

METADATA for MRDS RECORDS IN WLCI

This metadata describes the data in the order of the fields in the pdf printout. (Only a select few of these fields are included in the ArcGIS data files.)

Deposit ID is a system generated (at time of record creation) 12 digit numeric field that uniquely identifies this record.

Name is the current name of the location. Alternate names, either “Previous,” “Contains” (as is this site contains these other names, often claims), “Included in” (this site may be a subset of a larger or more encompassing record) may be provided.

SITE OVERVIEW:

The **Record Type** field specifies whether this entry is a Site, Deposit, District, or Region record. Entry is made through the ‘select list’.

Deposit Type is a free-form field and it is therefore not recommended for searching. This field contains deposit type descriptions commonly found in the literature. It should be considered a predecessor to the more rigorously defined USGS Deposit Model fields (See **Model Type**, below). Because there was no constrained vocabulary, this is a rarely populated field.

Development Status is a required field showing the status of activity at the site. Entry is made through the ‘select list’ from the following table:

DEVELOPMENT STATUS	Description
Occurrence	Mineralization in outcrop, shallow pit or pits, or isolated drill hole. Grade, tonnage, and extent of mineralization essentially unknown. No production has taken place and there has been no or little activity since discovery with the possible exception of routine claim maintenance.
Prospect	A deposit that has gone beyond the occurrence stage. That is subsequent work such as surface trenching, adits or shafts, drill holes, extensive geophysics, geochemistry, and/or geologic mapping has been carried out. Enough work has been done to at least estimate grade and tonnage. The deposits may or may not have undergone feasibility studies that would lead to a decision of going into production.
Producer	A mine in production at the time the data was entered. An intermittent producer that produces on demand or seasonally with variable lengths of inactivity is considered a producer.

Past Producer	A mine formerly operated with recorded (or assumed) production that has closed, where the equipment or structures may have been removed or abandoned.
Unknown	At the time of data entry, the development status was unknown.
Plant	A processing plant (smelter, refiner, beneficiation, etc.) that may or may not be currently producing at the time of data entry. A plant will have no geological information associated with it.

Operation Type is a required field which refers to the existing or proposed type of operation at this site. It identifies the existing operation when **Development Status** equals 'Producer' or 'Past Producer'. It identifies the proposed operation when **Development Status** equals 'Prospect'. Entry is made through the 'select list' which follows. All processing plants will be coded 'Processing Plant' here and further defined with the **Plant Type** and **Plant Identifier** fields. Sites that only are a processing operation and do not mine their ore on site should also be flagged with "(Facility)" after the current name.

OPERATION TYPE	DESCRIPTION
Surface	Surface operation
Underground	Underground operation
Surface-Underground	Surface-underground operation
Placer	Placer operation
Offshore	Any lake/ocean mining operation
Well	Any well operation
Processing Plant	Processing plant
Leach	Leach operation
Brine Operation	Brine recovery operation
Geothermal	Geothermal operation
Unknown	Unknown or undetermined by evaluator

Old MRDS_ID is the record ID from the old MRDS database. There is only room for one MRDS_ID here. Any additional MRDS records should be listed in the Other Databases section.

Old MAS_ID is the record ID from the old MAS database. There is only room for one MAS_ID here. Any additional MAS records should be listed in the Other Databases section.

Validated. Flagged Y (yes), N (no), or left blank to indicate whether there is a citable bibliographic reference for this record. Records for which there is at least one citation that can be found in the USGS library system (including interlibrary loan and special collections) will be coded Y, even if the information has not actually been reconciled with the report. Records for which the only citation cannot be found in the USGS library system will be coded N as there is no way to verify the information included in the record. The vast majority of records in the MRDS database have not been coded and are blank.

Country should be United States, as all the records in this paper are for Wyoming.

State/Province. All the records are in Wyoming.

County. Official name for counties in Wyoming

GENERAL SITE INFORMATION:

Plant Type and **Plant Identifier** are used when a reporter wishes to identify a processing plant (mill, smelter, refiner, etc.) and show its location, owners, feed, etc. The mill should be assigned its own **Deposit ID** and the **Operation Type** should be entered as Processing Plant and “(Facility)” should be appended to the Current Name. The following two data fields further identify the plant.

Plant Type identifies the primary type of processing plant, from the following table:

PLANT TYPE
Acid Plant
Agglomeration
Beneficiation (Mill)
Direct Reduced Iron Plant
Leach
Manufacturing Plant
Metal Plant
Pellet Plant
Pigment Plant
Refiner
Sinter Plant
Smelter
Smelter/Refiner
Synthetic Rutile

Plant Identifier is a more detailed subdivision of plant type, listing the primary processing method used, from the following table:

PLANT IDENTIFIER¹
Dry
Wash
Crush

¹ Complete table for entire MRDS database, not just the records in WLCI.

Gravity
Flotation
Magnetic
Electrostatic
Electrostatic-Magnetic
TiO ₂ Pigment-Chloride
TiO ₂ Pigment-Sulfide
Ti Metal
Precipitation
Solvent Extraction-Electrowin
Ion Exchange-Electrowin
Sinter
Pellet
Nodule
Compact
Briquette
Smelter-Pyrometallurgy
Reduction
Refiner-Pyrometallurgy
Hydromet
Electrowinning
Distillation
Crystallization
Calcination/Dead Burn
Bayer
Harris
Parkes
Ferro Alloy Plant
Fibre Plant (e.g. Asbestos Plant)

Mining Method identifies the most predominant mining method being used at this site. Selected from the following list (Other than “Unknown” this field is rarely populated):

PREDMINANT MINING METHOD²
Unknown
Open Stope
Open Stope - Gophering (Coyoting)

² Complete table for entire MRDS database, not just the records in WLCI.

Open Stope - Breast Stoping
Open Stope - Room and Pillar
Open Stope - Underhand
Open Stope - Glory Hole
Open Stope - Overhand
Open Stope - Pillar and Chamber
Open Stope - Sublevel
Open Stope - Other Open Stope Methods
Timbered Stopes
Timbered Stopes - Overhand Square-Set
Timbered Stopes - Underhand Square-Set
Timbered Stopes - Horizontal Square-Set
Timbered Stopes - Other Timbered Stopes
Filled Stopes
Filled Stopes - Timber With Subsequent Fill
Filled Stopes - Horiz Cut and Fill W/Waste Rock
Filled Stopes - Horiz Cut and Fill W/Tailings
Filled Stopes - Resuing
Filled Stopes - Ascending Crosscuts
Filled Stopes - Descending Crosscuts
Filled Stopes - Inclined Cut and Fill
Filled Stopes - Other Filled Stope Methods
Caving Methods
Caving Methods - Top Slicing
Caving Methods - Inclined Top Slicing
Caving Methods - Sublevel Caving
Caving Methods - Block Caving
Caving Methods - Longwall Caving
Caving Methods - Other Caving Methods
Shrinkage Methods
Shrinkage Methods - Overhand Shrinkage
Shrinkage Methods - Other Shrinkage Methods
Combined Methods
Combined Methods - Shrinkage W/Caving
Combined Methods - Shrinkage W/Timbered Methods
Combined Methods - Shrinkage W/Cut and Fill
Combined Methods - Timbered Stopes W/Caving Methods
Combined Methods - Caving Methods W/Timbered Methods
Combined Methods - Other Combined Methods
Auger Mining
Auger Mining - Solution Mining

Auger Mining - Leaching In Place (In Situ)
Auger Mining - Frasch Process
Auger Mining - Bore Hole Suspension Mining
Auger Mining - Brine Well
Coal Mining Methods
Coal Mining Methods - Conventional Room & Pillar
Coal Mining Methods - Conventional W/Pillar Extraction
Coal Mining Methods - Continuous
Coal Mining Methods - Continuous W/Pillar Extraction
Coal Mining Methods - Longwall
Coal Mining Methods - Shortwall
Coal Mining Methods - Hydraulic
Coal Mining Methods - Combined Coal Mining Methods
Open Pit
Strip-Hillside
Strip-Level
Bench (Berm)
Quarry
Glory Hole
Strip-Mountaintop
Strip-Area
Strip-Auger
Alluvial Mining
Hydraulicking
Dredging
Ground Sluicing
Nonfloating Plant
In Situ Leach

Milling Method identifies the most predominant beneficiation method being used at this site. Selected from the following list (Other than “Unspecified” this field is rarely populated):

MILLING METHOD³
Unspecified
Handsort
Sizing
Washing

³ Complete table for entire MRDS database, not just the records in WLCI.

Gravity
Jig
Classifier
Heavy Media
Flotation
Hydrometallurgy Unspecified
Leach-Precipitation
Leach-Precipitation-Float
Leach-Solvent-Extract-Precipitation
Leach-Ion Exchange
Acidulation
Leach-Solvent-Extract-Electrowin
Merrill-Crowe
Carbon-In-Leach-Electrowin
Carbon-In-Leach-Merrill-Crowe
Carbon-In-Pulp-Electrowin
Carbon-In-Pulp-Merrill-Crowe
Autoclave-Carbon-In-Leach-Electrowin
Autoclave-Carbon-In-Pulp-Merrill-Crowe
Heap Leach-Electrowin
Heap Leach-Merrill-Crowe
Heap Leach-Carbon Column-Merrill-Crowe
Heap Leach-Agglomerate-Merrill-Crowe
Heap Leach-Agglomerate-Carbon Column-Electrowin
Heap Leach-Agglomerate-Carbon Column-Merrill-Crowe
Crystallization
Magnetic
Electrostatic
Magnetic And Electrostatic
Pyrometallurgy Unspecified
Distillation
Thermal Decomposition
Electrolytic Facilities
Sinter Plants
Briquetting

Year of First Production contains the year of first production at this site. This field can be used in conjunction with the **Before/After** (YFP_BA) field to help clarify the date. [Previous database entries, such as SEVENTEENTH CENTURY have been converted to **First Production** = '1700' and **Before/After** (YFP_BA) = '<'.]

Year of Last Production contains the year of last production at this site. This field can be used in conjunction with the **Before/After** (YLP_BA) field to help clarify the date. [Previous database entries, such as EIGHTEENTH CENTURY have been converted to **Last Production** = '1800' and **Before/After** (YLP_BA) = '<'.]

Years of Production details the years this site was producing, and any breaks or interruptions between the first and last production years.

Year of Discovery contains the year of discovery of this site. This field can be used in conjunction with the **Before/After** (DY_BA) field to help clarify the date. [Previous database entries, such as SEVENTEENTH CENTURY have been converted to **First Production** = '1700' and **Before/After** (DY_BA) = '<'.]

Discovery Method states the method by which the deposit was discovered, using an entry from the following table (this field is rarely populated):

DISCOVERY METHOD⁴
Airborne Radiometric Survey
Aux-Mineral In Place
Aux-Mineral Not In Place
Drilling
Geochemical And Geophysical Anomaly
Geochemical Anomaly
Geological Inference
Geophysical Anomaly
Ore-Mineral In Place
Ore-Mineral Not In Place
Other
Serendipity
Unknown

Discoverer contains the name and address (if known) of the company, organization, or person most closely involved in the discovery.

Significant contains either a Y for significant or N for not significant. The criteria for significance are flexible. It usually means the deposit is very large or one of the "type deposits" used in a USGS

⁴ Complete table for entire MRDS database, not just the records in WLCI.

deposit model. All deposits in USGS OFR98-206a (Long and others' database of Significant Deposits) should be coded as Y.

The following are system generated fields and not directly editable the user.

Commodity Types is automatically determined after the user has entered commodities for the site. The values are 'Metallic', 'Non-Metallic', or 'Energy'.

Record Added contains the date the record was created or added to MRDS.

Added By is the person or computer operation (ie. MAS migration) that entered the record.

Last Deposit Modification contains the date and time of last modification of any data related to this record. (Some modifications are made automatically, and may not include meaningful changes to a record. A better indicator of recency of record updates is to look at the **Reporter** section, below.)

Last Table Modified contains the name of the table containing the last modified data related to this DEPOSITS record. For this and the previous two fields, when a user changes any data in any table, these fields are automatically updated.

Old MRDS # and Old MAS # (see **Site Overview**, above) are repeated for user's convenience. Only one of each will be displayed. See **Other Databases** section below for cases where more than one record could be listed.

NAME INFORMATION:

All the names by which this site can be known may be listed. Only one can have a status of Current. Status may be Previous (as in an obsolete name, variations on the name, alternate spellings. Previous may also include all the claims or other properties included in the record as Previous was the default until several years ago), Contains, or Included in. To properly interpret Contains and Included in, read the Status before the Name.

COMMODITIES:

Commodity identifies the product(s) 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 reporter should also note unmarketable commodities, which affect the recovery and marketability of other commodities. The only required fields the reporter needs to enter are the **Commodity** and **Importance** fields. Once the commodity is selected, the other commodity-related fields are populated.

Commodity is the name of the commodity selected from the following ‘select list’:

COMMODITY⁵	COMMODITY_GROUP	COMMODITY_TYPE
Abrasive	Abrasives	N
Aluminum Oxide, Fused, Manufactured	Abrasives	N
Corundum	Abrasives	N
Emery	Abrasives	N
Garnet	Abrasives	N
Silicon Carbide, Manufactured	Abrasives	N
Staurolite	Abrasives	N
Aggregate, Light Weight	Aggregates	N
Aluminum	Aluminum	M
Aluminum, Contained or Metal	Aluminum	M
Aluminum, High Alumina Clay	Aluminum	M
Bauxite and Alumina	Aluminum	M
Andalusite	Andalusite-Kyanite- Sillmanite	N
Kyanite	Andalusite-Kyanite- Sillmanite	N
Sillmanite	Andalusite-Kyanite- Sillmanite	N
Antimony	Antimony	M
Arsenic	Arsenic	M
Asbestos	Asbestos	N
Ash	Ash	N
Barium-Barite	Barium	N
Beryllium	Beryllium	M
Bismuth	Bismuth	M
Boron-Borates	Boron	N
Bromine	Bromine	N
Cadmium	Cadmium	M
Calcium	Calcium	N
Carbon Dioxide	Carbon Dioxide	N
Cement Rock	Cement	N
Cement, Clinker	Cement	N
Cement, Portland and Masonry	Cement	N

⁵ Complete table for entire MRDS database, not just the records in WLCI.

Fly Ash	Cement	N
Cesium	Cesium	M
Chlorine	Chlorine	N
Chromium	Chromium	M
Chromium, Ferrochrome	Chromium	M
Ball Clay	Clays	N
Bentonite	Clays	N
Bloating Material	Clays	N
Brick Clay	Clays	N
Chlorite	Clays	N
Clay	Clays	N
Fire Clay (Refractory)	Clays	N
Fullers Earth	Clays	N
Glauconite	Clays	N
Hectorite	Clays	N
Kaolin	Clays	N
Montmorillonite	Clays	N
Anthracite	Coal	E
Bituminous	Coal	E
Coal	Coal	E
Lignite	Coal	E
Subbituminous	Coal	E
Cobalt	Cobalt	M
Copper	Copper	M
Copper Oxide	Copper	M
Copper Sulfide	Copper	M
Diatomite	Diatomite	N
Feldspar	Feldspar	N
Nepheline Syenite	Feldspar	N
Flagstone	Flagstone	N
Flint	Flint	N
Fluorine-Fluorite	Fluorine	N
Gallium	Gallium	M
Diamond	Gemstones	N
Emerald	Gemstones	N
Gemstone	Gemstones	N
Jade	Gemstones	N
Ruby	Gemstones	N
Sapphire	Gemstones	N
Semiprecious Gemstone	Gemstones	N
Geothermal	Geothermal	E
Germanium	Germanium	N
Gold	Gold	M

Gold, Refinery	Gold	M
Graphite	Graphite	N
Graphite-Carbon	Graphite	N
Gypsum-Anhydrite	Gypsum-Anhydrite	N
Gypsum-Anhydrite, Alabaster	Gypsum-Anhydrite	N
Hafnium	Hafnium	M
Helium	Helium	N
Hydrogen	Hydrogen	N
Indium	Indium	M
Iodine	Iodine	N
Iron	Iron	M
Iron and Steel	Iron	M
Iron and Steel, Scrap	Iron	M
Iron and Steel, Slag	Iron	M
Iron, Pig Iron	Iron	M
Iron-Pyrite	Iron	M
Lead	Lead	M
Lead, Refiner	Lead	M
Lead, Smelter	Lead	M
Lime, Calciner	Limestone	N
Limestone, General	Limestone	N
Limestone, High Calcium	Limestone	N
Limestone, Ultra Pure	Limestone	N
Lithium	Lithium	M
Magnesite	Magnesium	M
Magnesium Compounds	Magnesium	M
Manganese	Manganese	M
Manganese, Ferromanganese	Manganese	M
Mercury	Mercury	M
Mica	Mica	N
Iron Oxide Pigments	Mineral Pigments	N
Mineral Pigments	Mineral Pigments	N
Titanium, Pigment	Mineral Pigments	M
Molybdenum	Molybdenum	M
Natural Gas	Natural Gas	E
Nickel	Nickel	M
Nickel Laterite	Nickel	M
Nickel, Refiner	Nickel	M
Nickel, Smelter	Nickel	M
Niobium (Columbium)	Niobium (Columbium)	M
Nitrogen-Nitrates	Nitrogen	N
Olivine	Olivine	M
Iridium	PGE	M

Osmium	PGE	M
PGE	PGE	M
Palladium	PGE	M
Platinum	PGE	M
Rhodium	PGE	M
Ruthenium	PGE	M
Peat	Peat	E
Perlite	Perlite	N
Gilsonite	Petroleum (Oil)	E
Oil Sands	Petroleum (Oil)	E
Oil Shale	Petroleum (Oil)	E
Petroleum (Oil)	Petroleum (Oil)	E
Rock Asphalt	Petroleum (Oil)	E
Phosphorus-Phosphates	Phosphorus	N
Potassium	Potassium	N
Potassium, Alum	Potassium	N
Pumice	Pumice	N
Pyrite	Pyrite	M
Pyrophyllite	Pyrophyllite	N
Cerium	REE	M
REE	REE	M
Yttrium	REE	M
Radium	Radium	M
Rhenium	Rhenium	M
Rubidium	Rubidium	M
Sand	Sand	N
Sand and Gravel, Construction	Sand and Gravel	N
Scandium	Scandium	M
Selenium	Selenium	M
Quartz	Silica	N
Sand and Gravel, Industrial	Silica	N
Silica	Silica	M
Silica, Ferrosilicon	Silica	M
Tripoli	Silica	N
Silver	Silver	M
Silver, Refinery	Silver	M
Soda Ash	Soda Ash	N
Halite	Sodium	N
Salt	Sodium	N
Sodium	Sodium	N
Sodium Carbonate	Sodium	N
Sodium Sulfate	Sodium	N
Granite	Stone	N

Stone	Stone	N
Granite, Crushed/Broken	Stone, Crushed	N
Limestone, Crushed/Broken	Stone, Crushed	N
Marble, Crushed/Broken	Stone, Crushed	N
Quartzite, Crushed/Broken	Stone, Crushed	N
Sandstone, Crushed/Broken	Stone, Crushed	N
Slate, Crushed/Broken	Stone, Crushed	N
Stone, Crushed/Broken	Stone, Crushed	N
Calcareous Marl, Dimension	Stone, Dimension	N
Dolomite	Stone, Dimension	N
Granite, Dimension	Stone, Dimension	N
Limestone, Dimension	Stone, Dimension	N
Marble, Dimension	Stone, Dimension	N
Quartzite, Dimension	Stone, Dimension	N
Sandstone, Dimension	Stone, Dimension	N
Scoria, Dimension	Stone, Dimension	N
Shells, Dimension	Stone, Dimension	N
Slate, Dimension	Stone, Dimension	N
Stone, Dimension	Stone, Dimension	N
Traprock, Dimension	Stone, Dimension	N
Strontium	Strontium	N
Sulfides	Sulfides	N
Sulfur	Sulfur	N
Sulfur, Sulfuric Acid	Sulfur	N
Sulfur-Pyrite	Sulfur	M
Talc-Soapstone	Talc-Soapstone	N
Tantalum	Tantalum	M
Tantalum from Tin Slag	Tantalum	M
Tellurium	Tellurium	M
Thallium	Thallium	M
Thorium	Thorium	M
Tin	Tin	M
Tin, Tailings	Tin	M
Titanium	Titanium	M
Titanium, Metal	Titanium	M
Titanium-Heavy Minerals	Titanium	M
Titanium-Ilmenite	Titanium	M
Titanium-Rutile	Titanium	M
Travertine	Travertine	N
Tungsten	Tungsten	M
Tungsten, Mill Concentrate	Tungsten	M
Tungsten, Refinery	Tungsten	M
Uranium	Uranium	E

Vanadium	Vanadium	M
Vermiculite	Vermiculite	N
Volcanic Materials	Volcanic Materials	N
Water, Free	Water, Free	N
Wollastonite	Wollastonite	N
Zeolites	Zeolites	N
Zinc	Zinc	M
Zinc, Refiner	Zinc	M
Zinc, Smelter	Zinc	M
Zirconium	Zirconium	M

Commodity Type is auto populated as Energy (E), Metallic (M), Non-metallic (N).

Importance is an indicator of this commodity's market status or overall importance. For clarity, the valid selections and their definitions are in the following table:

IMPORTANCE	Definition
Major	Major product affecting revenue or a product of equal or near equal value to another product in terms of producing revenue.
Minor	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, but itself is recoverable or potentially recoverable.
Trace	The commodity is present in trace amounts but is either too insignificant to classify as being recoverable (Minor) or is classifiable as a deleterious product or impurities that affect the marketability of the recovered product(s), usually contaminants. Not to be used for every element with anomalous background geochemistry.

Estimated Resource Size allows the reporter to supply a resources estimate of the identified commodities . Entry is made through the ‘select list’ of ‘Large’, ‘Medium’ or ‘Small’. There are no specific size guidelines. If Resource information is available for this site (grade and tonnage), the system will automatically generate a calculated size as well. (Rarely populated).

Estimated Production Size allows the reporter to estimate the amount of production from the site. Entry is made through the ‘select list’ of ‘Large’, ‘Medium’ or ‘Small’. There are no specific size guidelines. If Production information is available for this site (grade and tonnage), the system will automatically generate a calculated size as well. (Rarely populated).

Calculated Resource Size

Calculated Production Size

OWNERSHIP:

Owner Name contains the name of an owner or operator. 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 referenced records to the COMMENTS screen.

Owner Type lists the status of owner or operator selected from the following:

OWNER TYPE ⁶
Owner
Operator
Owner-Operator
Lessee
Lessor
Lessee/Owner
Lessee/Operator
Joint Venture
Joint Venture Partner
Joint Venture Owner
Joint Venture Owner-Op
Joint Venture Operator
Unknown

Pct contains the percent of ownership or operation controlled, as appropriate for this record. The percent must be a right-justified integer not exceeding 100 and not exceeding 2 decimal places.

Year of Information shows the date of the information of this record. (Most ownership records are recorded as the date of the publication listing an owner).

Beginning Year identifies the first year of operation by this operator or the first year of ownership by this owner at this specific site.

Ending Year identifies the ending year of operation by this operator or the ending year of ownership by this owner at this site.

Home Office Location should contain the place name of the owner's home office and/or address. All entries will be treated as free form entries, to support the addition of city or town names, phone numbers, and web addresses.

⁶ Complete table for entire MRDS database, not just the records in WLCI.

HOLDINGS

Type of Land Holding designates access rights (holdings) available for the resources contained on a deposit. There may be multiple entries for a record. Type of holding is selected from the following table:

TYPE OF LAND HOLDING ⁷
Federal Lease
Fee Ownership
Located Claim
Minerals Only
Other
Patented
Private Lease
State Lease
Unknown

ANALYTICAL_DATA:

Analytical Data is a free-form field for the user to describe any analysis performed on any sample media from the site.

LOCATION INFORMATION

Country is the name of the country the site is located within. Selection is made through the 'select list.

State/Province contains the name of the State or political province within the country specified.

County contains the appropriate county name for U.S. sites. Multiple counties may be specified.

Quad 250 is the 250,000-scale USGS quadrangle map that the primary coordinates fall within. This is a calculated field.

⁷ Complete table for entire MRDS database, not just the records in WLCI.

GEO-COORDINATE INFORMATION:

The **Decimal Latitude**, **Decimal Longitude** and **Datum** fields are required items, but the user has the option of entering the latitude/longitude in either the decimal notation fields (**Decimal Latitude** and **Decimal Longitude**), in the **Lat N/S**, **Lat Deg.**, **Lat Min.**, **Lat Sec.**, **Lon E/W**, **Lon Deg.**, **Lon Min.**, **Lon Sec.** fields, or in the **UTM Zone**, **UTM Northing**, and **UTM Easting** fields. All records will have the **Decimal Latitude** and **Decimal Longitude** fields populated, but these will be calculated by the system if they are not directly entered. Additionally, the system will automatically calculate and store the decimal latitude and longitude in the **WGS84 Lat** and **WGS84 Lon** fields, as these are the current standard for point locations in many GIS-type applications, and is also the default for programs such as Google Earth or Google Maps. These two fields cannot be edited by the user.

Datum of Entry: The user specifies the datum of the original coordinates. Entry is through a ‘select list’. See LU_DATUM for all valid selections.

DATUM NAME ⁸
WGS 84
NAD27
NAD83
ED50
ETRS89
NAD27(76)
SAD69
WGS 72

Latitude. contains the original latitude coordinates in whatever datum the user specified. Supplied both as degrees, minutes, seconds, and decimal degrees (to 5 places).

Longitude contains the original longitude coordinates in whatever datum the user specified. Supplied both as degrees, minutes, seconds, and decimal degrees (to 5 places).

WGS 84 Latitude is computed from the original input and contains the latitude in decimal notation, carried out to 5 decimal places.

WGS 84 Longitude is computed from the original input and contains the longitude in decimal notation, carried out to 5 decimal places.

⁸ Complete table for entire MRDS database, not just the records in WLCI.

UTM Zone is a 2-digit field for the UTM Zone number (01 through 60). Each zone is 6° wide. Zone numbering: Starting with 01 for the zone from 180°W to 174°W, and increasing eastward to 60 for the zone from 174°E to 180°E. This is a computed field.

Northing. In the northern hemisphere, this represents the distance in meters north of the equator; the equator is 0 meters with numbers increasing northward. In the southern hemisphere, it represents the distance in meters north from about 80 degrees south latitude; the equator is 10 million meters, with numbers decreasing southward, represented as a negative northing. This is a computed field.

Easting 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. An easting that is west of the central meridian for that zone will have a negative value. This is a computed field.

Point of Reference indicates the physical determination point for the elevation, latitude, and longitude, as selected from the following table:

POINT OF REFERENCE
Approximate
Main Entrance*
Trench
Ore Body
Claim
Plant
Town
Pit

*Main Entrance has been interpreted both as the main roadway or gate entrance to a mine property, or to the actual entrance into the workings (such as a portal or shaft). Check the comments if there is a need for disambiguation.

Location Accuracy is the degree of estimated precision for this site's location. The user can specify that the precision of the location and point of reference provided is accurate within 10, 25, 50, 100, 250, 500, 1000, 2000, 5000, or 10,000 m. (There may be other values associated with records created before these set distances were set into a pick list).

Relative Position is the direction and aerial point-to-point distance of the location from some nearby town or prominent geographic feature. This information is particularly important for sites that are located in areas where land survey grids are non-existent, such as Spanish land grants, Indian reservations or non-Public Land Survey System (PLSS) areas. The direction should be to the nearest five degrees if possible. There may be additional location information in this field.

Elevation (in meters) was computed at one time for the records in the database based on the coordinates given at that time. This field has not been updated and should be verified for each entry.

PLSS COORDINATE INFORMATION:

PLSS Coordinates is for the recording of Public Land Survey System (PLSS) information. This is also known as the Cadastral or Township, Range, Section (TWS) system. PLSS is a method of surveying and locating rectangular areas in the United States, currently overseen by the Department of the Interior, Bureau of Land Management. Mine claim information is often reported in PLSS coordinates.

State contains the name of the U.S. State. Entry is through a ‘select list’.

Meridian contains the meridian of the PLSS coordinate. Entry is through a ‘select list’ from the LU_MERIDIAN table.

Township 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). Separate multiple entries with a comma. (There are exceptions to this pattern, and those should be corrected).

Range includes the range number and direction, using the same conventions outlined for **Township**, except that the directions used for ranges are either east (E) or west (W) of the base line.

Section is the section number, 01 to 36, including the leading zero.

Section Fraction 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 should be used as appropriate:

ENTRY	DESCRIPTION
C	Center
N2	North half
S2	South half
E2	East half
W2	West half
NE or NE4	Northeast quarter
NW or NW4	Northwest quarter
SE or SE4	Southeast quarter

SW or SW4	Southwest quarter
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MINING DISTRICTS

District Name is the name of the mining district or mineralized area. These may be formal or informal names. There may be multiple entries.

DRAINAGE BASIN:

HUC is the name of the Hydrologic Unit Code. Entry is through a ‘select list’. When the code is chosen, the Drainage Name, Unit Type, and Area Sq. Mi. are automatically populated.

LAND STATUS

Land Status is the status of the land (e.g. ‘National Forest’), selected from the following table:

Land Status⁹
Unknown
Mixed
Private
Municipality
County
State
State Forest
State Park
State Offshore
Federal
National Forest
National Recreation Area
National Wilderness
National Primitive Area

⁹ Complete table for entire MRDS database, not just the records in WLCI.

National Park
National Monument
Indian Reservation
National Offshore
BLM Administrative Area
Military Reservation
Foreign Offshore
International Waters
UN Administrative Area

Administrative Area is the name of the area for this **Land Status**.

Examples would be a **Land Status** of ‘National Forest’ with an **Administrative Area** of ‘Roosevelt National Forest’, or a **Land Status** of ‘Military Reservation’ with an **Administrative Area** of ‘Fort Carson’. This is a free-form field.

PHYSIOGRAPHIC AREA INFORMATION:

Geomorphic, or physiographic, regions are broad-scale subdivisions based on terrain texture, rock type, geologic structure and history. Based upon Nevin Fenneman's (1928) three-tiered classification of the United States - by division, province, and section. Initially this field was autopopulated based on the primary coordinates provided. If those coordinates have changed, the information in this field may be incorrect. The complete list of valid entries is in a look-up table, but as only a few provinces apply to Wyoming, only those are listed.

Division, Province, and Section are from Nevin Fenneman’s (1928) definitions (for the U.S.).

PHYS_DIV

Rocky Mountain System
 Rocky Mountain System
 Rocky Mountain System
 Interior Plains
 Interior Plains

PHYS_PROV

Wyoming Basin
 Middle Rocky Mountains

 Great Plains Province
 Great Plains Province

High Plains

Additional Detail is free form for the more specific name within the area.

MAPS (through USGS) this location plots on:¹⁰

These map entries are auto-populated based upon the latitude and longitude coordinates. Once these are entered, the system scans the LU_USMAP table for all maps that are for sale in the USGS Map Sales Division on which the site would plot.

Agency is the publishing agency of the map. Almost all the maps in this database are from USGS.

Map Name contains the name of the map.

Scale contains the scale of the map. The 1: aspect ratio is given as standard, so the user doesn't need to supply it unless a different ratio is used.

State is the state the map area is in.

Map Type describes the map (topographic, planimetric, geologic, orthophotographic, etc.)

GEOLOGICAL INFORMATION:

This section includes the following data sections:

Model Type
Orebody
Rocks
Ages
Material
Structures
Tectonic Setting
Concentration Process (Conc. Process)
Alteration
Ore Control

MODEL TYPE:

The MODEL TYPE screen contains model codes referencing the list of USGS deposit models in LU_MODEL_NUM table. The USGS mineral occurrence models describe the geologic, geochemical and geophysical environments and other characteristics of mineral deposits. The models serve as

¹⁰ If the Reporter (Editor, or updater) wish to emphasize a particular map or add one not already in the USGS data table, those additional maps can be entered and they will appear under “**Other Maps this location plots on**”: with **Map Name** and **Scale**.

prototypes in resource appraisal studies in which geologists predict the probability of undiscovered deposits in unexplored terranes.

USGS Number:

BC Number

MK3 Number

Model Name is the Deposit Model Name selected through the 'select list'. For a complete list of valid entries, see LU_MODEL_NUM.

OREBODY INFORMATION:

Orebody Information describes the dimensions and other characteristics of the orebody. A site may contain more than one orebody. Note that when the data are entered in units other than meters, they are recomputed and displayed in meters. It can be very helpful to the user if those original measurements and units are entered in a **Comment** field.

Orebody Name is the predominant name of the orebody or deposit. It could be the same as the site name.

Form is the form and shape of this orebody.

Area contains an approximation of the surface area (in hectares) for this orebody, based on the length and width fields.

Length is the approximate orebody length, in meters. Lengths that have decimals were probably converted to meters from another unit of measurement.

Width is the approximate orebody width, in meters. Widths that have decimals were probably converted to meters from another unit of measurement.

Depth to Top is the approximate depth to the top of the orebody, in meters. This measurement reflects the distance from the surface to the highest point of the orebody. Depths that have decimals were probably converted to meters from another unit of measurement.

Depth to Bottom is the approximate depth to the bottom of the orebody, in meters. This measurement reflects the distance from the surface to the lowest point of the orebody. Depths that have decimals were probably converted to meters from another unit of measurement.

Thickness is the approximate thickness of the orebody, in meters. This is generally the difference between **Depth to Top** and **Depth to Bottom**. Thicknesses that have decimals were probably converted to meters from another unit of measurement.

Strike is the strike direction to the orebody.

Dip is the angle at which a bed, stratum, or vein is inclined from the horizontal, measured perpendicular to the strike and in the vertical plane.

Plunge is the vertical angle between a horizontal plane and the line of maximum elongation of an orebody.

Plunge Direction is the direction of the plunge.

MAS Matrix: Contains information remaining from the original MAS database. This information has not been edited in any way since being incorporated into the newMRDS database. It is archived here.

ROCK INFORMATION:

Each site may have multiple entries in this section, and each rock should also have a corresponding appropriate **Rock Age**.

Rock Type identifies the rock as either a Host rock or Associated rock type.

Rock Unit Name contains the host or associated rock unit name. This is usually a formation or member name, or map unit name, or lithology.

Lowest Order Name contains the the 'lowest' order name (or most specific) of the rock. Entry is made through a 'select list'. For the full list of valid entries, see LU_ROCK. **First, Second, Third, and Fourth Order Names** are computed from this list.

Additional Descriptive Text allows the user to specify any additional information to further describe or characterize the rock.

ROCK AGE:

Rock Age maintains rock ages in both specific year (such as 500 million) and in the stratigraphic format, as established by the International Union of Geological Sciences.

Age Type represents the type of age information this entry applies to. The valid choices for this field consist of the following 5 choices, made from the 'select list':

AGE TYPE
Associated Rock
Associated Rock Unit
Host Rock
Host Rock Unit
Mineralization

Youngest Age is the youngest stratigraphic age.

Oldest Age is the oldest stratigraphic age.

Chronological Age allows the user to specify the chronological (numerical) age based upon results from isotopic dating methods. An entry in this REQUIRES an entry in the **Method** field.

Plus/Minus gives the error range.

Method is the method used to identify the age (e.g. K-Ar, Ar-Ar, Fission Track, etc.). Entry is made through the 'select list'. For the full list of valid entries, see LU_METHOD.

Media describes the sample media the age test was conducted on, (e.g. 'Alunite', 'Biotite', etc.).

MATERIAL/MINERALS

This is a list of Ore and Non-ore materials in an orebody. Ore materials include any material of economic interest, such as metals, minerals, or rocks. Non-ore materials are those that have no economic interest, but that occur with the economic materials. These materials may include gangue or waste minerals or rocks. Each commodity name in the COMMODITY table should have the name of its ore material entered here, if possible.

Material descriptors, such as color, sorting, grain size, form, modes, major, minor, and rare, should be in the **Comments**. Identify each mineral whether Ore or Gangue in the Ore-Gangue field. The MATERIAL field will access the LU_MATERIAL table for a list of the valid entries.

Ore/Gangue identifies the mineral as either 'Ore', 'Gangue', 'Trace', or 'Unknown'.

Material is the name of the mineral/material found in this orebody. See the LU_MATERIAL table for a list of the valid entries for this field.

GEOLOGIC STRUCTURE:

Structure Type signifies where this entry is a 'Regional' (R) or a 'Local' (L) geologic structure.

Structure is for the user to briefly describe the structure. Longer entries are in the **Comments**. The user should list significant large folds, faults, or other such structures.

TECTONIC SETTING

Tectonic Setting contains the currently recognized tectonic settings. Typically this heading will be used to describe the generalized plate tectonic setting (ie. Basin and Range), which can include reference to specific terranes. This was a free-form field and not constrained to a pick list. It is not recommended as a search field.

Original Entry, if populated, contains the original entry from the older version of MRDS. This is a read-only field and made available to help the user correct any errors.

CONCENTRATION PROCESS

Concentration Process describes the concentration process. This was a free-form field and not constrained to a pick list. It is not recommended as a search field.

Original Entry, if populated, contains the original entry from Old-MRDS. This is a read-only field and made available to help the user correct any errors.

ALTERATION

Alteration Type signifies whether this is a 'Regional' (R) or 'Local' (L) alteration.

Alteration describes the alteration present. If alteration is an important factor at this site (at the regional level), then it should be mentioned here. Include information on the size and shape of the alteration zone. More detail should be given in a **Comment**.

Original Entry, if populated, contains the original entry from Old-MRDS. This is a read-only field and made available to help the user correct any errors.

ORE CONTROL:

Ore Control is used to detail the specific ore controls, if known. Details should be given in a **Comment**.

Original Entry, if populated, contains the original entry from the old version of MRDS. This is a read-only field and made available to help the user correct any errors.

RESOURCE INFORMATION:

Each RESOURCES entry contains published resource information relating to the mineral deposit. Definitions are based primarily upon U.S. Geological Survey Circular 831—Principles of a Resource/Reserve Classification for Minerals (1980). For current producers, exploration or developing sites, this information is primarily derived from the company's annual report or 43-101 report. Since many companies do not classify resources as measured, indicated, demonstrated, inferred, identified, and undetermined, but use proven, probable and possible instead, these options are also available. All values are listed in their entirety: there are no numerical abbreviations (numbers are not in thousands or millions).

In order to list the resource information of a commodity, the commodity must first be entered in the COMMODITY section. The **Resource Details** section is pre-populated with those commodities.

Year displays the four-digit year of information (year of publication) of these resource figures, which are accurate as of this date, or the ending year if these numbers are a cumulative total.

Line contains a sequential number for a **Year**, allowing multiple resource entries for the year (e.g. a breakdown of large mine site by various pits and leach fields, etc.), or listing varying sources of information. In many cases, one publication may list one set of numbers for a given year, while a different publication contains a different set of numbers for the same year. In these cases, it is suggested that the user select the publication they feel has the 'best' set of numbers and use these as **Line** number 1.

Resource Type describes the type of resource these tonnages represent, based on the following entries:

RESOURCE TYPE
In-situ
Milling
Leaching
Combined
Tailings
Dump

Resource name is used for sites that may have names associated with various resource types. The name identifies precisely what these values pertain to (i.e., North Tailings Pile A, or Apex Stope).

Proved is the part of a mineral resource defined as per the current international JORC, CRIRSCO, CIM, and SME standards. It is delineated with a high level of confidence by closely spaced sampling, and includes consideration of mining, metallurgical, economic, marketing, legal, environmental, social, and governmental factors.

Probable is the part of a mineral resource defined as PROBABLE per the current international JORC, CRIRSCO, CIM, and SME standards. It is delineated with a reasonable level of confidence by sampling spaced closely enough to assume but not prove continuity, and includes consideration of mining, metallurgical, economic, marketing, legal, environmental, social, and governmental factors.

Reserves is the sum of **Proved** plus **Probable** reserves. This is a calculated field. Reserves information in the literature often combines these two categories. If Proved and Probable are supplied, the user should not enter a value. If neither Proved or Probable are provided, the user may enter the Reserves.

Measured is the measured resource. Quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and (or) quality are computed from the results of detailed sampling. The sites for inspection, sampling, and measurements are spaced so closely and the geologic character is so well defined that size, shape, depth, and mineral content of the resource are well established.

Indicated is the indicated resource. Quantity and grade and(or) quality are computed from information similar to that used for measured resources, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for measured resources, is high enough to assume continuity between points of observation.

Demonstrated is the demonstrated resource, contains the total of **Measured** and **Indicated**. This field may also contain the published proven resource estimate if this is the only data available for this value.

Inferred is the inferred resource. Estimates are based on an assumed continuity beyond measured and (or) indicated resources, for which there is geologic evidence. Inferred resources may or may not be supported by samples or measurements. This field may also contain the published probable resource estimate if this is the only data available for this value.

Total Resources records a published resource figure for which the basis of estimation has not been clearly defined. This field may also contain the published possible resource estimate if this is the only data available for this value.

Total Endowment is the original, pre-mining, quantity of ore.

Units, ideally, should be in metric tons (tonnes) of ore. However, there are various units in the database. The table contains alternate resource units:

MT ORE	metric tons (tonnes) of ore
CU-M ORE	cubic meters of ore
LITERS SOLUTION	liters of solution
MT COMMODITY	metric tons of commodity
KG COMMODITY	kilograms of commodity
G COMMODITY	grams of commodity
MT CONCENTRATE	metric tons of concentrate
KG CONCENTRATE	kilograms of concentrate
G CONCENTRATE	grams of concentrate

Remarks presents a place to describe the resource in more detail. It is especially helpful when the originally reported quantities and units are provided and a reference citation is provided.

RESOURCE DETAILS:

The RESOURCE DETAILS section identifies the published assay grades relating to each resource table entry. For data entry purposes, when a new record is created, all of the commodities entered in the COMMODITY screen will automatically be entered. The user can then supply the grades for which they have the information available, and only those commodities with a grade will be saved.

Item¹¹ (not shown in the printout), **Grade**, and **Grade Units** are the only fields in which the user can enter data. If the user wishes to add data for a commodity not listed, then an entry must be made for that commodity in the COMMODITY screen.

Code is the symbol for the element or commodity (ie, CU for Copper, AU for Gold)

Commodity spells out the commodity

Grade contains the assay grade in weight percent (WT%) of the ore for the CODE defined above; or GRD will be entered as grams per metric ton (G/MT) when the commodity is gold, silver or a platinum group metal.

¹¹ Item is not shown in the printout. **Item** further describes the reserve/resource material, i.e. Cu at 0.6% cutoff, WO₃, CuO_x, Copper oxides, etc. It can also specify the intended product, i.e. pellets, meaning the reserve/resource amount is expressed as recoverable iron ore pellets.

Grade Units identifies the units of GRADE as 'WT%' or 'G/MT' based on the commodity CODE provided.

***Contained in Reserves** is for that year only

***Contained in Resources** is for that year only

****Total Hist[oric] Production** sums data for all records flagged as the 'best record' for that year.

PRODUCTION INFORMATION:

The historical production is described in multiple record groupings of the PRODUCTION and the PRODUCTION DETAIL screen sections. The PRODUCTION section describes the general overall statistics of the site for a year (or up through a year), while the PRODUCTION DETAILS section supplies the details per produced commodity for the same time period. This section follows the same general data layout principles as the RESOURCES section does. Overall tonnages are listed in the top half, while the bottom half contains the per commodity details.

Year displays the four-digit year of information (year of publication) of these production figures, which are accurate as of this date, or the ending year if these numbers are a cumulative total for which production is recorded. May be preceded by < or > for before or after.

Rec is the record number as there may be multiple records for different years or ore bodies.

Entry Type by year (Y) or Cumulative (C).

Cumulative Period describes the cumulative period this record covers.

Mined is the amount of ore mined or material processed during the specified time period.

Units should be reported in metric tons (tonnes). It is helpful if the data are entered in the remarks field in the original units reported. See **Units** under **Resources**, above, for a list of alternate units.

Remarks/References may provide details about the material mined or processed. Original units or quantities, type of material processed (i.e. concentrate), cutoff grades, and short citations are among the kinds of data in this field.

Accuracy is chosen from Estimate, Accurate, or blank (if unknown).

Original Entry contains any information in the original version of MRDS. It is read-only

WORKINGS:

WORKINGS details the various types of workings at this site. Each site/deposit may have several different workings and different types of workings.

All values in this section are in hectares or meters. Data originally supplied in other measurements should be recorded in those original units in the Additional Information or Comment field.

Type of Working specifies the type of working this entry describes, chosen from the following list.

TYPE OF WORKING
Underground
Surface
Surface/ Underground
Water
Unknown

Name of Workings is the name or description of the working this entry describes, such as “Main Adit” or “200-Level Drift.” It may also be for the entire mine.

Area of the workings in map view in hectares.

Length is the aggregate length of subsurface workings. For pits, adits, drifts, this is the longer horizontal dimension of the workings. For inclines and shafts, this is the downward dimension of the incline or shaft.

Width is the aggregate width of subsurface workings. For pits, adits, drifts, and inclines, this is the shorter horizontal dimension. For vertical shafts, this is the longer horizontal dimension (for example, the 10 in an 8- by 10-ft. shaft).

Height is the height of the workings. For pits, adits, drifts, and inclines, this is the vertical dimension that is normal to the floor of the workings. For vertical shafts, this is the shorter horizontal dimension (for example, the 8 in an 8- by 10-m. shaft).

Overall Length of the workings in map view. This may include the length of a pit or the overall length of the area containing all drifts along a vein on the site represented in this record.

Overall Width of the workings in map view. This may include the width of a pit, or the overall width of the area containing several mined parallel veins on the site represented in this record.

Depth is the vertical distance from the ground surface to the bottom of the workings. For example, the depth of the deepest shaft or the deepest adit/incline if an underground working, or depth to the deepest part of the pit if it is a surface operation.

Additional Information provides any other details about the workings that aren't included in the other fields. **Comments** may also be used. This field also may contain information from the former MAS database. A sample of each of the different MAS data types follow:

Underground operation:

MAS Development Schedule #: 1
 Mining Record # : 1
 Status of Mining Method : PROPOSED
 Mining Method : SUBLEVEL
 CAVING 10-75
 Swell Factor : .65
 Percent Waste Rock : 37
 Percent Recovery : 82
 Hardness of Rock : HARDROCK
 FISSURED WITH MODERATE WATER
 Rock Characteristics : ONE SYSTEM OF
 WEAKNESS PLANES
 Rock Support Chars. : SUPPORTING
 Mine Support Chars. : POST,
 HEADBOARD, CAPS, ROOF BOLTS
 Number of Shafts : 1
 Length of Inclines (m) : 4267
 Slope of Inclines : 15
 Number of Inclines : 1
 Avg. Length of Adits (m) : 0
 1st Condition of Workings : CAVED AT
 PORTAL
 2nd Condition of Workings : PART
 ACCESSIBLE
 3rd Condition of Workings : OPEN
 Capacity : 1270
 Capacity Units : MT ORE/DAY
 Unit Production Cost : 19.99
 Units of Production : \$/MT ORE
 Operating Days per Year : 250
 Operating Shifts per Day : 2
 Year of Information : 1986

Surface operation:

MAS Development Schedule #: 1
 Mining Record # : 1
 Status of Mining Method : ESTIMATE
 Mining Method : OPEN PIT
 Swell Factor : .56
 Percent Waste Rock : 92
 Avg. Overburden Thickness : 20
 Primary Material Cover : SAND, GRAVEL
 Percentage : 10
 Secondary Material Cover : M-HARD
 ROCKS
 Percentage : 60
 Tertiary Material Cover : HARD ROCKS
 Percentage : 30
 Hardness of Ore : M-HARD ROCKS
 Avg. Bench Height (meters): 6
 Max. Pit Slope (degrees) : 45
 Capacity : 1216
 Capacity Units : MT ORE/DAY
 Preprod. Stripping Vol. : 1313
 Unit Production Cost : 5.86
 Units of Production : \$/MT ORE
 Operating Days per Year : 250
 Operating Shifts per Day : 1
 Year of Information : 1990

Water operation:

MAS Development Schedule #: 1
 Mining Record # : 1
 Status of Mining Method : ACTUAL
 Mining Method : MECHANICAL
 DREDGE-SW
 Percent Waste Rock : 99.4
 Minable Surface Area : 100
 Percent Recovery : 100
 Primary type of Cover : LOOSE CLAY
 SILT AND SAND
 Hardness of ore : SAND, SILT
 Avg. Overburden Thickness : .2
 Dist. to Port Facilities : 105
 General Remarks :
 STOCKTON+VINEY
 Capacity : 41765
 Capacity Units : MT ORE/DAY
 Unit Production Cost : .551
 Units of Production : \$/MT ORE
 Operating Days per Year : 365
 Operating Shifts per Day : 3
 Operating Hours per Day : 24
 Year of Information : 1990

CROSS-REFERENCING INFORMATION

REPORTERS

Reporter contains the name of each person who created or modified any field in this deposit record, last name first. Optional reporter's supervisor in parenthesis. The name is followed by (R) Record Originator, (E) Editor, or (U) Updater.

This data wasn't kept up to date in the MAS database, and some records were actually updated after the Bureau of Mines officially closed in March 1996. So, in some cases, the Report Date field will have a date after the Bureau's closing. This field was populated from a similar field in MAS, which contained the name of the Bureau of Mines person or office responsible for the maintenance of the record.

Report Date in the format DD-MON-YYYY.

Affiliation of the reporter selected from a pick list LU_AFFILIATION.

OTHER DATABASES

Acronym and **Database Name** from LU_DATABASE, a list of mineral deposit database names and codes. These databases may have been the source of, or recipient of, MRDS data.

Agency is automatically populated based on the owner/originator of the Database.

Record ID in the associated database, including precursors to MRDS.

Note may provide additional information or explanation, especially for duplicate, consolidated, or deleted records.

COMMENTS:

The COMMENTS screen encompasses the user's comments or remarks relating to this deposit. The format is free-form and unlimited, permitting the user to use narrative, outlines, etc. Wherever appropriate, the user should relate the particular comment back to its respective 'category' of data and/or field. Comments that are directly attributable to a reference should contain a citation to that reference.

Category specifies which informational category this reference applies to

CATEGORY
Age

Analytical Data
Commodity
Deposit
Development
Economic Factors
Environment
Environmental Factors
Exploration
General
Geology
Identification
Location
Names
Orebody
Other Database
Ownership
Production
Reference
Resource-Reserve
Workings

Line contains a sequential number for each comment within a category. The user may edit these to reorder comments within the respective category.

Comment Text is a free-form field, allowing the user to be as complete as possible in describing the deposit and its characteristics. The field is 4000 characters long, but longer entries can continue in the next **Category/Line** sequence.

BIBLIOGRAPHIC REFERENCES:

Category specifies which informational category this reference applies to, e.g. Production, Geology, etc. Entry is made through the ‘select list’. Categories are the same as in the Comments section.

Line contains a sequential number for each comment within a category. The user may edit these to reorder comments within the respective category.

Bibliographic Reference contains a bibliographic reference, only one per entry (in this screen). If more than one reference exists, create another record. For instance, if more than one Minerals Yearbook is cited, each should be cited individually. If several publications by the same author are cited, each should have its own record. Not all the references are complete, nor are they in USGS approved bibliographic style. In most cases there should be enough information supplied that

someone reasonably acquainted with the geologic literature should have enough clues to track down the reference. Not all references are published and some are cryptic. Citations in upper case are original to the database. Citations in both upper and lower case have likely been amended or corrected. Citations such as CONS DIV COMP DATE, WYO GS FOR MAS, USBM FILES, etc. are not traceable. We consider records with only such references to be unverifiable. Perhaps such records should be deleted unless the information can be confirmed by another source.

Pages has recently been added and is useful where only a few pages in a larger publication pertain to the record.

GROUPINGS

Rec is a unique number.

Grouping Name with the exception of a few select USGS National and Global Assessment projects that are entered from a pick list, this is a freeform field. All records within the WLCI study area are coded "WLCI". By assigning a Grouping Name to a set of records, the user may more easily retrieve the records of interest. For instance, all the records mentioned in a particular paper could be grouped together, or all the records in a study area such as WLCI.

Fenneman, N.M., 1928, Physiographic divisions of the United States: *Annals of the Association of American Geographers*, v. 18, p. 261-353.