolling--up to 75 meters of local relief.
04	HILLY	Hilly--up to 150 meters of local relief.
05	RUGGED	Rugged--up to 450 meters of local relief.
06	V RUGGED	Very rugged--over 450 meters of local relief.

PREcipitation (10 digits) indicates the annual precipitation in centimeters.

DIStribution (7 characters) relates to the distribution of precipitation and is to be chosen from the following table:

code	entry	description
00	UNKNOWN	Undetermined.
01	EVEN	Even--approximately even distribution each month of the year.
02	SUMMER	Summer maximum--wettest summer month must have 10 times the precipitation of the driest winter month.
03	WINTER	Winter maximum--wettest winter month must have 3 times the precipitation of the driest summer month.
04	MONSOON	Monsoon--very short and very dry winter season extremely high summer precipitation.

TEMperature (4 characters) describes the TEMperature conditions in the area of the deposit, using the following categories:

code	entry	description	
00	UNK	Undetermined.	
01	TROP	Tropical -	coldest monthly average above 18° C (64° F).
02	TEMP	Temperate -	coldest monthly average between 0° -l8° C (32°-64° F).
03	COOL	Cool -	warmest monthly average above l0° C (50° F); coldest monthly average below 0° C (32° F).
04	COLD	Cold -	warmest monthly average below l0° C (50° F); coldest monthly average below 0° C (32° F).
05	ICE	Ice cap -	all monthly averages below 0° C (32° F).
06	SUBT	Sub-tropical -	from 10°-30° C (50°-86° F).

Note: On the standard deposit listings, this field is called CLIMATE.

VEGetation (9 characters) contains one of the following descriptions of vegetation in the area of

deposit:

code	entry	description
00	UNKNOWN	Undetermined
01	SPARSE	Little or no vegetation
02	JUNGLE	Rain forest
03	DESERT	Desert
04	GRASSLAND	Grassland or savanna
05	CONIFERS	Coniferous or deciduous forest
06	ALPINE	Alpine or tundra
07	TAIGA	Taiga
08	SHRUB	Shrub
09	AGRICUL	Agriculture
10	MARSHLAND	Marshland and swamps
20	OTHER	Combination of the above vegetation types

SOIl texture (9 characters) of the deposit area is described from the following table:

code	entry	description
00	UNKNOWN	Undetermined
01	GRAVEL	Gravel--contains 30 percent or more of boulder, cobble, and pebble size particles (+l.00 mm).
02	SAND	Sand--contains 80 percent or more sand size particles (l.0-.05 mm); remainder silt (.049-.0050 mm) and clay (-.0050 mm).
03	SAND LOAM	Sandy loam--contains 20 to 50 percent silt and clay; remainder sand.
04	LOAM	Loam--contains up to 20 percent clay; 28-50 percent silt; less than 52 percent sand.
05	SILT LOAM	Silt loam--contains up to 20 percent clay; 28-50 percent silt and remainder sand.
06	CLAY LOAM	Clay loam--contains 20 to 30 percent clay; 30 to 50 percent silt and remainder sand.
07	CLAY	Clay--contains 30 percent or more clay; less than 70 percent silt and sand.
08	BOG	Bog--considerable clay (+30 percent) with a large amount of water saturated organic material.
20	OTHER	Other--a combination of the above soil types

USE (11 characters) describes the land USE in the deposit area, from the following table:

code	entry	code	entry
00	UNKNOWN	08	OPEN SPACE
01	URBAN	09	SUBSISTENCE
02	INDUSTRIAL	10	FISHERY
03	MINERAL	11	HUNTING
04	FORESTRY	12	SHIP LANE
05	FARMING	13	MILITARY
06	GRAZING	14	MULTIPLE
07	RECREATION	20	OTHER

WORking season (7 characters) is to be selected from the following periods:

code	entry	code	entry	code	entry
00	UNKNOWN	04	ALL YR	09	SEP-JUN
01	JUL-SEP	05	NOV-MAY	10	OTHER
02	JUN-OCT	06	DEC-APR		
03	MAY-NOV	07	JAN-MAR		

LABor (25 characters) contains an appraisal of the LABor supply available in the area of the mineral property:

code	entry
00	UNKNOWN
01	NONE
02	AVAIL (skilled and unskilled available locally)
03	UNSKIL (only unskilled available locally)
04	SEMISKIL (only semiskilled available locally)

MLA Mineral Land Assessment study area is a 1 character field that contains a 'Y' if an alternate Name (N) with record number greater than '49' exists. These (greater than 49) alternate Name (N) records have been reserved for names used to identify Mineral Land Assessment study areas.

PUR Primary Updating Responsibility contains the first-letter indicator of the name of the field operations center (A, I, W, or F) with primary responsibility for insuring that this data is updated on a regular basis.

DLM Date Last Modification (6 digits) contains date of entry or the last modification made to the MILS table.

LDM Last Deposit Modification (6 digits) contains the date of the last modification made to any deposit-related table that has a **DLM** field.

DLAT Latitude in decimal degrees (numeric format). This field is generated from data input into the LAT field.

DLON Longitude in decimal degrees (numeric format). This field is generated from data input into the LON field.

FEDLAND Field contains Federal land ownership. This information was generated initially using the ArcUSA 1:2,000,000 coverage of the U.S. Modifications based on better data will be reflected in the FEDSCA field. Possible values are:

BIA	Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
BOR	Bureau of Recreation
DOA	Department of Agriculture
DOD	Department of Defense
DOE	Department of Energy
FWS	U.S. Fish and Wildlife Service
NFS	National Forest Service
NPS	National Park Service
TVA	Tennessee Valley Authority

FEDSCA Scale of coverage used to generate information in FEDLAND field.

APPENDIX A - NAME TABLE

The **NAME TABLE** contains all of the alternate or secondary names associated with this mineral property. The name of the table is NAME, and the name of each field in the NAME table is a unique three-character name, using the same conventions employed in the MILS table, as outlined in the following chart:

NAME TABLE (additional Names)

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 char.	SSSCCC
***REC**ord number	2 char.	NE 00
***NAM**e	35 char.	

* - Required fields
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

RECord number (2 digits) must contain a unique value (from 01 to 99) for each additional name assigned to the mineral property. Record number 00 is generated from the primary name (NAM - MILS) by the updating system. Record numbers 01 through 49 are reserved for other names, discovered by the MAS evaluator, that are used to identify this property. Record numbers 50 to 99 are reserved for names that the Mineral Land Assessment group has assigned to study areas that include property within the boundaries of this deposit.

NAMe (35 characters) contains either an alternate or additional name, or the name of a Mineral Land Assessment study area.

APPENDIX A - OWNERSHIP TABLE

The **OWNERSHIP TABLE** enables the evaluator to incorporate owner/operator identification information into the data base:

OWNERSHIP TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 char.	SSSCCC
***REC**ord number	2 char.	NE 00
NAMe of owner/operator	56 char.	
STAtus of owner/operator	8 char.	Table
PCT percent ownership	5 digit	999.9
HOMe office location	20 char.	
YOI Year Of Information YYYY	4 digit	
CON	1 char.	
#**DLM** Date of Last Modification	6 digit	

* - Required fields
# - These fields will be generated by the system at the time of update.

Note: The **COMPANY** name from the MILS table will be displayed and may be modified from the OWNERSHIP table data entry screen.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

RECord number (2 digits) must contain a unique value (01 to 99) for each ownership record attached to the mineral property.

NAMe (56 characters) contains the name of an owner or operator. In order to be of value in search and retrieval, this field should consistently begin with the most common, readily identifiable key name or names (e.g., US Borax instead of United States Borax, ASARCO instead of American Smelting and Refining, etc.). For companies having both 'parent' and subsidiary companies only one ownership record should be entered, but both names may be entered, listing the most common company or operator first. Further clarification of owner/operator relationships may be made by adding "O" TABle referenced records to the COMMENTS table.

STAtus (8 characters) lists the status of owner or operator selected from the following:

code	entry
00	UNKNOWN
01	OWNER
02	OPERATOR
03	OWNER-OP

PCT (3 digits) contains the percent of ownership or operation controlled, as appropriate for this record. The percent must be a right-justified integer not exceeding 100. Leading zeros should be blanked.

HOMe (20 characters) contains the STATE/NATION name of the owner's home office. The evaluator can enter the three-digit code from the STATE/NATION table. When the **HOM**e office is domestic, the converted State name will be preceded by the four characters "USA ". All alphabetic entries will be treated as free form entries, to support the addition of city or town names.

YOI (4 digits) Year Of Information shows the date of the information on this record.

CON (1 character) The field should be blank.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this specific record.

APPENDIX A - RESOURCES TABLE

Each **RESOURCES TABLE** entry contains published resource information relating to the mineral deposit:

RESOURCES TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
*__REC__ord number	1 digit	NE 0
MEAsured	15 digit	
INDicated	15 digit	
INFerred	15 digit	
UNDetermined	15 digit	
UNIts	14 char.	Table
MATrix reference	1 digit	
COLumn reference	1 digit	
BIBliography reference	6 digit	
YOI Year Of Information YYYY	4 digit	
REMarks	60 char.	
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

__SEQ__uence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

__REC__ord number (1 digit) is a unique number (from 1 to 9) for each set of related published resource data.

__MEA__sured, __IND__icated, and __INF__erred (15 digits each) are resource estimates as defined in USGS Circular 831, dated 1980.

__UND__etermined (15 digits) records a published resource figure for which the basis of estimation has not been clearly defined.

__UNI__ts (14 characters) contains the resource units description from the following table:

code	entry	description
01	MT ORE	metric tons of ore
04	CU-M ORE	cubic meters of ore
05	LITER SOLN	liters of solution
11	MT COMMOD	metric tons of commodity
12	KG COMMOD	kilograms of commodity
13	G COMMOD	grams of commodity
21	MT CONC	metric tons of concentrate
22	KG CONC	kilograms of concentrate
23	G CONC	grams of concentrate

Note: Codes in the 20's refer to stockpile concentrates from a past milling operation and should not refer to concentrates of mill output from this operation. Codes in the 10's are assumed to be related to the commodity whose __MAR__ketability is identified as PRIMARY. If none of the commodities are so identified it is impossible to note which commodity is being referenced.

__MAT__rix (1 digit) references **Q-MAT**rix where the Quantity estimates were derived from this resource data.

__COL__umn (1 digit) references **Q-COL**umn where the Quantity estimates were derived from this

resource data.

BIBliography (6 digits) references the Bibliography where **B-TAB** equals R. The first three digits refer to the first line of bibliography and the last three digits refer to the last line. These Bibliography lines should contain the published references from which the resource data was extracted.

YOI (4 digits) displays the four-digit Year Of Information (year of publication) of these resource figures, which are accurate as of this date.

REMarks (60 characters) provides the evaluator with a free-form line for general comments relating to this resource data.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this resource data.

APPENDIX A - RESOURCES_ASSAY TABLE

The **RESOURCES_ASSAY TABLE** identifies the published assay grades relating to each resource table entry.

RESOURCES ASSAY TABLE

Table Field NAME/Item Description	Size	Edit
#**SEQ**uence number	10 digit	SSSCCC
#**REC**ord number	1 digit	NE 0
*__LIN__e number	2 digit	NE 00
COMmodity	10 char.	Table
#**TYP**e	1 digit	Table
MINeral	16 char.	Table
GRAde	10 digit	99999.9999
UNIts	7 char.	Table
#**DLM** Date of Last Modification	6 digit	

* - Required items
# - These items will be generated by the system at the time of update.

SEQuence number is the unique 10-digit number which references records of information pertaining to a mineral property as identified by the MILS table.

RECord number (1 digit) is a unique number (from 1 to 9) for each set of related published resources.

LINe (2 digits) is a unique number (from 01 to 99) for each commodity. An assay line should exist for each commodity listed in the COMMOD table and present in this resource.

COMmodity (10 characters) records the chemical form, as listed in appendix B-COM, of the ore assay for which grade is given.

TYP and **MIN** identify the chemical classification group to which the **commodity and mineral** of this record belong. The appropriate codes and entries are given in appendix B-MCC. The code used should be as specific as possible.

TYPe (1 digit) is an integral part of the **MIN**eral's chemical classification that creates categories for easy query. It cannot be added, modified or deleted as an independent field. A 3-digit **TYP**e-**MIN**eral code or a valid **MIN**eral value must be entered or chosen to specify a **TYP**e.

MINeral (16 characters) identifies the family of chemical elements to which this mineral belongs and its basic compound structure. Entry of a valid alphabetic value for this field will cause a **TYP**e value to be generated.

GRAde (10 digits) contains the assay grade of the assay form defined in **COM**modity above.

UNIts (7 characters) establishes the units of **GRA**de from the following:

code	entry	description
01	WT-PCT	weight-percent
02	VOL-PCT	volume-percent
12	KG/MT	kilograms per metric ton
13	G/MT	grams per metric ton
42	KG/CU-M	kilograms per cubic meter
43	G/CU-M	grams per cubic meter
52	KG/L	kilograms per liter
53	G/L	grams per liter
62	BTU/LB	British Thermal Units per pound
63	KCAL/KG	kilogram-calories per kilogram

APPENDIX A - RESOURCES_ASSAY TABLE

Note: These units are always in terms of the mineralized resource (solution, ore, or stockpile concentrate). Code 13 is grams per metric ton of ore or stockpile concentrate, code 52 is kilograms per liter where quantity should be expressed in liters of solution.

DLM Date of Last Modification (6 digits) will automatically reflect the date of entry or most recent modification of this assay data.

APPENDIX B - COMMODITY VALUES

CODE	COM	MOC	CCC	ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG
0100	ABRASIVE				SAND		RB99		CC99	
0110		BLASTING SAND			SAND		RB99		CC99	
0120		CORUNDUM			CORUNDUM	N	RB99		CC99	
0130		CRUSHING BORT			DIAMOND	N	RB99		CC99	
0140		DIAMOND			DIAMOND	N	RB99		CC99	
0150		EMERY			EMERY	N	RB99		CC99	
0160		GARNET			GARNET	N	RB99		CC99	
0170		INDUSTRIAL DIAMOND			DIAMOND	N	RB99		CC99	
0200	ALKALI			O	K20+NA20	M	RB99		CC99	
0210		OXIDE		O	K20+NA20	M	RB99		CC99	
0300	ALUMINUM			O	AL2O3	M	RB40	54000	180000 CC40	80 200
0309		ALUMINA		O	AL2O3	M	RB99		CC22	300 750
0318		ALUMINOUS SHALE		O	AL2O3	M	RB40	500000	10000000 CC04	100 500
0327		ALUNITE		O	AL2O3	M	RB40	54000	180000 CC04	100 500
0336		ANORTHOSITE		O	AL2O3	M	RB40	100000	5000000 CC04	100 500
0345		BAUXITE		O	AL2O3	M	RB40	54000	180000 CC04	1000 3500
0347		BAUXITE ABR		O	AL2O3	M	RB40	54000	180000 CC04	1000 3500
0348		BAUXITE CHEM		O	AL2O3	M	RB40	54000	180000 CC04	1000 3500
0349		BAUXITE REF		O	AL2O3	M	RB40	54000	180000 CC04	1000 3500
0354		CONTAINED OR METAL		E	AL	M	RB99		CC40	80 200
0363		DAWSONITE		O	AL2O3	M	RB40	500000	10000000 CC04	100 500
0372		HI-ALUMINA CLAY		O	AL2O3	M	RB40	100000	5000000 CC04	100 500
0381		PHOSPHATE ROCK		O	AL2O3	M	RB99		CC99	
0390		SAPROLITE		O	AL2O3	M	RB40	54000	180000 CC04	100 500
0400	ANTIMONY			E	SB	M	RB18	10000	20000 CC30	1000 3000
0450		OXIDE		O	SB2O5	M	RB17	10000	20000 CC29	1000 3000
0500	ARSENIC			E	AS	M	RB99		CC99	
0600	ASBESTOS				ASBESTOS	N	RB24	200	1000 CC44	20 100
0630		LONG FIBER			ASBESTOS	N	RB24	200	1000 CC44	20 100
0660		SHORT FIBER			ASBESTOS	N	RB24	200	1000 CC44	20 100
0700	ASH				ASH REC		RB99		CC99	
0730		AS RECEIVED			ASH REC		RB99		CC99	
0760		DRY BASIS			ASH DRY		RB99		CC99	
0800	BARITE			S	BASO4	N	RB25	500	1000 CC45	50 200
0805		BARIUM		E	BA	N	RB25	500	1000 CC45	50 200
0810		BARITE CHEM		S	BASO4	N	RB25	500	1000 CC45	50 200
0815		BARITE GROUND		S	BASO4	N	RB25	500	1000 CC45	50 200
0820		BARITE MUD		S	BASO4	N	RB25	500	1000 CC45	50 200
0825		BARITE OCMA		S	BASO4	N	RB25	500	1000 CC45	50 200
0827		BARITE ORD		S	BASO4	N	RB25	500	1000 CC45	50 200
0830		CARBONATE		C	BACO3	N	RB27	500	1000 CC43	20 200
0900	BERYLLIUM			E	BE	M	RB18	1000	10000 CC30	20 200
0930		OXIDE		O	BEO	M	RB12	1000	10000 CC36	20 200
1000	BISMUTH			E	BI	M	RB99		CC99	
1100	BORAX			O	B2O3	N	RB99		CC99	
1200	BORON			E	B	N	RB99		CC99	
1300	BROMINE			H	BR2	N	RB99		CC99	
1330		LAKE & WELL BRINE		H	BR2	N	RB99		CC99	
1360		OCEAN BRINE		H	BR2	N	RB99		CC99	
1400	CADMIUM			E	CD	M	RB99		CC99	
1500	CALCIUM			E	CA	N	RB99		CC99	
1510		CALCAREOUS MARL		O	CAO	N	RB99		CC99	
1520		CALCITE		C	CACO3	N	RB99		CC99	
1530		CALCIUM CHLORIDE BRINE		E	CA	N	RB99		CC99	
1540		CHLORIDE BRINE		H	CACL2	N	RB99		CC99	
1550		DOLOMITE		C	CAMG(CO3)2	N	RB99		CC99	
1560		LIMESTONE		C	CACO3	N	RB99		CC99	
1570		OXIDE		O	CAO	N	RB99		CC99	
1580		SHELL OR OYSTER SHELL		O	CAO	N	RB99		CC99	
1600	CESIUM			E	CS2O	M	RB99		CC99	
1700	CHLORINE			H	CL	N	RB99		CC99	
1725		OCEAN BRINE		H	CL	N	RB99		CC99	
1740		CHLORIDE-CONTAMINANT		H	CL	C			CC99	
1750	CHLORINE	SALINE LAKE		H	CL	N	RB99		CC99	
1775		SALT		H	NACL	N	RB99		CC99	
1800	CHROMIUM			E	CR	F	RB01	250	500 CC22	20 50
1850		CHROMITE		O	CR2O3	F	RB01	250	500 CC22	20 50
1852		CHROMITE CHEM		O	CR2O3	F	RB01	250	500 CC22	20 50
1853		CHROMITE MC		O	CR2O3	F	RB01	250	500 CC22	20 50
1854		CHROMITE MET		O	CR2O3	F	RB01	250	500 CC22	20 50
1855		CHROMITE MR		O	CR2O3	F	RB01	250	500 CC22	20 50
1856		CHROMITE REF		O	CR2O3	F	RB01	250	500 CC22	20 50
1875		FERROCHROME		O	CR	F	RB99		CC24	25 50
1880		HFERROCHROME		O	CR	F	RB99		CC24	25 50

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG		
1882			LFERROCHROME	O	CR	F	RB99			CC24	25	50
1900	CLAY				CLAY	N	RB99			CC99		
1909			BALL CLAY		CLAY	N	RB99			CC99		
1918			BENTONITE		CLAY	N	RB99			CC99		
1927			COMMON CLAY		CLAY	N	RB99			CC99		
1936			FIRE CLAY		CLAY	N	RB99			CC99		
1945			FULLERS EARTH		CLAY	N	RB99			CC99		
1954			HECTORITE		CLAY	N	RB99			CC99		
1963			ILLITE		CLAY	N	RB99			CC99		
1972			KAOLIN (CHINA CLAY)		CLAY	N	RB99			CC99		
1981			MONTMORILLONITE		CLAY	N	RB99			CC99		
1990			REFRACTORY		CLAY	N	RB99			CC99		
2000	COAL				COAL	E	RB99			CC99		
2010			ANTHRACITE		COAL	E	RB99			CC99		
2020			BITUMINOUS		COAL	E	RB99			CC99		
2040			LIGNITE		COAL	E	RB99			CC99		
2060			PEAT		COAL	E	RB99			CC99		
2080			SUBBITUMINOUS		COAL	E	RB99			CC99		
2090			SULFUR (REC)	E	S REC	N	RB99			CC99		
2095			SULFUR (DRY)	E	S DRY	N	RB99			CC99		
2100	COBALT			E	CO	F	RB18	10000	50000	CC30	1000	2000
2200	COLUMBIUM			E	CB	F	RB22	100	1000	CC16	10	100
2210			COLUMBITE	O	CB2O5	F	RB23	100	1000	CC17	10	100
2220			PYROCHLORE	O	CB205	F	RB23	100	1000	CC17	10	100
2230			COLUMBITE/TANTALITE	O	CB205TA205	F	RB23	100	1000	CC17	10	100
2300	COPPER			E	CU	M	RB24	200	1000	CC44	20	100
2325			NATIVE	E	CU	M	RB24	200	1000	CC44	20	100
2350			OXIDE	O	CU	M	RB24	200	1000	CC44	20	100
2375			SULFIDE	S	CU	M	RB24	200	1000	CC44	20	100
2400	CYANIDE	CONTAMINANT			CN	C	RB99			CC99		
2500	DIATOMITE				DIATOMITE	N	RB99			CC99		
2600	FELDSPAR				FELDSPAR	N	RB99			CC99		
2700	FIXED CARBON	AS RECEIVED			CARBON REC		RB99			CC99		
2750		DRY BASIS			CARBON DRY		RB99			CC99		
2800	FLUORINE			H	F	N	RB31	1000	5000	CC39	25	150
2850			FLUORSPAR	H	CAF2	N	RB24	1000	5000	CC44	25	150
2851			FLUORSPAR A	H	CAF2	N	RB24	1000	5000	CC44	25	150
2855			FLUORSPAR C	H	CAF2	N	RB24	1000	5000	CC44	25	150
2856			FLUORSPAR M	H	CAF2	N	RB24	1000	5000	CC44	25	150
2875			HYDROGEN FLUORIDE	H	HF	N	RB99			CC22	25	150
2900	GALLIUM			E	GA	M	RB99			CC99		
3000	GEMSTONE				GEMSTONE	N	RB99			CC99		
3010			DIAMOND		GEMSTONE	N	RB99			CC99		
3020			EMERALD		GEMSTONE	N	RB99			CC99		
3030			NONPRECIOUS		GEMSTONE	N	RB99			CC99		
3040			RUBY		GEMSTONE	N	RB99			CC99		
3050			SAPPHIRE		GEMSTONE	N	RB99			CC99		
3060			SEMIPRECIOUS OTHER		GEMSTONE	N	RB99			CC99		
3070			SEMIPRECIOUS SILICATES		GEMSTONE	N	RB99			CC99		
3100	GEOTHERMAL					E	B99			CC99		
3200	GERMANIUM			E	GE	N	RB99			CC99		
3250			OXIDE	O	GEO	N	RB99			CC99		
3300	GOLD			E	AU	$	RB10	10	30	CC34	1	3
3330			LODE	E	AU	$	RB10	10	30	CC34	1	3
3360			PLACER	E	AU	$	RB10	10	30	CC34	1	3
3390			REFINERY	E	AU	$	RB99			CC34	10	30
3400	GRAPHITE			E	C	N	RB24	10	50	CC44	1	5
3430			AMORPHOUS-CRYSTALLINE	E	C	N	RB24	10	50	CC44	1	5
3460			FLAKE	E	C	N	RB24	10	25	CC44	1	5
3500	GYPSUM			S	CASO4.2H2O	N	RB99			CC99		
3525			ANHYDRITE	S	CASO4	N	RB99			CC99		
3550			GYPSITE	S	CASO4.2H2O	N	RB99			CC99		
3575			ROCK GYPSUM	S	CASO4.2H2O	N	RB99			CC99		
3600	HAFNIUM			E	HFO3	M	RB15	200	2000	CC31	20	200
3700	HEAT VALUE	AS RECEIVED			HEAT REC		RB99			CC99		
3750		DRY BASIS			HEAT DRY		RB99			CC99		
3800	HEAVY METALS	CONTAMINANT			M	C	RB99			CC99		
3900	HELIUM			E	HE	N	RB99			CC99		
4000	HYDROXIDE	CONTAMINANT			OH	C	RB99			CC99		
4100	INDIUM			E	IN	M	RB99			CC99		

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG
4200	IODINE			H	I2	N	RB99		CC99	
4230		BRINES		H	I2	N	RB99		CC99	
4260		CALICHE NITRATES		H	I2	N	RB99		CC99	
4300	IRON			E	FE	F	RB38	50	500 CC47	1 10
4305		FERRIC OXIDE		O	FE2O3	F	RB38	50	500 CC50	1 10
4310		FERROUS OXIDE		O	FEO	F	RB38	50	500 CC48	1 10
4315		GOETHITE		O	FE2O3	F	RB38	50	500 CC51	1 10
4320		HEMATITE		O	FE2O3	F	RB38	50	500 CC50	1 10
4325		HEMATITE-MAGNETITE		O	FE2O3	F	RB38	50	500 CC52	1 10
4330		MAGNETITE		O	FEO	F	RB38	50	500 CC53	1 10
4332		PIG IRON		O	FE	F	RB38	50	500 CC47	1 10
4332		SIDERITE		C	FECO3	F	RB48	50	500 CC68	1 10
4335		SULFIDE		S	FES2	F	RB38	50	500 CC47	1 10
4340		TACONITE		E	FE	F	RB38	50	500 CC47	1 10
4345		TACONITE BOTTOM LEAN		O	FE	F	RB38	50	500 CC47	1 10
4350		TACONITE LEAN		O	FE	F	RB38	50	500 CC47	1 10
4355		TACONITE OXIDIZED		O	FE	F	RB38	50	500 CC47	1 10
4360		TACONITE OXIDIZED LEAN		O	FE	F	RB38	50	500 CC47	1 10
4365		TACONITE SILICEOUS		O	FE	F	RB38	50	500 CC47	1 10
4370		TACONITE SILICEOUS LEA		O	FE	F	RB38	50	500 CC47	1 10
4375		TITANIFEROUS MAGNETITE		O	FEO	F	RB38	50	500 CC48	1 10
4400	KYANITE GROUP				KYANITE	N	RB99		CC99	
4430		KYANITE			KYANITE	N	RB99		CC99	
4460		STAUROLITE			STAUROLITE	N	RB99		CC99	
4500	LEAD			E	PB	M	RB24	60	200 CC44	5 15
4525		CARBONATE		C	PB	M	RB29	60	200 CC44	5 15
4550		OXIDE		O	PBO	M	RB24	60	200 CC42	5 15
4575		SULFIDE		S	PB	M	RB24	60	200 CC44	5 15
4580		SMELTER		E	PB	M	RB99		CC44	50 125
4590		REFINER		E	PB	M	RB99		CC44	50 125
4600	LITHIUM			E	LI2O	N	RB14	40000	150000 CC38	2000 6000
4630		BRINES		O	LI2O	N	RB14	40000	150000 CC38	2000 6000
4640		CARBONATE		C	LI2O	N	RB14	40000	150000 CC38	2000 6000
4660		PEGMATITE		O	LI2O	N	RB14	40000	150000 CC38	2000 6000
4700	MAGNESIUM			E	MGO	M	RB26	1000	10000 CC22	100 330
4710		BRINES		H	MGO	M	RB26	50000	500000 CC22	1200 6000
4720		BRUCITE		O	MGO	M	RB26	1000	4000 CC22	85 285
4730		CONTAINED OR METAL		E	MG	M	RB99		CC22	70 230
4740		DOLOMITE		O	MGO	M	RB26	4000	10000 CC22	100 330
4750		EVAPORITES		H	MGCL2	M	RB26	2000	5000 CC22	160 470
4760		MAGNESITE		O	MGO	M	RB26	4000	10000 CC22	115 380
4761		MAGNESIUM CL		O	MGCL2	M	RB26	4000	10000 CC22	115 380
4762		MG CAUSTIC		O	MGO	M	RB26	4000	10000 CC22	115 380
4763		MGDEADBURNED		O	MGO	M	RB26	4000	10000 CC22	115 380
4768		MGHYDROXIDE		O	MGO	M	RB26	4000	10000 CC22	115 380
4769		MG OXIDE		O	MGO	M	RB26	4000	10000 CC22	115 380
4770		SEA WATER		H	MGO	M	RB26	50000	500000 CC22	1200 6000
4780		OLIVINE-CHRYSOLITE		O	MGO	M	RB26	1000	4000 CC22	100 320
4790		OXIDE		O	MGO	M	RB26	1000	4000 CC22	150 500
4800	MANGANESE			E	MN	F	RB36	30000	100000 CC62	500 1000
4825		DIOXIDE		O	MNO2	F	RB99		CC66	500 1000
4850		NODULES		E	MN	F	RB99		CC62	500 1000
4875		OXIDE		O	MNO	F	RB99		CC64	500 1000
4880		FERROMANGANESE		E	MN	F	RB99		CC62	500 1000
4900	MERCURY			E	HG	M	RB18	1000	4000 CC30	10 100
5000	MICA				MICA	N	RB99		CC99	
5025		BOOK			MICA	N	RB99		CC99	
5050		FLAKE			MICA	N	RB99		CC99	
5075		SERICITE			MICA	N	RB99		CC99	
5100	MOLYBDENUM			E	MO	F	RB12	100000	900000 CC30	5000 9000
5130		FERROMOLY		S	MO	F	RB99		CC30	5000 9000
5135		MOLYINCONC		E	MOS2	F	RB18	100000	900000 CC30	5000 9000
5140		MOLYOXIDE		O	MOO	F	RB18	100000	900000 CC30	5000 9000
5150		SULFIDE		S	MOS2	F	RB32	100000	900000 CC28	5000 9000
5200	NATURAL GAS				METHANE	E	RB99		CC99	
5250	NEPHELINE SYENite				N-SYENITE	N	RB99		CC99	
5300	NICKEL			E	NI	F	RB34	150000	500000 CC61	10000 25000
5325		OXIDE		Q	NI	F	RB34	150000	500000 CC61	10000 25000
5350		SILICATE		Q	NI	F	RB34	150000	500000 CC61	10000 25000
5375		SULFIDE		S	NI	F	RB34	150000	500000 CC61	10000 25000
5380		SMELTER		E	NI	F	RB99		CC61	10000 25000
5390		REFINER		E	NI	F	RB99		CC61	10000 25000
5400	NITRATE	CONTAMINANT			NO3	C	RB99		CC99	
5500	NITROGEN			E	N2	N	RB99		CC99	
5600	PERLITE				PERLITE	N	RB99		CC99	
5700	PETROLEUM					E	RB99		CC99	
5710		CRUDE				E	RB99		CC99	

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG		
5720			GILSONITE			E	RB99			CC99		
5740			OIL SHALE			E	RB99			CC99		
5760			ROCK ASPHALT			E	RB99			CC99		
5780			TAR SANDS			E	RB99			CC99		
5800	PHOSPHATE			O	P2O5	N	RB60	10000	100000	CC22	1000	4000
5825			PHOSPHORUS	E	P	N	RB60	10000	100000	CC22	1000	4000
5850			PRODUCT	O	P2O5	N	RB60	10000	100000	CC22	1000	4000
5875			WASTE	O	P2O5	N	RB60	10000	100000	CC22	1000	4000
5890			ACID	O	P2O5	N	RB99			CC22	100	500
5900	PLATINUM GROUP			E	PT GROUP	$	RB20	75000	750000	CC10	3500	10000
5910			IRIDIUM	E	IR	$	RB20	385	3750	CC10	18	50
5915			OSMIRIDIUM	E	OSIR	$	RB20	385	3750	CC10	18	50
5920			OSMIUM	E	OS	$	RB20	385	3750	CC10	18	50
5940	PLATINUM GROUP		PALLADIUM	E	PD	$	RB20	33750	337500	CC10	1575	4500
5960			PLATINUM	E	PT	$	RB20	33750	337500	CC10	1575	4500
5980			RHODIUM	E	RH	$	RB20	3350	33750	CC10	157	450
5990			RUTHENIUM	E	RU	$	RB20	3350	33750	CC10	157	450
6000	POTASH			O	K2O	N	RB50	20000	100000	CC58	400	800
6025			BEDDED DEPOSITS	O	K2O	N	RB50	50000	500000	CC58	400	800
6050			BRINES	O	K2O	N	RB50	20000	100000	CC58	400	800
6075			SULFATE	S	K2SO4	N	RB50	20000	100000	CC58	400	800
6100	PUMICE				PUMICE	N	RB99			CC99		
6110			PUMICITE		PUMICE	N	RB99			CC99		
6120			SCORIA		PUMICE	N	RB99			CC99		
6140			VOLCANIC ASH		PUMICE	N	RB99			CC99		
6160			VOLCANIC CINDER		PUMICE	N	RB99			CC99		
6180			VOLCANIC DUST		PUMICE	N	RB99			CC99		
6200	QUARTZ CRYSTAL			Q	QUARTZ	N	RB99			CC99		
6230			ELECTRONIC GRADE	Q	QUARTZ	N	RB99			CC99		
6260			OPTICAL GRADE	Q	QUARTZ	N	RB99			CC99		
6300	RADIUM			E	RA	M	RB99			CC99		
6400	RARE EARTH			O	RARE EARTH	M	RB18	50000000	400000000	CC30	1000	10000
6410			BASTNASITE	O	Y GROUP	M	RB18	50000000	400000000	CC30	1000	10000
6430			CERIUM GROUP	O	CE GROUP	M	RB18	50000000	400000000	CC30	1000	10000
6460			YTTRIUM GROUP	O	Y GROUP	M	RB18	50000000	400000000	CC30	1000	10000
6500	RHENIUM			E	RE	F	RB99			CC99		
6600	RUBIDIUM			E	RB2O	M	RB99			CC99		
6650			SAND			N	RB99					
6700	SAND & GRAVEL				SAND/GRAVL	N	RB99			CC99		
6800	SCANDIUM			E	SC	M	RB99			CC99		
6900	SELENIUM			E	SE	M	RB99			CC99		
7000	SILICON			Q	SIO2	F	RB99			CC99		
7010			DIOXIDE	Q	SIO2	F	RB99			CC99		
7015			FERROSILICON	Q	FESI	F	RB99			CC99		
7020			FOUNDRY SAND	Q	SIO2	F	RB99			CC99		
7040			GLASS SAND	Q	SIO2	F	RB99			CC99		
7060			QUARTZ	Q	SIO2	F	RB99			CC99		
7080			QUARTZITE	Q	SIO2	F	RB99			CC99		
7090			SANDSTONE	Q	SIO2	F	RB99			CC99		
7100	SILVER			E	AG	$	RB10	300	600	CC34	30	60
7120			CARBONATE	C	AG	$	RB10	300	600	CC34	30	60
7140			NATIVE	E	AG	$	RB10	300	600	CC34	30	60
7160			OXIDE	O	AG	$	RB10	300	600	CC34	30	60
7180			SULFIDE	S	AG	$	RB10	300	600	CC34	30	60
7190			REFINERY	E	AG	$	RB99			CC34	30	60
7200	SODIUM			E	NA	N	RB99			CC99		
7210			BICARBONATE-NAHCOLITE	C	NAHCO3	N	RB99			CC99		
7220			BRINE	H	NACL	N	RB99			CC99		
7240			CARBONATE (TRONA)	C	NA2CO3	N	RB99			CC99		
7260			OXIDE	O	NA2O	N	RB99			CC99		
7280			SALT	H	NACL	N	RB99			CC99		
7290			SULFATE	S	NA2SO4	N	RB99			CC99		
7300	STONE					N	RB99			CC99		
7302			AGGREGATE CB			N	RB99			CC99		
7304			BALLAST CB			N	RB99			CC99		
7308			BASALT CB			N	RB99			CC99		
7310			BASALT DM			N	RB99			CC99		
7312			BASALT DR			N	RB99			CC99		
7314			CALCAREOUS MARL			N	RB99			CC99		
7315			DECOMPOSED GRANITE CB			N	RB99			CC99		
7316			CINDERS DR			N	RB99			CC99		
7318			DECOMPOSED GRANITE			N	RB99			CC99		
7320			DIMENSION			N	RB99			CC99		
7322	STONE		FILL CB			N	RB99			CC99		
7324			GRANITE CB			N	RB99			CC99		
7326			GRANITE DM			N	RB99			CC99		
7328			GRANITE DR			N	RB99			CC99		

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG		
7330			GRANITIC DR			N	RB99			CC99		
7332			LIMESTONE CB			N	RB99			CC99		
7334			LIMESTONE DM			N	RB99			CC99		
7336			LIMESTONE DR			N	RB99			CC99		
7338			MARBLE CB			N	RB99			CC99		
7340			MARBLE DM			N	RB99			CC99		
7342			METAMORPHIC DR			N	RB99			CC99		
7344			MICA SCHIST CB			N	RB99			CC99		
7346			MICA SCHIST DM			N	RB99			CC99		
7348			MISCELLANEOUS CB			N	RB99			CC99		
7350			MISCELLANEOUS DM			N	RB99			CC99		
7352			MISCELLANEOUS DR			N	RB99			CC99		
7356			QUARTZITE CB			N	RB99			CC99		
7358			QUARTZITE DM			N	RB99			CC99		
7360			RIP RAP			N	RB99			CC99		
7362			SANDSTONE CB			N	RB99			CC99		
7364			SANDSTONE DM			N	RB99			CC99		
7366			SANDSTONE DR			N	RB99			CC99		
7368			SEDIMENTARY DR			N	RB99			CC99		
7370			SHALE CB			N	RB99			CC99		
7372			SHELL CB			N	RB99			CC99		
7374			SLATE CB			N	RB99			CC99		
7376			SLATE DM			N	RB99			CC99		
7378			SLATE DR			N	RB99			CC99		
7380			SUBBASE CB			N	RB99			CC99		
7382			TRAVERTINE DM			N	RB99			CC99		
7384			TRAVERTINE DR			N	RB99			CC99		
7386			VOLCANIC DR			N	RB99			CC99		
7400	STRONTIUM			E	SR	N	RB99			CC99		
7500	SULFUR			E	S	N	RB24	10000	25000	CC44	500	1000
7510			NATIVE	E	S	N	RB24	10000	25000	CC44	500	1000
7520			PYRITE	S	S	N	RB24	5000	10000	CC44	250	500
7530			PYRITE-CONTAMINANT	S	S	C	RB99			CC99		
7540			SULFURIC ACID	S	S	N	RB99			CC06	1	5
7560			SULFATE-CONTAMINANT	S	SO4	C	RB99			CC99		
7580			SULFIDE-CONTAMINANT	S	S	C	RB99			CC99		
7600	TALC				TALC	N	RB99			CC99		
7620			BLOCK STEATITE		TALC	N	RB99			CC99		
7640			GROUP		TALC	N	RB99			CC99		
7660			PYROPHYLLITE		TALC	N	RB99			CC99		
7680			SOAPSTONE		TALC	N	RB99			CC99		
7700	TANTALUM			E	TA2O5	F	RB21	10	100	CC18	1	10
7710			TANTALITE	O	TA205	F	RB21	10	100	CC18	1	10
7720			TIN SLAG	O	TA205	F	RB21	10	100	CC18	1	10
7800	TELLURIUM			E	TE	M	RB99			CC99		
7900	THALLIUM			E	TL	M	RB99			CC99		
8000	THORIUM			E	TH	M	RB70	10000	40000	CC56	500	1000
8050			OXIDE	O	THO2	M	RB18	10000	40000	CC30	500	1000
8100	TIN			E	SN	M	RB18	3000	20000	CC30	800	20000
8125			LODE	E	SN	M	RB18	3000	20000	CC30	200	6000
8150			PLACER	E	SN	M	RB18	3000	20000	CC30	2000	10000
8170			TAILINGS	E	SN		RB18	3000	20000	CC30	2000	10000
8200	TITANIUM			E	TIO2	M	RB18	200000	2000000	CC30	10000	100000
8212			ANATASE	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8210			HI TI 70	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8215			HI TI 90	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8220			ILMENITE	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8230			ILMENITE STOCK	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8235			ILMENITE TO SR	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8240			LEUCOXENE	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8250			RICHBAY SLAG	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8260	TITANIUM		RUTILE	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8265			RUTILE SYN	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8270			SOREL SLAG	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8280			TITANIFEROUS MAGNETITE	O	TIO2	M	RB24	200000	2000000	CC30	10000	100000
8285			PIGMENT	O	TIO2	M	RB99			CC30	10000	100000
8290			METAL	E	TI	M	RB99			CC30	10000	100000
8300	TUNGSTEN			O	WO3	F	RB16	10000	50000	CC46	500	1000
8310			BRINES	O	WO3	F	RB16	10000	50000	CC46	500	1000
8315			CONCENTRATE	O	WO3	F	RB16	10000	50000	CC46	500	1000
8320			LODE	O	WO3	F	RB16	10000	50000	CC46	500	1000
8340			TAILINGS	O	WO3	F	RB16	10000	50000	CC46	500	1000
8360			PLACER	O	WO3	F	RB16	10000	50000	CC46	500	1000
8380			WO3 CONTENT	O	WO3	F	RB16	10000	50000	CC46	500	1000
8390			REFINERY	E	W	F	RB99			CC46	500	1000
8400	URANIUM			E	U	E	RB99			CC99		
8450			U3O8 CONTENT	O	U3O8	E	RB99			CC99		
8500	VANADIUM			E	V	F	RB99			CC99		
8525			PHOSPHATIC SHALE	O	V2O5	F	RB99			CC99		
8550			TITANIFEROUS MAGNETITE	O	V2O5	F	RB99			CC99		
8575			V2O5 CONTENT	O	V2O5	F	RB99			CC99		

CODE	COM	MOC	CCC	ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG	
8600	VERMICULITE					VERMICULIT	N	RB99			CC99	
8700	VOLATILE CONT					LOI		RB99			CC99	
8730		AS RECEIVED				VOL REC		RB99			CC99	
8760		DRY BASIS				VOL DRY		RB99			CC99	
8800	WATER CONTENT					H2O		RB99			CC99	
8810		FREE WATER				H2O		RB99			CC99	
8830		HYDRATED WATER				H2O		RB99			CC99	
8860		TOTAL WATER				H2O		RB99			CC99	
8900	WOLLASTONITE					WOLASTONIT	N	RB99			CC99	
9000	XANTHATE	CONTAMINANT				ROCS2	C	RB99			CC99	
9100	ZEOLITES					ZEOLITES	N	RB99			CC99	
9200	ZINC				E	ZN	M	RB24	200	700	CC44	20	50
9220		CARBONATE			C	ZN	M	RB24	200	700	CC44	20	50
9240		OXIDE			O	ZN	M	RB24	200	700	CC44	20	50
9260		SILICATE			Q	ZN	M	RB24	200	700	CC44	20	50
9280		SULFIDE			S	ZN	M	RB24	200	700	CC44	20	50
9285		SMELTER			E	ZN	M	RB99			CC22	100	200
9290		REFINER			E	ZN	M	RB99			CC22	100	200
9300	ZIRCONIUM				E	ZRO2	M	RB18	100000	700000	CC30	1000	10000
9330		BADDELEYITE			O	ZRO2	M	RB18	100000	700000	CC30	1000	10000
9360		ZIRCON			Q	ZRSIO4	M	RB30	100000	700000	CC55	1000	10000

CODE	COM	MOC	CCC ASSAY	IRC	RBUNIT	RBSML	RBLRG	CAPUNIT	CAPSML	CAPLRG

CB = Crushed and Broken STONE
DM = Dimension STONE
DR = Decorative Rock or decorative stone

CCC-TABLE		IRC-TABLE
E-ELEMENT		F-FERROUS
S-SULFIDE/SULFATE	M-METALLIC	
O-OXIDE		N-NON-METALLIC
C-CARBONATE		E-ENERGY
Q-SILICATE		$-PRECIOUS METALS
H-HALOGEN		

APPENDIX B - STATE/COUNTY VALUES

Code	Name
	NORTH AMERICA
001	ALABAMA
002	ALASKA
004	ARIZONA
005	ARKANSAS
006	CALIFORNIA
008	COLORADO
009	CONNECTICUT
010	DELAWARE
011	DISTRICT OF COLUMBIA
012	FLORIDA
013	GEORIGA
015	HAWAII
016	IDAHO
017	ILLINOIS
018	INDIANA
019	IOWA
020	KANSAS
021	KENTUCKY
022	LOUISIANA
023	MAINE
024	MARYLAND
025	MASSACHUSETTS
026	MICHIGAN
027	MINNESOTA
028	MISSISSIPPI
029	MISSOURI
030	MONTANA
031	NEBRASKA
032	NEVADA
033	NEW HAMPSHIRE
034	NEW JERSEY
035	NEW MEXICO
036	NEW YORK
037	NORTH CAROLINA
038	NORTH DAKOTA
039	OHIO
040	OKLAHOMA
041	OREGON
042	PENNSYLVANIA
044	RHODE ISLAND
045	SOUTH CAROLINA
046	SOUTH DAKOTA
047	TENNESSEE
048	TEXAS
049	UTAH
050	VERMONT
051	VIRGINIA
053	WASHINGTON
054	WEST VIRGINIA
055	WISCONSIN
056	WYOMING
	OTHER US AREA:
057	PACIFIC ISLE PS
060	AMERICAN SAMOA
061	PANAMA CANAL ZONE
062	CANTON & ENDERBURY I
	UNITED STATES:
066	GUAM
067	JOHNSTON ATOLL
071	MIDWAY ISLANDS
072	PUERTO RICO
073	RYUKYU IS., SOUTH
074	SWAN ISLANDS
075	TRUST TERRITORIES, P
076	US MISC CARIBBEAN IS
077	US MISC PACIFIC IS
078	VIRGIN ISLANDS
079	WAKE ISLAND
085	FOREIGN COUNTRY(IES)
098	UNKNOWN STATE
099	VARIOUS STATES
	NORTHERN AREA:
101	GREENLAND
122	CANADA
161	MIQUELON-ST PIERRE I
	SOUTHERN AREA:
201	MEXICO
	CENTRAL AMERICA:
205	GUATEMALA
208	BELIZE
211	EL SALVADOR
215	HONDURAS
219	NICARAGUA
223	COSTA RICA
225	PANAMA
	BERMUDA & CARIBBEAN:
232	BERMUDA
236	BAHAMAS
239	CUBA
242	JAMAICA
245	HAITI
247	DOMINICAN REPUBLIC
248	LEEWARD-WINDWARD IS
272	BARBADOS
274	TRINIDAD AND TOBAGO
277	NETH. ANTILLES
283	FR W INDIES
	SOUTH AMERICA
	NORTHERN AREA:
301	COLOMBIA
307	VENEZUELA
312	GUYANA
315	SURINAM
317	FRENCH GUIANA
	WESTERN AREA:
331	ECUADOR
333	PERU
335	BOLIVIA
337	CHILE
	EASTERN AREA:
351	BRAZIL
353	PARAGUAY
355	URUGUAY
357	ARGENTINA
372	FALKLAND ISLANDS
	EUROPE
	NORTHWESTERN & CENTRAL
400	ICELAND
401	SWEDEN
403	NORWAY
405	FINLAND
409	DENMARK
412	UNITED KINGDOM
419	IRELAND (EIRE)
421	NETHERLANDS
423	BELGIUM
425	LUXEMBOURG
427	FRANCE
428	GERMANY FR
429	GERMANY DR
433	AUSTRIA
435	CZECH REPUBLIC
436	SLOVAKIA
437	HUNGARY
441	SWITZERLAND
443	LIECHTENSTEIN
	NORTHEASTERN AREA:
447	ESTONIA
449	LATVIA
451	LITHUANIA
452	RUSSIA
453	BELARUS
454	UKRAINE
455	POLAND
456	ARMENIA
457	AZERBAIJAN
458	GEORGIA-FSU
459	KAZAKHSTAN
460	KRYGYZSTAN
461	CIS
462	MOLDOVA
463	TAJIKISTAN
464	TURKMENISTAN
465	UZBEKISTAN

APPENDIX B - STATE/COUNTY VALUES

Code	Name
	SOUTHWESTERN AREA:
467	AZORES
469	SPAIN
470	ANDORRA
471	PORTUGAL
472	GIBRALTER
473	MALTA AND GOZO
474	MONACO
475	ITALY
	SOUTHEASTERN AREA:
479	YUGOSLAVIA
481	ALBANIA
484	GREECE
485	ROMANIA
487	BULGARIA
489	TURKEY
491	CYPRUS
	ASIA
	WESTERN AREA:
502	SYRIA
504	LEBANON
505	IRAQ
507	IRAN
508	ISRAEL
511	JORDAN
512	GAZA STRIP
	ARABIA PENINSULA STATES:
513	KUWAIT
517	SAUDI ARABIA
518	QATAR
520	UA EMIRATES
521	YEMEN ARAB REP-ADEN
522	YEMEN PDR(SANA)
523	OMAN
525	BAHRAIN
	SOUTHERN AND SOUTHEASTERN AREA:
531	AFGHANISTAN
533	INDIA
535	PAKISTAN
536	NEPAL
537	BHUTAN
539	BANGLADESH
542	SRI LANKA
546	BURMA
549	THAILAND
550	VIETNAM
553	LAOS
555	CAMBODIA
557	MALAYSIA
559	SINGAPORE
560	INDONESIA
565	PHILIPPINES
566	MACAU
567	S.AND S.E.ASIA,NEC.
	EASTERN AREA:
570	CHINA PR
574	MONGOLIA
579	KOREA PDR
580	KOREA R
582	HONG KONG
583	TAIWAN (ROC)
588	JAPAN
590	NANSEI ISLANDS NEC
	AUSTRALIA & OCEANIA
602	AUSTRALIA
604	PAPUA NEW GUINEA
614	NEW ZEALAND
615	WESTERN SAMOA
617	NAURU
622	BRIT PAC. ISLANDS
641	FRENCH PACIFIC IS.
684	TR. TERR. PAC. IS.
686	FIJI
686	OTHER PAC. IS, NEC.
699	ANTARCTICA
	AFRICA
	NORTHERN AREA:
714	MOROCCO
715	WESTERN SAHARA
721	ALGERIA
723	TUNISIA
725	LIBYA
729	EGYPT
732	SUDAN
	WESTERN AREA:
733	CANARY ISLANDS
734	CAPE VERDE ISLANDS
736	SPANISH AFRICAN ISL
738	EQ GUINEA
739	SAO TOME-PRINCIPE
741	MAURITANIA
742	CAMEROON
744	SENEGAL
745	MALI
746	GUINEA
747	SIERRA LEONE
748	IVORY COAST
749	GHANA
750	GAMBIA
751	NIGER
752	TOGO
753	NIGERIA
754	CENTRAL AFRICAN REP.
755	GABON
756	CHAD
758	BR W AFRICA
759	MADEIRA ISLANDS
760	BURKINA FASO
761	BENIN
762	ANGOLA
763	CONGO REPUBLIC
764	GUINEA-BISSAU
765	LIBERIA
766	ZAIRE
767	BURUNDI
769	RWANDA
	EASTERN AREA:
770	SOMALIA
774	ETHIOPIA
777	DJIBOUTI
778	UGANDA
779	KENYA
782	SEYCHELLES
783	TANZANIA
784	MAURITIUS
787	MOZAMBIQUE
788	MADAGASCAR
789	COMORO ISLANDS
790	FR. IND. OC. AREA
	SOUTHERN AREA:
791	SOUTH AFRICA
792	NAMIBIA
793	BOTSWANA
794	ZAMBIA
795	SWAZILAND
796	ZIMBABWE
797	MALAWI
799	LESOTHO
	OCEANS
900	NORTH PACIFIC

Code	Name
905	SOUTH PACIFIC
910	NORTH ATLANTIC
911	U.S. VIRGIN ISLANDS
915	SOUTH ATLANTIC
920	ARCTIC OCEAN
925	ANTARCTIC OCEAN
930	INDIAN OCEAN
935	MEDITERRANEAN SEA

ALABAMA

State Code: 001

Code	Name
001	Autauga
003	Baldwin
005	Barbour
007	Bibb
009	Blount
011	Bullock
013	Butler
015	Calhoun
017	Chambers
019	Cherokee
021	Chilton
023	Choctaw
025	Clarke
027	Clay
029	Cleburne
031	Coffee
033	Colbert
035	Conecuh
037	Coosa
039	Covington
041	Crenshaw
043	Cullman
045	Dale
047	Dallas
049	De Kalb
051	Elmore
053	Escambia
055	Etowah
057	Fayette
059	Franklin
061	Geneva
063	Greene
065	Hale
067	Henry
069	Houston
071	Jackson
073	Jefferson
075	Lamar
077	Lauderdale
079	Lawrence
081	Lee
083	Limestone
085	Lowndes
087	Macon
089	Madison
091	Marengo
093	Marion
095	Marshall
097	Mobile
099	Monroe
101	Montgomery
103	Morgan
105	Perry
107	Pickens
109	Pike
111	Randolph
113	Russell
115	St. Clair
117	Shelby
119	Sumter
121	Talladega
123	Tallapoosa
125	Tuscaloosa
127	Walker
129	Washington
131	Wilcox
133	Winston

ALASKA

State Code: 002

No county subdivision in Alaska; topographic quadrangle names are used instead.

Code	Name
149	Adak
127	Afognak
028	Ambler River
146	Amukta
085	Anchorage
024	Arctic
148	Atka
110	Atlin
153	Attu
090	Baird Inlet
027	Baird Mts.
001	Barrow
008	Barter Island
040	Beaver
006	Beechey Point
044	Bendeleben
097	Bering Glacier
091	Bethel
039	Bettles
059	Big Delta
070	Black
042	Black River
105	Blying Sound
118	Bradfield Canal
128	Bristol Bay
045	Candle
099	Cape Mendenhall
031	Chandalar
022	Chandler Lake
051	Charley River
133	Chignik
032	Christian
050	Circle
139	Cold Bay
033	Coleen
096	Cordova
119	Craig
018	De Long Mts.
016	Demarcation Point
102	Dillingham
121	Dixon Entrance
060	Eagle
058	Fairbanks
141	False Pass
007	Flaxman Island
041	Fort Yukon
150	Gareloi Island
101	Goodnews
077	Gulkana
123	Hagemeister Island
005	Harrison Bay
067	Healy
072	Holy Cross
079	Hooper Bay
020	Howard Pass
038	Hughes
107	Icy Bay
073	Iditarod
012	Ikpikpuk River
103	Iliamna
112	Juneau
136	Kaguyak
057	Kantishna River
130	Karluk
046	Kateel River
094	Kenai
120	Ketchikan
021	Killik River
152	Kiska
131	Kodiak
035	Kotzebue
100	Kuskokwim Bay
071	Kwiguk
093	Lake Clark
083	Lime Hills
049	Linvengood
011	Lookout Ridge
080	Marshall

Code	Name
087	McCarthy
074	McGrath
003	Meade River
065	Medfra
047	Melozitna
106	Middleton Island
019	Miskeguk Mtn.
111	Mt. Fairweather
068	Mt. Hayes
126	Mt. Katmai
066	Mt. McKinley
015	Mt. Michelson
098	Mt. St. Elias
078	Nabesna
125	Naknek
026	Noatak
052	Nome
054	Norton Bay
055	Nulato
089	Nunivak Island
124	Nushagak Bay
064	Ophir
117	Petersburg
023	Philip Smith Mts.
017	Point Hope
009	Point Lay
116	Port Alexander
138	Port Moller
132	Pribilof Islands
122	Prince Rupert
151	Rat Islands
056	Ruby
081	Russian Mission
061	St. Lawrence
088	St. Matthew
062	St. Michael
014	Sagavanirktok
145	Samalga Island
147	Seguam
036	Selawik
104	Seldovia
095	Seward
034	Shishmaref
037	Shungnak
140	Simeonof Island
114	Sitka
109	Skagway
082	Sleetmute
053	Solomon
137	Stepovak Bay
115	Sumdum
029	Survey Pass
134	Sutwik Island
025	Table Mtn.
113	Taku River
075	Talkeetna
076	Talkeetna Mtns.
069	Tanacross
048	Tanana
092	Taylor Mtns.
043	Teller
004	Teshekpuk
135	Trinity Islands
084	Tyonek
129	Ugashik
013	Umiat
144	Umnak
063	Unalakleet
143	Unalaska
143	Unimak
010	Utukok River
086	Valdez
002	Wainwright
030	Wiseman
108	Yakutat

ARIZONA

State Code: 004

Code	Name
001	Apache
003	Cochise
005	Coconino
007	Gila
009	Graham
011	Greenlee
012	La Paz
013	Maricopa
015	Mohave
017	Navajo
019	Pima
021	Pinal
023	Santa Cruz
025	Yavapai
027	Yuma

ARKANSAS

State Code: 005

Code	Name
001	Arkansas
003	Ashley
005	Baxter
007	Benton
009	Boone
011	Bradley
013	Calhoun
015	Carroll
017	Chicot
019	Clark
021	Clay
023	Cleburne
025	Cleveland
027	Columbia
029	Conway
031	Craighead
033	Crawford
035	Crittenden
037	Cross
039	Dallas
041	Desha
043	Drew
045	Faulkner
047	Franklin
049	Fulton
051	Garland
053	Grant
055	Greene
057	Hempstead
059	Hot Spring
061	Howard
063	Independence
065	Izard
067	Jackson
069	Jefferson
071	Johnson
073	Lafayette
075	Lawrence
077	Lee
079	Lincoln
081	Little River
083	Logan
085	Lonoke
087	Madison
089	Marion
091	Miller
093	Mississippi
095	Monroe
097	Montgomery
099	Nevada
101	Newton
103	Ouachita
105	Perry
107	Phillips
109	Pike
111	Poinsett
113	Polk
115	Pope
117	Prairie
119	Pulaski
121	Randolph
123	St. Francis
125	Saline
127	Scott
129	Searcy
131	Sebastian
133	Sevier
135	Sharp
137	Stone
139	Union
141	Van Buren
143	Washington
145	White
147	Woodruff
149	Yell

CALIFORNIA

State Code: 006

Code	Name
001	Alameda
003	Alpine
005	Amador
007	Butte
009	Calaveras
011	Colusa

Code	Name
013	Contra Costa
015	Del Norte
017	El Dorado
019	Fresno
021	Glenn
023	Humboldt
025	Imperial
027	Inyo
029	Kern
031	Kings
033	Lake
035	Lassen
037	Los Angeles
039	Madera
041	Marin
043	Mariposa
045	Mendocino
047	Merced
049	Modoc
051	Mono
053	Monterey
055	Napa
057	Nevada
059	Orange
061	Placer
063	Plumas
065	Riverside
067	Sacramento
069	San Benito
071	San Bernardino
073	San Diego
075	San Francisco
077	San Joaquin
079	San Luis Obispo
081	San Mateo
083	Santa Barbara
085	Santa Clara
087	Santa Cruz
089	Shasta
091	Sierra
093	Siskiyou
095	Solano
097	Sonoma
099	Stanislaus
101	Sutter
103	Tehama
105	Trinity
107	Tulare
109	Tuolumne
111	Ventura
113	Yolo
115	Yuba

COLORADO

State Code: 008

Code	Name
001	Adams
003	Alamosa
005	Arapahoe
007	Archuleta
009	Baca
011	Bent
013	Boulder
015	Chaffee
017	Cheyenne
019	Clear Creek
021	Conejos
023	Costilla
025	Crowley
027	Custer
029	Delta
031	Denver
033	Dolores
035	Douglas
037	Eagle
039	Elbert
041	El Paso
043	Fremont
045	Garfield
047	Gilpin
049	Grand
051	Gunnison
053	Hinsdale
055	Huerfano
057	Jackson
059	Jefferson
061	Kiowa
063	Kit Carson
065	Lake
067	La Plata
069	Larimer
071	Las Animas
073	Lincoln
075	Logan
077	Mesa
079	Mineral
081	Moffat
083	Montezuma
085	Montrose
087	Morgan
089	Otero
091	Ouray
093	Park
095	Phillips
097	Pitkin
099	Prowers
101	Pueblo
103	Rio Blanco
105	Rio Grande
107	Routt
109	Saguache
111	San Juan
113	San Miguel
115	Sedgwick
117	Summit
119	Teller
121	Washington
123	Weld
125	Yuma

CONNECTICUT

State Code: 009

Code	Name
001	Fairfield
003	Hartford
005	Litchfield
007	Middlesex
009	New Haven
011	New London
013	Tolland
015	Windham

DELAWARE

State Code: 010

Code	Name
001	Kent
003	New Castle
005	Sussex

DISTRICT OF COLUMBIA

State Code: 011

Code	Name
001	District of Columbia

FLORIDA

State Code: 012

Code	Name
001	Alachua
003	Baker
005	Bay
007	Bradford
009	Brevard
011	Broward
013	Calhoun
015	Charlotte
017	Citrus
019	Clay
021	Collier
023	Columbia
025	Dade
027	De Soto
029	Dixie
031	Duval
033	Escambia
035	Flagler
037	Franklin
039	Gadsden
041	Gilchrist
043	Glades
045	Gulf
047	Hamilton
049	Hardee
051	Hendry
053	Hernando
055	Highlands
057	Hillsborough
059	Holmes
061	Indian River
063	Jackson
065	Jefferson
067	Lafayette

Code	Name
069	Lake
071	Lee
073	Leon
075	Levy
077	Liberty
079	Madison
081	Manatee
083	Marion
085	Martin
087	Monroe
089	Nassau
091	Okaloosa
093	Okeechobee
095	Orange
097	Osceola
099	Palm Beach
101	Pasco
103	Pinellas
105	Polk
107	Putnam
109	St. Johns
111	St. Lucie
113	Santa Rosa
115	Sarasota
117	Seminole
119	Sumter
121	Suwannee
123	Taylor
125	Union
127	Volusia
129	Wakulla
131	Walton
133	Washington

GEORGIA

State Code: 013

Code	Name
001	Appling
003	Atkinson
005	Bacon
007	Baker
009	Baldwin
011	Banks
013	Barrow
015	Bartow
017	Ben Hill
019	Berrien
021	Bibb
023	Bleckley
025	Brantley
027	Brooks
029	Bryan
031	Bulloch
033	Burke
035	Butts
037	Calhoun
039	Camden
043	Candler
045	Carroll
047	Catoosa
049	Charlton
051	Chatham
053	Chattahoochee
055	Chattooga
057	Cherokee
059	Clarke
061	Clay
063	Clayton
065	Clinch
067	Cobb
069	Coffee
071	Colquitt
073	Columbia
075	Cook
077	Coweta
079	Crawford
081	Crisp
083	Dade
085	Dawson
087	Decatur
089	De Kalb
091	Dodge
093	Dooly
095	Dougherty
097	Douglas
099	Early
101	Echols
103	Effingham
105	Elbert
107	Emanuel
109	Evans
111	Fannin
113	Fayette
115	Floyd
117	Forsyth
119	Franklin
121	Fulton
123	Gilmer
125	Glascock
127	Glynn
129	Gordon
131	Grady
133	Greene
135	Gwinnett
137	Habersham
139	Hall
141	Hancock
143	Haralson
145	Harris
147	Hart
149	Heard
151	Henry
153	Houston
155	Irwin
157	Jackson
159	Jasper
161	Jeff Davis
163	Jefferson
165	Jenkins
167	Johnson
169	Jones
171	Lamar
173	Lanier
175	Laurens
177	Lee
179	Liberty
181	Lincoln
183	Long
185	Lowndes
187	Lumpkin
189	McDuffie
191	McIntosh
193	Macon
195	Madison
197	Marion
199	Meriwether
201	Miller
205	Mitchell
207	Monroe
209	Montgomery
211	Morgan
213	Murray
215	Muscogee
217	Newton
219	Oconee
221	Oglethorpe
223	Paulding
225	Peach
227	Pickens
229	Pierce
231	Pike
223	Polk
235	Pulaski
237	Putnam
239	Quitman
241	Rabun
243	Randolph
245	Richmond
247	Rockdale
249	Schley
251	Screven
253	Seminole
255	Spalding
257	Stephens
259	Stewart
261	Sumter
263	Talbot
265	Taliaferro
267	Tattnall
269	Taylor
271	Telfair
273	Terrell
275	Thomas
277	Tift
279	Toombs
281	Towns
283	Treutlen
285	Troup
287	Turner
289	Twiggs
291	Union
293	Upson
295	Walker

Code	Name
297	Walton
299	Ware
301	Warren
303	Washington
305	Wayne
307	Webster
309	Wheeler
311	White
313	Whitfield
315	Wilcox
317	Wilkes
319	Wilkinson
321	Worth

HAWAII

State Code: 015

Code	Name
001	Hawaii
003	Honolulu
005	Kalawao
007	Kauai
009	Maui

IDAHO

State Code: 016

Code	Name
001	Ada
003	Adams
005	Bannock
007	Bear Lake
009	Benewah
011	Bingham
013	Blaine
015	Boise
017	Bonner
019	Bonneville
021	Boundary
023	Butte
025	Camas
027	Canyon
029	Caribou
031	Cassia
033	Clark
035	Clearwater
037	Custer
039	Elmore
041	Franklin
043	Fremont
045	Gem
047	Gooding
049	Idaho
051	Jefferson
053	Jerome
055	Kootenai
057	Latah
059	Lemhi
061	Lewis
063	Lincoln
065	Madison
067	Minidoka
069	Nez Perce
071	Oneida
073	Owyhee
075	Payette
077	Power
079	Shoshone
081	Teton
083	Twin Falls
085	Valley
087	Washington

ILLINOIS

State Code: 017

Code	Name
001	Adams
003	Alexander
005	Bond
007	Boone
009	Brown
011	Bureau
013	Calhoun
015	Carroll
017	Cass
019	Champaign
021	Christian
023	Clark
025	Clay
027	Clinton
029	Coles
031	Cook
033	Crawford
035	Cumberland
037	De Kalb
039	De Witt
041	Douglas
043	Du Page
045	Edgar
047	Edwards
049	Effingham
051	Fayette
053	Ford
055	Franklin
057	Fulton
059	Gallatin
061	Greene
063	Grundy
065	Hamilton
067	Hancock
069	Hardin
071	Henderson
073	Henry
075	Iroquois
077	Jackson
079	Jasper
081	Jefferson
083	Jersey
085	Jo Daviess
087	Johnson
089	Kane
091	Kankakee
093	Kendall
095	Knox
097	Lake
099	La Salle
101	Lawrence
103	Lee
105	Livingston
107	Logan
109	McDonough
111	McHenry
113	McLean
115	Macon
117	Macoupin
119	Madison
121	Marion
123	Marshall
125	Mason
127	Massac
129	Menard
131	Mercer
133	Monroe
135	Montgomery
137	Morgan
139	Moultrie
141	Ogle
143	Peoria
145	Perry
147	Piatt
149	Pike
151	Pope
153	Pulaski
155	Putnam
157	Randolph
159	Richland
161	Rock Island
163	St. Clair
165	Saline
167	Sangamon
169	Schuyler
171	Scott
173	Shelby
175	Stark
177	Stephenson
179	Tazewell
181	Union
183	Vermillion
185	Wabash
187	Warren
189	Washington
191	Wayne
193	White
195	Whiteside
197	Will
199	Williamson
201	Winnebago
203	Woodford

INDIANA

State Code: 018

Code	Name
001	Adams
003	Allen
005	Bartholomew

APPENDIX B - STATE/COUNTY VALUES

Code	Name
007	Benton
009	Blackford
011	Boone
013	Brown
015	Carroll
017	Cass
019	Clark
021	Clay
023	Clinton
025	Crawford
027	Daviess
029	Dearborn
031	Decatur
033	De Kalb
035	Delaware
037	Dubois
039	Elkhart
041	Fayette
043	Floyd
045	Fountain
047	Franklin
049	Fulton
051	Gibson
053	Grant
055	Greene
057	Hamilton
059	Hancock
061	Harrison
063	Hendricks
065	Henry
067	Howard
069	Huntington
071	Jackson
073	Jasper
075	Jay
077	Jefferson
079	Jennings
081	Johnson
083	Knox
085	Kosciusko
087	LaGrange
089	Lake
091	La Porte
093	Lawrence
095	Madison
097	Marion
099	Marshall
101	Martin
103	Miami
105	Monroe
107	Montgomery
109	Morgan
111	Newton
113	Noble
115	Ohio
117	Orange
119	Owen
121	Parke
123	Perry
125	Pike
127	Porter
129	Posey
131	Pulaski
133	Putnam
135	Randolph
137	Ripley
139	Rush
141	St. Joseph
143	Scott
145	Shelby
147	Spencer
149	Starke
151	Steuben
153	Sullivan
155	Switzerland
157	Tippecanoe
159	Tipton
161	Union
163	Vanderburgh
165	Vermillion
167	Vigo
169	Wabash
171	Warren
173	Warrick
175	Washington
177	Wayne
179	Wells
181	White
183	Whitley

IOWA

State Code: 019

Code	Name
001	Adair
003	Adams
005	Allamakee
007	Appanoose
009	Audubon
011	Benton
013	Black Hawk
015	Boone
017	Bremer
019	Buchanan
021	Buena Vista
023	Butler
025	Calhoun
027	Carroll
029	Cass
031	Cedar
033	Cerro Gordo
035	Cherokee
037	Chickasaw
039	Clarke
041	Clay
043	Clayton
045	Clinton
047	Crawford
049	Dallas
051	Davis
053	Decatur
055	Delaware
057	Des Moines
059	Dickinson
061	Dubuque
063	Emmet
065	Fayette
067	Floyd
069	Franklin
071	Fremont
073	Greene
075	Grundy
077	Guthrie
079	Hamilton
081	Hancock
083	Hardin
085	Harrison
087	Henry
089	Howard
091	Humboldt
093	Ida
095	Iowa
097	Jackson
099	Jasper
101	Jefferson
103	Johnson
105	Jones
107	Keokuk
109	Kossuth
111	Lee
113	Linn
115	Louisa
117	Lucas
119	Lyon
121	Madison
123	Mahaska
125	Marion
127	Marshall
129	Mills
131	Mitchell
133	Monona
135	Monroe
137	Montgomery
139	Muscatine
141	O Brien
143	Osceola
145	Page
147	Palo Alto
149	Plymouth
151	Pocahontas
153	Polk
155	Pottawattamie
157	Poweshiek
159	Ringgold
161	Sac
163	Scott
165	Shelby
167	Sioux
169	Story
171	Tama
173	Taylor
175	Union
177	Van Buren
179	Wapello

Code	Name
181	Warren
183	Washington
185	Wayne
187	Webster
189	Winnebago
191	Winneshiek
193	Woodbury
195	Worth
197	Wright

KANSAS

State Code: 020

Code	Name
001	Allen
003	Anderson
005	Atchison
007	Barber
009	Barton
011	Bourbon
013	Brown
015	Butler
017	Chase
019	Chautauqua
021	Cherokee
023	Cheyenne
025	Clark
027	Clay
029	Cloud
031	Coffey
033	Comanchee
035	Cowley
037	Crawford
039	Decatur
041	Dickinson
043	Doniphan
045	Douglas
047	Edwards
049	Elk
051	Ellis
053	Ellsworth
055	Finney
057	Ford
059	Franklin
061	Geary
063	Gove
065	Graham
067	Grant
069	Gray
071	Greeley
073	Greenwood
075	Hamilton
077	Harper
079	Harvey
081	Haskell
083	Hodgeman
085	Jackson
087	Jefferson
089	Jewell
091	Johnson
093	Kearny
095	Kingman
097	Kiowa
099	Labette
101	Lane
103	Leavenworth
105	Lincoln
107	Linn
109	Logan
111	Lyon
113	McPherson
115	Marion
117	Marshall
119	Meade
121	Miami
123	Mitchell
125	Montgomery
127	Morris
129	Morton
131	Nemaha
133	Neosho
135	Ness
137	Norton
139	Osage
141	Osborne
143	Ottawa
145	Pawnee
147	Phillips
149	Pottawatomie
151	Pratt
153	Rawlins
155	Reno
157	Republic
159	Rice
161	Riley
163	Rooks
165	Rush
167	Russell
169	Saline
171	Scott
173	Sedgwick
175	Seward
177	Shawnee
179	Sheridan
181	Sherman
183	Smith
185	Stafford
187	Stanton
189	Stevens
191	Sumner
193	Thomas
195	Trego
197	Wabaunsee
199	Wallace
201	Washington
203	Wichita
205	Wilson
207	Woodson
209	Wyandotte

KENTUCKY

State Code: 021

Code	Name
001	Adair
003	Allen
005	Anderson
007	Ballard
009	Barren
011	Bath
013	Bell
015	Boone
017	Bourbon
019	Boyd
021	Boyle
023	Bracken
025	Breathitt
027	Breckinridge
029	Bullitt
031	Butler
033	Caldwell
035	Calloway
037	Campbell
039	Carlisle
041	Carroll
043	Carter
045	Casey
047	Christian
049	Clark
051	Clay
053	Clinton
055	Crittenden
057	Cumberland
059	Daviess
061	Edmonson
063	Elliott
065	Estill
067	Fayette
069	Fleming
071	Floyd
073	Franklin
075	Fulton
077	Gallatin
079	Garrard
081	Grant
083	Graves
085	Grayson
087	Green
089	Greenup
091	Hancock
093	Hardin
095	Harlan
097	Harrison
099	Hart
101	Henderson
103	Henry
105	Hickman
107	Hopkins
109	Jackson
111	Jefferson
113	Jessamine
115	Johnson
117	Kenton
119	Knott
121	Knox

APPENDIX B - STATE/COUNTY VALUES

Code	Name
123	Larue
125	Laurel
127	Lawrence
129	Lee
131	Leslie
133	Letcher
135	Lewis
137	Lincoln
139	Livingston
141	Logan
143	Lyon
145	McCracken
147	McCreary
149	McLean
151	Madison
153	Magoffin
155	Marion
157	Marshall
159	Martin
161	Mason
163	Meade
165	Menifee
167	Mercer
169	Metcalfe
171	Monroe
173	Montgomery
175	Morgan
177	Muhlenberg
179	Nelson
181	Nicholas
183	Ohio
185	Oldham
187	Owen
189	Owsley
191	Pendleton
193	Perry
195	Pike
197	Powell
199	Pulaski
201	Robertson
203	Rockcastle
205	Rowan
207	Russell
209	Scott
211	Shelby
213	Simpson
215	Spencer
217	Taylor
219	Todd
221	Trigg
223	Trimble
225	Union
227	Warren
229	Washington
231	Wayne
233	Webster
235	Whitley
237	Wolfe
239	Woodford

LOUISIANA

State Code: 022

Code	Name
001	Acadia
003	Allen
005	Ascension
007	Assumption
009	Avoyelles
011	Beauregard
013	Bienville
015	Bossier
017	Caddo
019	Calcasieu
021	Caldwell
023	Cameron
025	Catahoula
027	Claiborne
029	Concordia
031	De Soto
033	East Baton Rouge
035	East Carroll
037	East Feliciana
039	Evangeline
041	Franklin
043	Grant
045	Iberia
047	Iberville
049	Jackson
051	Jefferson
053	Jefferson Davis
055	Lafayette
057	Lafourche
059	La Salle
061	Lincoln
063	Livingston
065	Madison
067	Morehouse
069	Natchitoches
071	Orleans
073	Ouachita
075	Plaquemines
077	Pointe Coupee
079	Rapides
081	Red River
083	Richland
085	Sabine
087	St. Bernard
089	St. Charles
091	St. Helena
093	St. James
095	St. John the Baptist
097	St. Landry
099	St. Martin
101	St. Mary
103	St. Tammany
105	Tangipahoa
107	Tensas
109	Terrebonne
111	Union
113	Vermilion
115	Vernon
117	Washington
119	Webster
121	West Baton Rouge
123	West Carroll
125	West Feliciana
127	Winn

MAINE

State Code: 023

Code	Name
001	Androscoggin
003	Aroostook
005	Cumberland
007	Franklin
009	Hancock
011	Kennebec
013	Knox
015	Lincoln
017	Oxford
019	Penobscot
021	Piscataquis
023	Sagadahoc
025	Somerset
027	Waldo
029	Washington
031	York

MARYLAND

State Code: 024

Code	Name
001	Allegany
003	Anne Arundel
005	Baltimore
009	Calvert
011	Caroline
013	Carroll
015	Cecil
017	Charles
019	Dorchester
021	Frederick
023	Garrett
025	Harford
027	Howard
029	Kent
031	Montgomery
033	Prince George's
035	Queen Anne's
037	St. Mary's
039	Somerset
041	Talbot
043	Washington
045	Wicomico
047	Worcester

Code	Independent City
510	Baltimore City

MASSACHUSETTS

State Code: 025

Code	Name
001	Barnstable
003	Berkshire

Code	Name
005	Bristol
007	Dukes
009	Essex
011	Franklin
013	Hampden
015	Hampshire
017	Middlesex
019	Nantucket
021	Norfolk
023	Plymouth
025	Suffolk
027	Worcester

MICHIGAN

State Code: 026

Code	Name
001	Alcona
003	Alger
005	Allegan
007	Alpena
009	Antrim
011	Arenac
013	Baraga
015	Barry
017	Bay
019	Benzie
021	Berrien
023	Branch
025	Calhoun
027	Cass
029	Charlevoix
031	Cheboygan
033	Chippewa
035	Clare
037	Clinton
039	Crawford
041	Delta
043	Dickinson
045	Eaton
047	Emmet
049	Genesee
051	Gladwin
053	Gogebic
055	Grand Traverse
057	Gratiot
059	Hillsdale
061	Houghton
063	Huron
065	Ingham
067	Ionia
069	Iosco
071	Iron
073	Isabella
075	Jackson
077	Kalamazoo
079	Kalkaska
081	Kent
083	Keweenaw
085	Lake
087	Lapeer
089	Leelanau
091	Lenawee
093	Livingston
095	Luce
097	Mackinac
099	Macomb
101	Manistee
103	Marquette
105	Mason
107	Mecosta
109	Menominee
111	Midland
113	Missaukee
115	Monroe
117	Montcalm
119	Montmorency
121	Muskegon
123	Newaygo
125	Oakland
127	Oceana
129	Ogemaw
131	Ontonagon
133	Osceola
135	Oscoda
137	Otsego
139	Ottawa
141	Presque Isle
143	Roscommon
145	Saginaw
147	St. Clair
149	St. Joseph
151	Sanilac
153	Schoolcraft
155	Shiawassee
157	Tuscola
159	Van Buren
161	Washtenaw
163	Wayne
165	Wexford

MINNESOTA

State Code: 027

Code	Name
001	Aitkin
003	Anoka
005	Becker
007	Beltrami
009	Benton
011	Big Stone
013	Blue Earth
015	Brown
017	Carlton
019	Carver
021	Cass
023	Chippewa
025	Chisago
027	Clay
029	Clearwater
031	Cook
033	Cottonwood
035	Crow Wing
037	Dakota
039	Dodge
041	Douglas
043	Faribault
045	Fillmore
047	Freeborn
049	Goodhue
051	Grant
053	Hennepin
055	Houston
057	Hubbard
059	Isanti
061	Itasca
063	Jackson
065	Kanabec
067	Kandiyohi
069	Kittson
071	Koochiching
073	Lac Qui Parle
075	Lake
077	Lake of the Woods
079	Le Sueur
081	Lincoln
083	Lyon
085	McLeod
087	Mahnomen
089	Marshall
091	Martin
093	Meeker
095	Mille Lacs
097	Morrison
099	Mower
101	Murray
103	Nicollet
105	Nobles
107	Norman
109	Olmsted
111	Otter Tail
113	Pennington
115	Pine
117	Pipestone
119	Polk
121	Pope
123	Ramsey
125	Red Lake
127	Redwood
129	Renville
131	Rice
133	Rock
135	Roseau
137	St. Louis
139	Scott
141	Sherburne
143	Sibley
145	Stearns
147	Steele
149	Stevens
151	Swift
153	Todd
155	Traverse
157	Wabasha
159	Wadena

Code	Name
161	Waseca
163	Washington
165	Watonwan
167	Wilkin
169	Winona
171	Wright
173	Yellow Medicine

MISSISSIPPI

State Code: 028

Code	Name
001	Adams
003	Alcorn
005	Amite
007	Attala
009	Benton
011	Bolivar
013	Calhoun
015	Carroll
017	Chickasaw
019	Choctaw
021	Claiborne
023	Clarke
025	Clay
027	Coahoma
029	Copiah
031	Covington
033	De Soto
035	Forrest
037	Franklin
039	George
041	Greene
043	Grenada
045	Hancock
047	Harrison
049	Hinds
051	Holmes
053	Humphreys
055	Issaquena
057	Itawamba
059	Jackson
061	Jasper
063	Jefferson
065	Jefferson Davis
067	Jones
069	Kemper
071	Lafayette
073	Lamar
075	Lauderdale
077	Lawrence
079	Leake
081	Lee
083	Leflore
085	Lincoln
087	Lowndes
089	Madison
091	Marion
093	Marshall
095	Monroe
097	Montgomery
099	Neshoba
101	Newton
103	Noxubee
105	Oktibbeha
107	Panola
109	Pearl River
111	Perry
113	Pike
115	Pontotoc
117	Prentiss
119	Quitman
121	Rankin
123	Scott
125	Sharkey
127	Simpson
129	Smith
131	Stone
133	Sunflower
135	Tallahatchie
137	Tate
139	Tippah
141	Tishomingo
143	Tunica
145	Union
147	Walthall
149	Warren
151	Washington
153	Wayne
155	Webster
157	Wilkinson
159	Winston
161	Yalobusha
163	Yazoo

MISSOURI

State Code: 029

Code	Name
001	Adair
003	Andrew
005	Atchison
007	Audrain
009	Barry
011	Barton
013	Bates
015	Benton
017	Bollinger
019	Boone
021	Buchanan
023	Butler
025	Caldwell
027	Callaway
029	Camden
031	Cape Girardeau
033	Carroll
035	Carter
037	Cass
039	Cedar
041	Chariton
043	Christian
045	Clark
047	Clay
049	Clinton
051	Cole
053	Cooper
055	Crawford
057	Dade
059	Dallas
061	Daviess
063	De Kalb
065	Dent
067	Douglas
069	Dunklin
071	Franklin
073	Gasconade
075	Gentry
077	Greene
079	Grundy
081	Harrison
083	Henry
085	Hickory
087	Holt
089	Howard
091	Howell
093	Iron
095	Jackson
097	Jasper
099	Jefferson
101	Johnson
103	Knox
105	Laclede
107	Lafayette
109	Lawrence
111	Lewis
113	Lincoln
115	Linn
117	Livingston
119	McDonald
121	Macon
123	Madison
125	Maries
127	Marion
129	Mercer
131	Miller
133	Mississippi
135	Moniteau
137	Monroe
139	Montgomery
141	Morgan
143	New Madrid
145	Newton
147	Nodaway
149	Oregon
151	Osage
153	Ozark
155	Pemiscot
157	Perry
159	Pettis
161	Phelps
163	Pike
165	Platte
167	Polk
169	Pulaski
171	Putnam

Code	Name
173	Ralls
175	Randolph
177	Ray
179	Reynolds
181	Ripley
183	St. Charles
185	St. Clair
186	Ste. Genevieve
187	St. Francois
189	St. Louis
195	Saline
197	Schuyler
199	Scotland
201	Scott
203	Shannon
205	Shelby
207	Stoddard
209	Stone
211	Sullivan
213	Taney
215	Texas
217	Vernon
219	Warren
221	Washington
223	Wayne
225	Webster
227	Worth
229	Wright

Code	Independent City
510	St. Louis City

MONTANA

State Code: 030

Code	Name
001	Beaverhead
003	Big Horn
005	Blaine
007	Broadwater
009	Carbon
011	Carter
013	Cascade
015	Chouteau
017	Custer
019	Daniels
021	Dawson
023	Deer Lodge
025	Fallon
027	Fergus
029	Flathead
031	Gallatin
033	Garfield
035	Glacier
037	Golden Valley
039	Granite
041	Hill
043	Jefferson
045	Judith Basin
047	Lake
049	Lewis and Clark
051	Liberty
053	Lincoln
055	McCone
057	Madison
059	Meagher
061	Mineral
063	Missoula
065	Musselshell
067	Park
069	Petroleum
071	Phillips
073	Pondera
075	Powder River
077	Powell
079	Prairie
081	Ravalli
083	Richland
085	Roosevelt
087	Rosebud
089	Sanders
091	Sheridan
093	Silver Bow
095	Stillwater
097	Sweet Grass
099	Teton
101	Toole
103	Treasure
105	Valley
107	Wheatland
109	Wibaux
111	Yellowstone
113	Yellowstone National Park-Part

NEBRASKA

State Code: 031

Code	Name
001	Adams
003	Antelope
005	Arthur
007	Banner
009	Blaine
011	Boone
013	Box Butte
015	Boyd
017	Brown
019	Buffalo
021	Burt
023	Butler
025	Cass
027	Cedar
029	Chase
031	Cherry
033	Cheyenne
035	Clay
037	Colfax
039	Cuming
041	Custer
043	Dakota
045	Dawes
047	Dawson
049	Deuel
051	Dixon
053	Dodge
055	Douglas
057	Dundy
059	Fillmore
061	Franklin
063	Frontier
065	Furnas
067	Gage
069	Garden
071	Garfield
073	Gosper
075	Grant
077	Greeley
079	Hall
081	Hamilton
083	Harlan
085	Hayes
087	Hitchcock
089	Holt
091	Hooker
093	Howard
095	Jefferson
097	Johnson
099	Kearney
101	Keith
103	Keya Paha
105	Kimball
107	Knox
109	Lancaster
111	Lincoln
113	Logan
115	Loup
117	McPherson
119	Madison
121	Merrick
123	Morrill
125	Nance
127	Nemaha
129	Nuckolls
131	Otoe
133	Pawnee
135	Perkins
137	Phelps
139	Pierce
141	Platte
143	Polk
145	Red Willow
147	Richardson
149	Rock
151	Saline
153	Sarpy
155	Saunders
157	Scotts Bluff
159	Seward
161	Sheridan
163	Sherman
165	Sioux
167	Stanton
169	Thayer

Code	Name
171	Thomas
173	Thurston
175	Valley
177	Washington
179	Wayne
181	Webster
183	Wheeler
185	York

NEVADA

State code: 032

Code	Name
001	Churchill
003	Clark
005	Douglas
007	Elko
009	Esmeralda
011	Eureka
013	Humboldt
015	Lander
017	Lincoln
019	Lyon
021	Mineral
023	Nye
027	Pershing
029	Story
031	Washoe
033	White Pine

Code	Independent City
510	Carson City

NEW HAMPSHIRE

State Code: 033

Code	County Name
001	Belknap
003	Carroll
005	Cheshire
007	Coos
009	Grafton
011	Hillsborough
013	Merrimack
015	Rockingham
017	Strafford
019	Sullivan

NEW JERSEY

State Code: 034

Code	Name
001	Atlantic
003	Bergen
005	Burlington
007	Camden
009	Cape May
011	Cumberland
013	Essex
015	Gloucester
017	Hudson
019	Hunterdon
021	Mercer
023	Middlesex
025	Monmouth
027	Morris
029	Ocean
031	Passaic
033	Salem
035	Somerset
037	Sussex
039	Union
041	Warren

NEW MEXICO

State code: 035

Code	Name
001	Bernalillo
003	Catron
005	Chaves
006	Cibola
007	Colfax
009	Curry
011	De Baca
013	Dona Ana
015	Eddy
017	Grant
019	Guadalupe
021	Harding
023	Hidalgo
025	Lea
027	Lincoln
028	Los Alamos
029	Luna
031	McKinley
033	Mora
035	Otero
037	Quay
039	Rio Arriba
041	Roosevelt
043	Sandoval
045	San Juan
047	San Miguel
049	Santa Fe
051	Sierra
053	Socorro
055	Taos
057	Torrance
059	Union
061	Valencia

NEW YORK

State Code: 036

Code	Name
001	Albany
003	Allegany
005	Bronx
007	Broome
009	Cattaraugus
011	Cayuga
013	Chautaugua
015	Chemung
017	Chenango
019	Clinton
021	Columbia
023	Cortland
025	Delaware
027	Dutchess
029	Erie
031	Essex
033	Franklin
035	Fulton
037	Genesee
039	Greene
041	Hamilton
043	Herkimer
045	Jefferson
047	Kings
049	Lewis
051	Livingston
053	Madison
055	Monroe
057	Montgomery
059	Nassau
061	New York
063	Niagara
065	Oneida
067	Onondaga
069	Ontario
071	Orange
073	Orleans
075	Oswego
077	Otsego
079	Putnam
081	Queens
083	Rensselaer
085	Richmond
087	Rockland
089	St. Lawrence
091	Saratoga
093	Schenectady
095	Schoharie
097	Schuyler
099	Seneca
101	Steuben
103	Suffolk
105	Sullivan
107	Tioga
109	Tompkins
111	Ulster
113	Warren
115	Washington
117	Wayne
119	Westchester
121	Wyoming
123	Yates

NORTH CAROLINA

State Code: 037

Code	Name
001	Alamance
003	Alexander
005	Alleghany

APPENDIX B - STATE/COUNTY VALUES

Code	Name
007	Anson
009	Ashe
011	Avery
013	Beaufort
015	Bertie
017	Bladen
019	Brunswick
021	Buncombe
023	Burke
025	Cabarrus
027	Caldwell
029	Camden
031	Carteret
033	Caswell
035	Catawba
037	Chatham
039	Cherokee
041	Chowan
043	Clay
045	Cleveland
047	Columbus
049	Craven
051	Cumberland
053	Currituck
055	Dare
057	Davidson
059	Davie
061	Duplin
063	Durham
065	Edgecombe
067	Forsyth
069	Franklin
071	Gaston
073	Gates
075	Graham
077	Granville
079	Greene
081	Guilford
083	Halifax
085	Harnett
087	Haywood
089	Henderson
091	Hertford
093	Hoke
095	Hyde
097	Iredell
099	Jackson
101	Johnston
103	Jones
105	Lee
107	Lenoir
109	Lincoln
111	McDowell
113	Macon
115	Madison
117	Martin
119	Mecklenburg
121	Mitchell
123	Montgomery
125	Moore
127	Nash
129	New Hanover
131	Northampton
133	Onslow
135	Orange
137	Pamlico
139	Pasquotank
141	Pender
143	Perquimans
145	Person
147	Pitt
149	Polk
151	Randolph
153	Richmond
155	Robeson
157	Rockingham
159	Rowan
161	Rutherford
163	Sampson
165	Scotland
167	Stanly
169	Stokes
171	Surry
173	Swain
175	Transylvania
177	Tyrrell
179	Union
181	Vance
183	Wake
185	Warren
187	Washington
189	Watauga
191	Wayne
193	Wilkes
195	Wilson
197	Yadkin
199	Yancey

NORTH DAKOTA

State Code: 038

Code	Name
001	Adams
003	Barnes
005	Benson
007	Billings
009	Bottineau
011	Bowman
013	Burke
015	Burleigh
017	Cass
019	Cavalier
021	Dickey
023	Divide
025	Dunn
027	Eddy
029	Emmons
031	Foster
033	Golden Valley
035	Grand Forks
037	Grant
039	Griggs
041	Hettinger
043	Kidder
045	La Moure
047	Logan
049	McHenry
051	McIntosh
053	McKenzie
055	McLean
057	Mercer
059	Morton
061	Mountrail
063	Nelson
065	Oliver
067	Pembina
069	Pierce
071	Ramsey
073	Ransom
075	Renville
077	Richland
079	Rolette
081	Sargent
083	Sheridan
085	Sioux
087	Slope
089	Stark
091	Steele
093	Stutsman
095	Towner
097	Traill
099	Walsh
101	Ward
103	Wells
105	Williams

OHIO

State Code: 039

Code	Name
001	Adams
003	Allen
005	Ashland
007	Ashtabula
009	Athens
011	Auglaize
013	Belmont
015	Brown
017	Butler
019	Carroll
021	Champaign
023	Clark
025	Clermont
027	Clinton
029	Columbiana
031	Coshocton
033	Crawford
035	Cuyahoga
037	Darke
039	Defiance
041	Delaware
043	Erie
045	Fairfield
047	Fayette
049	Franklin

APPENDIX B - STATE/COUNTY VALUES

Code	Name
051	Fulton
053	Gallia
055	Geauga
057	Greene
059	Guernsey
061	Hamilton
063	Hancock
065	Hardin
067	Harrison
069	Henry
071	Highland
073	Hocking
075	Holmes
077	Huron
079	Jackson
081	Jefferson
083	Knox
085	Lake
087	Lawrence
089	Licking
091	Logan
093	Lorain
095	Lucas
097	Madison
099	Mahoning
101	Marion
103	Medina
105	Meigs
107	Mercer
109	Miami
111	Monroe
113	Montgomery
115	Morgan
117	Morrow
119	Muskingum
121	Noble
123	Ottawa
125	Paulding
127	Perry
129	Pickaway
131	Pike
133	Portage
135	Preble
137	Putnam
139	Richland
141	Ross
143	Sandusky
145	Scioto
147	Seneca
149	Shelby
151	Stark
153	Summit
155	Trumbull
157	Tuscarawas
159	Union
161	Van Wert
163	Vinton
165	Warren
167	Washington
169	Wayne
171	Williams
173	Wood
175	Wyandot

OKLAHOMA

State Code: 040

Code	Name
001	Adair
003	Alfalfa
005	Atoka
007	Beaver
009	Beckham
011	Blaine
013	Bryan
015	Caddo
017	Canadian
019	Carter
021	Cherokee
023	Choctaw
025	Cimarron
027	Cleveland
029	Coal
031	Comanche
033	Cotton
035	Craig
037	Creek
039	Custer
041	Delaware
043	Dewey
045	Ellis
047	Garfield
049	Garvin
051	Grady
053	Grant
055	Greer
057	Harmon
059	Harper
061	Haskell
063	Hughes
065	Jackson
067	Jefferson
069	Johnston
071	Kay
073	Kingfisher
075	Kiowa
077	Latimer
079	Le Flore
081	Lincoln
083	Logan
085	Love
087	McClain
089	McCurtain
091	McIntosh
093	Major
095	Marshall
097	Mayes
099	Murray
101	Muskogee
103	Noble
105	Nowata
107	Okfuskee
109	Oklahoma
111	Okmulgee
113	Osage
115	Ottawa
117	Pawnee
119	Payne
121	Pittsburg
123	Pontotoc
125	Pottawatomie
127	Pushmataha
129	Roger Mills
131	Rogers
133	Seminole
135	Sequoyah
137	Stephens
139	Texas
141	Tillman
143	Tulsa
145	Wagoner
147	Washington
149	Washita
151	Woods
153	Woodward

OREGON

State Code: 041

Code	Name
001	Baker
003	Benton
005	Clackamas
007	Clatsop
009	Columbia
011	Coos
013	Crook
015	Curry
017	Deschutes
019	Douglas
021	Gilliam
023	Grant
025	Harney
027	Hood River
029	Jackson
031	Jefferson
033	Josephine
035	Klamath
037	Lake
039	Lane
041	Lincoln
043	Linn
045	Malheur
047	Marion
049	Morrow
051	Multnomah
053	Polk
055	Sherman
057	Tillamook
059	Umatilla
061	Union
063	Wallowa
065	Wasco
067	Washington

Code	Name
069	Wheeler
071	Yamhill

PENNSYLVANIA

State code: 042

Code	Name
001	Adams
003	Allegheny
005	Armstrong
007	Beaver
009	Bedford
011	Berks
013	Blair
015	Bradford
017	Bucks
019	Butler
021	Cambria
023	Cameron
025	Carbon
027	Centre
029	Chester
031	Clarion
033	Clearfield
035	Clinton
037	Columbia
039	Crawford
041	Cumberland
043	Dauphin
045	Delaware
047	Elk
049	Erie
051	Fayette
053	Forest
055	Franklin
057	Fulton
059	Greene
061	Huntingdon
063	Indiana
065	Jefferson
067	Juniata
069	Lackawanna
071	Lancaster
073	Lawrence
075	Lebanon
077	Lehigh
079	Luzerne
081	Lycoming
083	McKean
085	Mercer
087	Mifflin
089	Monroe
091	Montgomery
093	Montour
095	Northampton
097	Northumberland
099	Perry
101	Philadelphia
103	Pike
105	Potter
107	Schuylkill
109	Snyder
111	Somerset
113	Sullivan
115	Susquehanna
117	Tioga
119	Union
121	Venango
123	Warren
125	Washington
127	Wayne
129	Westmoreland
131	Wyoming
133	York

RHODE ISLAND

State Code: 044

Code	Name
001	Bristol
003	Kent
005	Newport
007	Providence
009	Washington

SOUTH CAROLINA

State Code: 045

Code	Name
001	Abbeville
003	Aiken
005	Allendale
007	Anderson
009	Bamberg
011	Barnwell
013	Beaufort
015	Berkeley
017	Calhoun
019	Charleston
021	Cherokee
023	Chester
025	Chesterfield
027	Clarendon
029	Colleton
031	Darlington
033	Dillon
035	Dorchester
037	Edgefield
039	Fairfield
041	Florence
043	Georgetown
045	Greenville
047	Greenwood
049	Hampton
051	Horry
053	Jasper
055	Kershaw
057	Lancaster
059	Laurens
061	Lee
063	Lexington
065	McCormick
067	Marion
069	Marlboro
071	Newberry
073	Oconee
075	Orangeburg
077	Pickens
079	Richland
081	Saluda
083	Spartanburg
085	Sumter
087	Union
089	Williamsburg
091	York

SOUTH DAKOTA

State Code: 046

Code	Name
003	Aurora
005	Beadle
007	Bennett
009	Bon Homme
011	Brookings
013	Brown
015	Brule
017	Buffalo
019	Butte
021	Campbell
023	Charles Mix
025	Clark
027	Clay
029	Codington
031	Corson
033	Custer
035	Davison
037	Day
039	Deuel
041	Dewey
043	Douglas
045	Edmunds
047	Fall River
049	Faulk
051	Grant
053	Gregory
055	Haakon
057	Hamlin
059	Hand
061	Hanson
063	Harding
065	Hughes
067	Hutchinson
069	Hyde
071	Jackson
073	Jerauld
075	Jones
077	Kingsbury
079	Lake
081	Lawrence
083	Lincoln
085	Lyman
087	McCook
089	McPherson
091	Marshall
093	Meade
095	Mellette

Code	Name
097	Miner
099	Minnehaha
101	Moody
103	Pennington
105	Perkins
107	Potter
109	Roberts
111	Sanborn
113	Shannon
115	Spink
117	Stanley
119	Sully
121	Todd
123	Tripp
125	Turner
127	Union
129	Walworth
135	Yankton
137	Ziebach

TENNESSEE

State Code: 047

Code	Name
001	Anderson
003	Bedford
005	Benton
007	Bledsoe
009	Blount
011	Bradley
013	Campbell
015	Cannon
017	Carroll
019	Carter
021	Cheatham
023	Chester
025	Claiborne
027	Clay
029	Cocke
031	Coffee
033	Crockett
035	Cumberland
037	Davidson
039	Decatur
041	De Kalb
043	Dickson
045	Dyer
047	Fayette
049	Fentress
051	Franklin
053	Gibson
055	Giles
057	Grainger
059	Greene
061	Grundy
063	Hamblen
065	Hamilton
067	Hancock
069	Hardeman
071	Hardin
073	Hawkins
075	Haywood
077	Henderson
079	Henry
081	Hickman
083	Houston
085	Humphreys
087	Jackson
089	Jefferson
091	Johnson
093	Knox
095	Lake
097	Lauderdale
099	Lawrence
101	Lewis
103	Lincoln
105	Loudon
107	McMinn
109	McNairy
111	Macon
113	Madison
115	Marion
117	Marshall
119	Maury
121	Meigs
123	Monroe
125	Montgomery
127	Moore
129	Morgan
131	Obion
133	Overton
135	Perry
137	Pickett
139	Polk
141	Putnam
143	Rhea
145	Roane
147	Robertson
149	Rutherford
151	Scott
153	Sequatchie
155	Sevier
157	Shelby
159	Smith
161	Stewart
163	Sullivan
165	Sumner
167	Tipton
169	Trousdale
171	Unicoi
173	Union
175	Van Buren
177	Warren
179	Washington
181	Wayne
183	Weakley
185	White
187	Williamson
189	Wilson

TEXAS

State Code: 048

Code	Name
001	Anderson
003	Andrews
005	Angelina
007	Aransas
009	Archer
011	Armstrong
013	Atascosa
015	Austin
017	Bailey
019	Bandera
021	Bastrop
023	Baylor
025	Bee
027	Bell
029	Bexar
031	Blanco
033	Borden
035	Bosque
037	Bowie
039	Brazoria
041	Brazos
043	Brewster
045	Briscoe
047	Brooks
049	Brown
051	Burleson
053	Burnet
055	Caldwell
057	Calhoun
059	Callahan
061	Cameron
063	Camp
065	Carson
067	Cass
069	Castro
071	Chambers
073	Cherokee
075	Childress
077	Clay
079	Cochran
081	Coke
083	Coleman
085	Collin
087	Collingsworth
089	Colorado
091	Comal
093	Comanche
095	Concho
097	Cooke
099	Coryell
101	Cottle
103	Crane
105	Crockett
107	Crosby
109	Culberson
111	Dallam
113	Dallas
115	Dawson
117	Deaf Smith
119	Delta

APPENDIX B - STATE/COUNTY VALUES

Code	Name	Code	Name	Code	Name
121	Denton	243	Jeff Davis	365	Panola
123	De Witt	245	Jefferson	367	Parker
125	Dickens	247	Jim Hogg	369	Parmer
127	Dimmit	249	Jim Wells	371	Pecos
129	Donley	251	Johnson	373	Polk
131	Duval	253	Jones	375	Potter
133	Eastland	255	Karnes	377	Presidio
135	Ector	257	Kaufman	379	Rains
137	Edwards	259	Kendall	381	Randall
139	Ellis	261	Kenedy	383	Reagan
141	El Paso	263	Kent	385	Real
143	Erath	265	Kerr	387	Red River
145	Falls	267	Kimble	389	Reeves
147	Fannin	269	King	391	Refugio
149	Fayette	271	Kinney	393	Roberts
151	Fisher	273	Kleberg	395	Robertson
153	Floyd	275	Knox	397	Rockwall
155	Foard	277	Lamar	399	Runnels
157	Fort Bend	279	Lamb	401	Rusk
159	Franklin	281	Lampasas	403	Sabine
161	Freestone	283	La Salle	405	San Augustine
163	Frio	285	Lavaca	407	San Jacinto
165	Gaines	287	Lee	409	San Patricio
167	Galveston	289	Leon	411	San Saba
169	Garza	291	Liberty	413	Schleicher
171	Gillespie	293	Limestone	415	Scurry
173	Glasscock	295	Limpscomb	417	Shackelford
175	Goliad	297	Live Oak	419	Shelby
177	Gonzales	299	Llano	421	Sherman
179	Gray	301	Loving	423	Smith
181	Grayson	303	Lubbock	425	Somervell
183	Gregg	305	Lynn	427	Starr
185	Grimes	307	McCulloch	429	Stephens
187	Guadalupe	309	McLennan	431	Sterling
189	Hale	311	McMullen	433	Stonewall
191	Hall	313	Madison	435	Sutton
193	Hamilton	315	Marion	437	Swisher
195	Hansford	317	Martin	439	Tarrant
197	Hardeman	319	Mason	441	Taylor
199	Hardin	321	Matagorda	443	Terrell
201	Harris	323	Maverick	445	Terry
203	Harrison	325	Medina	447	Throckmorton
205	Hartley	327	Menard	449	Titus
207	Haskell	329	Midland	451	Tom Green
209	Hays	331	Milam	453	Travis
211	Hemphill	333	Mills	455	Trinity
213	Henderson	335	Mitchell	457	Tyler
215	Hidalgo	337	Montague	459	Upshur
217	Hill	339	Montgomery	461	Upton
219	Hockley	341	Moore	463	Uvalde
221	Hood	343	Morris	465	Val Verde
223	Hopkins	345	Motley	467	Van Zandt
225	Houston	347	Nacogdoches	469	Victoria
227	Howard	349	Navarro	471	Walker
229	Hudspeth	351	Newton	473	Waller
231	Hunt	353	Nolan	475	Ward
233	Hutchinson	355	Nueces	477	Washington
235	Irion	357	Ochiltree	479	Webb
237	Jack	359	Oldham	481	Wharton
239	Jackson	361	Orange	483	Wheeler
241	Jasper	363	Palo Pinto	485	Wichita

Code	Name
487	Wilbarger
489	Willacy
491	Williamson
493	Wilson
495	Winkler
497	Wise
499	Wood
501	Yoakum
503	Young
505	Zapata
507	Zavala

UTAH

State Code: 049

Code	Name
001	Beaver
003	Box Elder
005	Cache
007	Carbon
009	Daggett
011	Davis
013	Duchesne
015	Emery
017	Garfield
019	Grand
021	Iron
023	Juab
025	Kane
027	Millard
029	Morgan
031	Piute
033	Rich
035	Salt Lake
037	San Juan
039	Sanpete
041	Sevier
043	Summit
045	Tooele
047	Uintah
049	Utah
051	Wasatch
053	Washington
055	Wayne
057	Weber

VERMONT

State Code: 050

Code	Name
001	Addison
003	Bennington
005	Caledonia
007	Chittenden
009	Essex
011	Franklin
013	Grand Isle
015	LaMoille
017	Orange
019	Orleans
021	Rutland
023	Washington
025	Windham
027	Windsor

VIRGINIA

State Code: 051

Code	Name
001	Accomack
003	Albemarle
005	Alleghany
007	Amelia
009	Amherst
011	Appomattox
013	Arlington
015	Augusta
017	Bath
019	Bedford
021	Bland
023	Botetourt
025	Brunswick
027	Buchanan
029	Buckingham
031	Campbell
033	Caroline
035	Carroll
036	Charles City
037	Charlotte
041	Chesterfield
043	Clarke
045	Craig
047	Culpeper
049	Cumberland
051	Dickenson
053	Dinwiddie
057	Essex
059	Fairfax
061	Fauquier
063	Floyd
065	Fluvanna
067	Franklin
069	Frederick
071	Giles
073	Gloucester
075	Goochland
077	Grayson
079	Greene
081	Greensville
083	Halifax
085	Hanover
087	Henrico
089	Henry
091	Highland
093	Isle of Wight
095	James City
097	King and Queen
099	King George
101	King William
103	Lancaster
105	Lee
107	Loudoun
109	Louisa
111	Lunenburg
113	Madison
115	Mathews
117	Mecklenburg
119	Middlesex
121	Montgomery
125	Nelson
127	New Kent
131	Northampton
133	Northumberland
135	Nottoway
137	Orange
139	Page
141	Patrick
143	Pittsylvania
145	Powhatan
147	Prince Edward
149	Prince George
153	Prince William
155	Pulaski
157	Rappahannock
159	Richmond
161	Roanoke
163	Rockbridge
165	Rockingham
167	Russell
169	Scott
171	Shenandoah
173	Smyth
175	Southampton
177	Spotsylvania
179	Stafford
181	Surry
183	Sussex
185	Tazewell
187	Warren
191	Washington
193	Westmoreland
195	Wise
197	Wythe
199	York

Code	Independent Cities
510	Alexandria
515	Bedford
520	Bristol
530	Buena Vista
540	Charlottesville
550	Chesapeake
560	Clifton Forge
570	Colonial Heights
580	Covington
590	Danville
595	Emporia
600	Fairfax
610	Falls Church
620	Franklin
630	Fredericksburg
640	Galax
650	Hampton
660	Harrisonburg
670	Hopewell

Code	Name
678	Lexington
680	Lynchburg
683	Manassas
685	Manassas Park
690	Martinsville
700	Newport News
710	Norfolk
720	Norton
730	Petersburg
735	Poquoson
740	Portsmouth
750	Radford
760	Richmond
770	Roanoke
775	Salem
780	South Boston
790	Staunton
800	Suffolk
810	Virginia Beach
820	Waynesboro
830	Williamsburg
840	Winchester

WASHINGTON

State Code: 053

Code	Name
001	Adams
003	Asotin
005	Benton
007	Chelan
009	Clallam
011	Clark
013	Columbia
015	Cowlitz
017	Douglas
019	Ferry
021	Franklin
023	Garfield
025	Grant
027	Grays Harbor
029	Island
031	Jefferson
033	King
035	Kitsap
037	Kittitas
039	Klickitat
041	Lewis
043	Lincoln
045	Mason
047	Okanogan
049	Pacific
051	Pend Oreille
053	Pierce
055	San Juan
057	Skagit
059	Skamania
061	Snohomish
063	Spokane
065	Stevens
067	Thurston
069	Wahkiakum
071	Walla Walla
073	Whatcom
075	Whitman
077	Yakima

WEST VIRGINIA

State Code: 054

Code	Name
001	Barbour
003	Berkeley
005	Boone
007	Braxton
009	Brooke
011	Cabell
013	Calhoun
015	Clay
017	Doddridge
019	Fayette
021	Gilmer
023	Grant
025	Greenbrier
027	Hampshire
029	Hancock
031	Hardy
033	Harrison
035	Jackson
037	Jefferson
039	Kanawha
041	Lewis
043	Lincoln
045	Logan
047	McDowell
049	Marion
051	Marshall
053	Mason
055	Mercer
057	Mineral
059	Mingo
061	Monongalia
063	Monroe
065	Morgan
067	Nicholas
069	Ohio
071	Pendleton
073	Pleasants
075	Pocahontas
077	Preston
079	Putnam
081	Raleigh
083	Randolph
085	Ritchie
087	Roane
089	Summers
091	Taylor
093	Tucker
095	Tyler
097	Upshur
099	Wayne
101	Webster
103	Wetzel
105	Wirt
107	Wood
109	Wyoming

WISCONSIN

State Code: 055

Code	Name
001	Adams
003	Ashland
005	Barron
007	Bayfield
009	Brown
011	Buffalo
013	Burnett
015	Calumet
017	Chippewa
019	Clark
021	Columbia
023	Crawford
025	Dane
027	Dodge
029	Door
031	Douglas
033	Dunn
035	Eau Claire
037	Florence
039	Fond Du Lac
041	Forest
043	Grant
045	Green
047	Green Lake
049	Iowa
051	Iron
053	Jackson
055	Jefferson
057	Juneau
059	Kenosha
061	Kewaunee
063	La Crosse
065	Lafayette
067	Langlade
069	Lincoln
071	Manitowoc
073	Marathon
075	Marinette
077	Marquette
078	Menominee
078	Milwaukee
081	Monroe
083	Oconto
085	Oneida
087	Outagamie
089	Ozaukee
091	Pepin
093	Pierce
095	Polk
097	Portage
099	Price
101	Racine
103	Richland
105	Rock
107	Rusk

Code	Name	Code	Name	Code	Name
109	St. Croix				
111	Sauk				
113	Sawyer				
115	Shawano				
117	Sheboygan				
119	Taylor				
121	Trempealeau				
123	Vernon				
125	Vilas				
127	Walworth				
129	Washburn				
131	Washington				
133	Waukesha				
135	Waupaca				
137	Waushara				
139	Winnebago				
141	Wood				

WYOMING

State Code: 056

001	Albany
003	Big Horn
005	Campbell
007	Carbon
009	Converse
011	Crook
013	Fremont
015	Goshen
017	Hot Springs
019	Johnson
021	Laramie
023	Lincoln
025	Natrona
027	Niobrara
029	Park
031	Platte
033	Sheridan
035	Sublette
037	Sweetwater
039	Teton
041	Uinta
043	Washakie
045	Weston

APPENDIX C

GENERAL SUPPORT TABLES

APPENDICES

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APPENDIX C - COMMODITY VALUES

The **COMMODITY EDIT (COMMOD) TABLE** identifies the numerous products that can be recovered from a mineral deposit and related commodity information by a unique commodity code for translation within the MAS Data Base. These products, or commodities, cover a wide spectrum (e.g., pure metals, liquids, gases, mineral compounds, stone, etc.). The commodity categories used in this data base are established by the U.S. Bureau of Mines and shown in Minerals Commodity Summaries and other Bureau reports. In addition this data base includes H_2O and LOI assay quantities which though not "marketable" directly affect costs of recovery of other commodities. The evaluator should enter all commodities or products recoverable at present market value, as well as commodities which may potentially be recovered. The evaluator should also note unmarketable commodities which affect the recovery and marketability of other commodities. The Commodity table consists of the following:

COMMOD TABLE

Table Field NAME/Item Description	Size
***KEY** commodity code	4 char.
***COM**modity name	14 char.
***MOC** Modifier Of Commodity	23 char.
***CCC** Commodity Classification Code	1 char.
***FORM** Assay FORM	10 char.
***IRC** Industry Report Code	1 char.
***RBUNI** Reserve Base UNIts	4 char.
***RBSML** Reserve Base SMaLl range	8 char.
***RBLRG** Reserve Base LaRGe range	9 char.
***CCPUNI** Contained CaPacity UNIts	4 char.
***CCPSML** Contained CaPacity SMaLl range	8 char.
***CCPLRG** Contained CaPacity LaRGe range	9 char.

* - Required items

KEY (4 characters) is commodity code that relates and identifies the COMmodity name, Modifier Of Commodity, commodity ASSAY form, Reserve Base UniTS and Contained CaPacity UniTS.

COMmodity name (14 characters) is the commodity or product name or abbreviation from the U.S. Bureau of Mines Minerals Commodity Summaries for the above **KEY** number.

MOC Modifier Of Commodity (23 characters) is an integral part of the **COM**modity and modifies the above commodity name.

CCC Commodity Classification Code (1 Character) groups the basic chemical compound types as follows:

CCC-TABLE
E-ELEMENT
S-SULFIDE/SULFATE
O-OXIDE
C-CARBONATE
Q-SILICATE
H-HALOGEN

FORM (10 characters) identifies the chemical assay FORM for the above commodity/product.

IRC Industry Report Code (1 Character) indicates the group into which industry normally categorizes this commodity.

IRC-TABLE
F-FERROUS
M-METALLIC
N-NON-METALLIC
E-ENERGY
$-PRECIOUS METALS

RBUNI (4 characters) identifies the Reserve Base UNIts code for this commodity code.

RBSML (8 characters) identifies the upper value for a small size Reserve Base range.

RBLRG (9 characters) identifies the lower value for a large size Reserve Base range.

CCPUNI (4 characters) identifies the Contained CaPacity UNIts code for this commodity code.

CCPSML (8 characters) identifies the upper value for a small size Contained Capacity range.

CCPLRG (9 characters) identifies the lower value for a large size Contained Capacity range.

APPENDIX C - STATES TABLE

The **STATES TABLE** identifies the name of the State/Nation and the name of the County/Subdivision.

STATES TABLE

Table Field NAME/Item Description	Size	Edit
#STA_CODE	3 char.	
#COU_CODE	3 char.	
#STATE name	20 char.	
#COUNTY name	20 char.	
#FOC Field Operation Center	1 char.	

* - Required items

STA_CODE (3 characters) a unique value for each State (Nation for codes over 100).

COU_CODE (3 characters) a unique value for each County (Province or Subdivision for a Nations).

STATE name (20 characters) a unique value for each state/county

COUNTY name (20 characters) a unique value for each county/province or subdivision

FOC (1 character) identifies which Field Operation Center is responsible for this state/nation.

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APPENDIX C - VALUE TABLE

The **VALUE TABLE** identifies all other (not state/nation or commodity related) MAS edit values.

VALUE TABLE

Table Field NAME/Item Description	Size	Edit
#**FIELD**	5 char.	
#VALUE	10 char.	
#DESCRIPTION	71 char.	

* - Required items

FIELD (5 characters) is the unique field/table identifier (ie: TYP for TYPe of operation field in the MILS Table, O-STA for STAtus of owner or operator field in the Ownership Table, or M-OGS for Overall Grain Size field in the Minerals Table).

VALUE (10 characters) is the unique field code used for data entry editing and translation..

DESCRIPTION (71 characters) is the actual value to be placed in the data base for the above field and code. (TYP 02 would be UNDERGROUND, O-STA 03 would be OWNER-OP, and M-OGS 05 would be PEGMATITIC).