



Gold Mining Definitions

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A

ACCESSIBILITY: 1. Being able to legally move onto a location and mine. 2. Being able to reach a location one intends to mine with little or no trouble.

ACCRETION BAR: A low-level deposit of sand and gravel formed in a stream by the gradual addition of new material. Accretion bars are typically formed along the short or inside radius of curves.

ACCUMULATION: In placer mining, this concerns the collection of gold into substantial amounts worth mining.

ACCUMULATIVE PLACER: When there is a continuous build-up of gold over time in one spot, such as a "catch," it is called an "accumulative placer."

AFFLUENT: See "tributary."

ALLUVIAL: Relating to or composed of alluvium.

ALLUVIAL DEPOSIT: See "alluvial placer."

ALLUVIAL FAN: A cone-shaped deposit of alluvium made where a stream runs out onto a level plain or meets a slower stream. The fans generally form where streams issue from mountains upon the lowland.

ALLUVIAL GOLD: Gold found in association with water-worn material.

ALLUVIAL GRAVEL'S: Water worn gravel's of any size; sand, cobbles rocks, and boulders, etc. In this book, it is referred to as "materials."

ALLUVIAL MATERIALS: This refers to any alluvial gravel's; rocks, cobbles, sand, clay, silt, etc., ancient or otherwise, no matter what form it is in. The same can be said of a streambed; "materials" which rest on bedrock channels. This would include anything held in suspension over bedrock; the bed load, suspended load, and dissolved load. Also called "streambed materials."

ALLUVIAL PLAIN: 1. Flood plains produced by the filling of a valley bottom are alluvial plains, consisting of fine mud, sand, or gravel. 2. A plain resulting from the deposition of alluvium by water.

ALLUVIAL PLACER: Gravel's that have been transported and deposited by flowing waters, streams, creeks, etc., depositing placer gold and other valuable minerals. Also called an "alluvial deposit."

ALLUVIUM: A general term for all detrital deposits resulting from the flow of present waterways, thus including the sediments laid down in streambeds, flood plain, lakes, fan at the foot of mountain slopes, and estuaries.

AMALGAM: A mixture of different elements or substances; such as an alloy of mercury with another metal.

AMALGAMATED GOLD: Mercury and gold combined. When found as alluvial gold during a placer mining operation with traces of mercury on it. The mercury may be dry to the touch as if it were just silver paint, or wet as if the mercury had no gold in it at all. Also called "mercury gold."

ANCIENT MATERIALS: The alluvial gravel's and materials, which ancient streambeds are comprised of. These would include those that have been swept away from virgin ground during a major flood to be redeposited; basically intact; elsewhere. Those more recent "ancient streambeds" still inside an active waterway or still within reach of modern dredging equipment are usually called "old beds."

ANCIENT BED: See "ancient streambed."

ANCIENT STREAMBED: These are streambeds, which were formed long ago and are generally classified, as those that have been in place since before the "gold rush" era and are comprised from alluvial gravel's from the present waterway. Also called "ancient bed" for short.

ANNUAL FLOODING: See "seasonal; flooding."

ASSAY: This is to determine the amount of values contained within an ore sample, streambed sample, or valuable metal sample; such as native placer gold; compared to the amount of waste material therein.

B

BACK EDDY: Also called "back wash" and "back water." See "back pressure area."

BACK PRESSURE AREA: A "back pressure area" is a general term referring to a place where water is moving backwards against the main flow of water; also called "back eddy."

BAR: See "bar placer."

BAR PLACER: A deposit of alluvial material above or below the water line of present streams; also called "bar" for short. Bars may form where the current slackens or changes direction. Also referred to as "gravel bars." Those that are formed out of smaller materials, such as sand particles, would be called a "sand bar."

BED LODGE: Cobbles, rocks, and boulders; or other debris, which slide and roll along the bottom of a stream during flood waters, as opposed to the smaller size materials; silt & dissolved load; carried in suspension. When the larger materials stop their movement, as flood waters recede, it is called "grounding."

BEDROCK: In dredging, the term "bedrock" generally refers to the bottom of a waterway. See "bedrock foundation."

BEDROCK FOUNDATION: The overall, underlying, solid rock structure, which all materials rest upon. Bedrock may be composed of igneous, metamorphic, or sedimentary rock and is commonly found to contain more than one combination or mixture. Also called "bedrock" for short.

BEDROCK CHANNEL: A stream eroded depression in bedrock, ordinarily filled with gravel; also called "channel" for short. The lowest point, where it is cut deeper by water action is the "channel foundation." Also called "gut."

BENCH PLACER: This is a stream or river placer that has been left high and dry over time, by the present waterway, which originally created it.

BIOTITE: A mineral often mistaken for "fools gold," though not a very common one." It is commonly found as small black flakes, but after a short exposure to air and water, will turn a dull, brassy yellow.

BLACK GOLD: Alluvial gold coated by a black oxide of manganese.

BLACK SAND: Heavy grains of various minerals that have a dark color and are usually found accompanying gold in alluvial deposits. The heavy minerals may consist largely of magnetite (magnetic iron ore, 75% iron) ilmenite (titanium ore), and hematite (iron oxide, 70% iron) associated with other minerals such as garnet, rutile, zircon, chromite, amphiboles, and pyroxenes. In West Coast gold placers; of the U.S.; the black sand content is commonly 5 to 20 pounds per cubic yard of bank run gravel. Also commonly called "heavy minerals."

BLEED-OFF DEPOSIT: There are three basic types of bleed-off deposits; bench placer, lode, and tailing. A "bleed-off deposit" is the natural erosion of a bench placer, lode, mine dump, or tailing pile, etc., which over time releases gold, which enters into the streambed at some point, where there is a significant amount to allow a deposit to form.

BLOOD GOLD: See "red gold."

BLUE GRAVEL: Some of the deeper, water-saturated gravel found in California's Tertiary channels and benches have a distinctive bluish-gray color. For this reason, early miners referred to them as "blue gravel" or more commonly as the "blue-lead"; pronounced "leed." These blue gravel's represent unoxidized portions of gravel channels where as the red gravel represents oxidized portions of the same material.

BOIL-OUT: This refers to an excessive amount of water flow over a low/back pressure area or eddy vortex, which causes two things; 1. does not allow materials to settle out of suspension and deposit properly. 2. any heavy materials, including gold, which have already collected there to be partially or wholly flushed out; this depends on the amount of water force. This same water action can be found, if there is too much water flow or downward grade in a sluice box. Thus, materials moving across the sluice riffle system will not settle out of suspension and deposit properly.

BOULDER: A rock of large size, generally one that would need a prybar, come-along or wench to move it.

BRAIDED STREAM: 1. A braided stream is one flowing in several divided and reuniting channels resembling the strands of a braid; the cause of division being the obstruction of sediment deposited by the stream. 2. Where more sediment is deposited into any part of a stream that is removed, the building of bars becomes excessive, and the stream develops an intricate network of interlacing channels; thus said to be braided.

BREAKOUT: A point where a ravine or canyon cuts into, but not through, a channel. Usually applied to buried Tertiary channels.

BURIED PLACER: Old placer deposits that have become buried beneath lava flow or other strata; the most common form would be Tertiary channels.

BUTTE: An isolated hill or mountain with steep sides.

C

CAP ROCK: Volcanic flow materials or agglomerates that cover, and in some cases, conceal underlying auriferous gravel's. Commonly found associated with Tertiary channels.

CATCH: A fixed site, where gold has been trapped or caught; such as in cracks, crevices, lull behind boulders or other obstructions, or changes in bedrock that form obstructions; faults, outcroppings, upcroppings, etc.; or holes which would allow gold to drop out of the force of flow; such as bedrock holes, potholes, etc. Also short for "gold catch."

CHALCOPYRITE: A mineral often mistaken for "fools gold," though not a very common one." This mineral is very similar to marcasite in its characteristics; it tarnishes easily, going from bronze or brassy yellow to yellowish or grayish brown, has a dark streak, and are lighter in weight and harder than gold. Neither of these minerals commonly occur in crystalline form and most often are found as irregularly shaped masses.

CHANNEL: See "bedrock channel."

CHANNEL FOUNDATION: The lowest point along a bedrock channel, where the greatest amount of water action cuts deeper into the bedrock foundation during floods.

CLASSIFIED MATERIALS: Materials which have been processed through a screen, grill, or grizzly into a specific size. Example; #60 to #80 mesh size would be material that passed through the #60 mesh screen, but did not pass through the #80 mesh screen size.

CLASSIFIER: The screening device or instrument used to classify and separate materials into various sizes. This device; usually a grill or classifier screen; can be found in the bottom of the header box or at the head of the sluice on a modern dredge.

CLASSIFY: The process of screening out the larger sized materials or the screening of materials or heavy concentrates into size groups by means of one or more size of wire mesh screens; sieves.

CLEAN CONCENTRATE: Gold; or other values; that are relatively clean and free of other materials after being processed through a clean-up concentrator.

CLEAN -UP: This is the final process of removing gold; or other values; from heavy concentrates and the cleaning of the gold itself; such as the removal of outside impurities; for display or sale.

CLEAN-UP CONCENTRATOR: A device used to process heavy concentrates into clean concentrate. Some of these concentrators can work concentrates down to the gold itself or relatively close.

COARSE GOLD: Usually any particle that is relatively thick in diameter and can be easily picked up with your fingers.

COBBLES: They are small to large size rocks that can be moved by hand. In dredging these would be of a size that could not enter the intake nozzle and would need to be removed from the hole by hand; or wench and rock net.

COLLOIDAL GOLD: Gold in an extreme state of subdivision. In a true colloid, the individual particles are of almost molecular dimensions.

COLLUVIAL: Consisting in part of alluvium and also containing angular fragments of the original rocks.

COLOR: A minute particle of metallic gold found in the prospector's pan after a sample of earth or concentrate has been washed. Prospectors say, "The dirt gave me so many colors to the pan." Also called a "shiner."

CONFLUENCE: A junction or flowing together of streams; the place where streams meet.

CONGLOMERATE: Rounded, water-worn fragments of rock or pebbles, cemented together by another mineral substance.

CREEK PLACER: Gravel deposits in the beds and intermediate flood plains of small streams.

CREVICE: A large crack or fissure in bedrock or large boulder.

D

DECOMPOSITION: This is the chemical break-down of materials into their basic elements.

DELTA: This is usually a triangle shaped alluvial deposit found at the mouth of a large waterway. This happens more often where the waterway levels out and widens into standing water.

DEPOSIT: To place something; that which was placed.

DEPOSITION: In placer mining, this is when gold drops out of suspension and is deposited.

DETRITUS: 1. A general name for incoherent sediments, produced by the wear and tear of rocks through various geological agencies. 2. Disintegrated matter; debris. The name is Latin for "worn" rock waste or a deposit of such material.

DISCOVERY: In placer mining, this is the original finding of a substantial gold; or other valuable mineral; deposit.

DISTURBED MATERIALS: Tailings or other worked materials.

DISSOLVED LOAD: A "dissolved load" would include materials which dissolve and are carried in solution, much like that of mineral water or hard water. When conditions are right for it, materials carried in solution by the water flow, will deposit by means of "precipitation."

DRIFT: 1. Placer. 2. A horizontal mine passage; tunnel; from the outside entrance to the workings of the lode; or placer as in buried Tertiary channels; also called "adit."

DRY PLACER: Any placer found above an active waterway's highest watermark.

DRYWASH: 1. The mechanical processing of materials through a drywasher; drywash concentrator; to recover gold or other heavy minerals. 2. A dry ravine, in which placers are formed along bedrock, during heavy rains.

E

EDDY: A current of water, moving contrary to the direction of the main current or flow in a waterway. In placer mining, this contrary movement would allow gold or other heavy minerals to slow down and settle where this occurs. There are three types of eddies; back eddy, pressure eddy, and suction eddy.

ELUVIUM: Loose material resulting from the decomposition of rock by the elements.

ELUVIAL DEPOSIT: See "eluvial placer."

ELUVIAL PLACER: An eluvial placer is "materials" derived from decomposing out-croppings of bedrock or strata, that may have been washed, fallen, or blown by the wind, downhill for a short distance; generally anything more than a few feet; from their source; such as in a "residual placer"; but not transported by a stream, creek, etc., depositing placer gold or other valuable minerals. Also called "eluvial deposit."

ESTUARY: The wide lower course of a river, where its currents meet the open sea tides.

F

FALSE BEDROCK: There are two definitions of false bedrock among miners; 1. Anything resembling or that can be mistaken for true bedrock. 2. A hard or relatively tight formation within a placer deposit, at some distance above true bedrock.

FILLER: The small gravel's or other materials, which fill the space between the larger streambed gravel's. These filler materials over time can contribute somewhat to the hardening or cementing of the surrounding larger rocks.

FINE GOLD: 1. A loose description of small particles of gold; usually runs #20 to #40 mesh and constitutes a rough 12,000 flakes or colors per ounce. 2. Gold of a small size that can be picked up with tweezers. This size of gold, is commonly found in flood gold deposits along gravel bars and the outside of bends in a waterway.

FINES: 1. The sand or other small-sized components of a placer deposit. 2. The material passing through a screen during washing or other processing steps of a placer mining operation.

FINENESS: The proportion of pure gold or other precious metal in bullion or in a natural alloy, expressed in parts per thousand. Natural gold is not found in pure form; it contains varying proportions of silver, copper, or other substances. For example, a piece of natural gold containing 150 parts of silver and 50 parts of copper per thousand, with the remainder being pure gold, would be 800 fine. The average fineness of placer gold obtained in California is 800 fine or better. There are areas in the gold country where placer gold is as high as 950 fine (such as California's "Mother Lode" area).

FISSURE: See "crevice."

FLAKY GOLD: Very thin scale-like pieces of gold.

FLAT: See "flat bar."

FLAT BAR: An essentially level bar placer or deposit, along the banks of a river or large stream; also called "flat" for short.

FLOAT: A term often used among miners and geologists, for pieces of ore or rock that have fallen from veins; or strata; or have been separated from the parent vein by weathering agencies. Not usually applied to stream gravel's, but can be washed into a waterway over time.

FLOAT GOLD: Particles of gold so small and thin that they float. This type of gold is liable to be carried downstream by the water flow; see "flood gold."

FLOOD GOLD: 1. Fine sized particles of gold carried or redistributed by flood waters and deposited on gravel bars as the flood waters recede. 2. Gold of any size washed in and deposited along side or in a waterway as a storm layer, after a flood.

FLOOD LAYER: See "storm layer."

FLOOD PLAIN: That portion of a river valley adjacent to the river channel that is built of sediments during the present regimen of the stream., which is covered with water when the river overflows its banks during flood conditions.

FLOUR GOLD: A loose description of fine size particles of gold; usually runs minus #40 mesh and constitutes a rough 40,000 or more flakes or colors per ounce. This size of gold is commonly found in flood gold deposits along gravel bars and the outside of bends in a waterway.

FLUVIAL: See "fluviatele."

FLUVIATILE: Caused, or produced by the action of a waterway; fluvial.

FOOLS GOLD: Anything that can be mistaken for gold. Most all of what is termed "fool's gold," is a mineral; usually pyrite FeS_2 a sulfide of iron, others are biotite, chalcopyrite, marcasite, and pyrrhotite.

FREE GOLD: Gold uncombined with other substances; gold not found in chemical combination with other minerals; found largely in placer gold form.

FREE MILLING ORE: Rock formations containing free-gold; gold that is not in chemical combination with other minerals. These must be milled to remove the gold contained within.

FREE WASH GRAVEL: 1. Gravel that readily disintegrates and washes in a sluice. 2. Loose, clay-free gravel, such as those found in accretion bars are generally free-wash gravels.

G

GLORY HOLE: A bedrock hole or pothole, containing or suspected of containing large amounts of gold.

GOLD BULLION: Unrefined gold that has been melted and cast into a bar. In placer mining, the gold sponge obtained by retorting is commonly melted with borax or other fluxes, then poured into a bullion bar.

GOLD DUST: A loose description of small pieces and particles of gold. Commonly a mix of unseparated sizes, generally considered anything under #16 mesh. This size of gold, is commonly found in flood gold deposits along gravel bars and the outside of bends in a waterway.

GOLD ROUTE: The general path(s) which gold takes, during its movement by water action though a given section of waterway; the general line of gold's travel.

GOLD VEIN: A gold bearing fissure or streak in bedrock or Tertiary deposits that contains lode gold. Sizes range from small microscopic particles, to

hundred pound nuggets, and may suddenly change to a "pocket" concentration at any time.

GRADE: 1. The amount of fall or inclination from the horizontal in ditches, flumes, or sluices; usually measured in inches fallen per foot of length or inches fallen per section of sluice. 2. The slope of land or bedrock surface; usually measured in percentages. A 1% grade is equivalent to a rise or fall of 1 foot per 100 feet. 3. The slope of a stream or any surface over which water flows; usually measured in feet per mile. Streams having grades of about 30 feet per mile, favor the accumulation of placers, particularly where a fair balance between transportation and deposition is maintained for a long time. 4. The relative value or tenor of an ore or of a mineral product.

GRADED STREAM: A stream in equilibrium, that is, a stream or a section of a stream, that is essentially neither cutting or filling its channel.

GRANITE: A coarse-grained, hard igneous rock commonly found everywhere in mountainous regions. The rock consists mainly of quartz, orthoclase or microcline, feldspar, and mica. Granite is the most common bedrock in the Sierra Nevada mountain range.

GRAVEL: A comprehensive term applied to the water-worn mass of detrital material making up a placer deposit. Placer gravel are sometimes arbitrarily described as fine, heavy, large, small, boulder gravel, etc.

GRAVEL BAR: See "bar placer."

GRAVEL PLAIN PLACERS: Placers found in gravel plains that formed where a river canyon flattened and widened or, more often, where it entered a wide, low gradient valley.

GULCH PLACER: A somewhat direct accumulation of materials, washed down from the immediate surrounding hillsides into a waterway, where the streambed allows for it.

GUTTER: The lowest portion of an alluvial deposit; commonly a relatively narrow depression or trough in the bedrock or the bedrock itself. In some placers the "pay streak" is largely confined to a narrow streak or "gutter."

H

HANG-UP: Generally rough bedrock or false bedrock that has caught and collected some gold or other heavy minerals.

HARDBACKED MATERIALS: These are materials which have been cemented together naturally. Though this is not a true indication of a virgin bed, it does indicate it has been laid down for some time. If found as a layer it would be called a "hardpan."

HARDPAN: A layer of hardened or cemented gravel found underlying a storm layer in a waterway. This gravel is cemented mainly with clay, but can be any calcareous, siliceous, or ferruginous material. These can be found spotty or cover large sections of the streambed and may be found with one or more of them overlying bedrock.

HARDROCK MINING: Same as "lode mining."

HEAVY GOLD: High purity gold in compact pieces, that weigh heavy in proportion to their size. Most often nugget gold.

HEAVY MINERALS: The accessory detrital minerals of a sedimentary rock with a high specific gravity. The "black sand" concentrate common to placers, would more properly be called a "heavy mineral."

HEMATITE: The chief ore of iron (Fe_2O_3 , 70% iron), having a blackish-red to brick red color. In water or when wet they look black in color; see "black sands."

HIGH-GRADE: 1. Rich ore. A term applied to ores rich in the values they are mined for. 2. To steal or pilfer ore or precious metals, as from a mine by a miner.

HIGH PRESSURE AREA: A "high pressure area" is a general term referring to a place where water is moving fast, in comparison to the main flow of water. Low-pressure areas can be of any size and are classified into three categories to clarify a particular size; large, medium and small.

HILLSIDE PLACERS: A group of intermediate gravel deposits between creek and bench placers. Their bedrock is slightly above the creek bed, and the surface topography shows no indication of benching.

I

ILMENITE: Titanium ore (FeTiO_3), having a lustrous black to brown color; see "black sands."

IMPURITY: Something that is not pure. Gold is the best example of this, because both lode and placer gold will be found to contain impurities; such as silver & copper. Raw-gold needs to be processed, to extract these impurities, to become pure gold; bullion.

INLET: The point where a channel is cut off by a ravine or canyon on the upstream end. Usually applied to buried Tertiary channels.

IRON SAND: 1. Magnetite or ilmenite rich sand. 2. Black sand concentrate containing an abundance of magnetite.

J

JEWELRY GOLD: Good-sized pieces of gold that are of proper quality to be used in the jewelry making trade; 1. Nuggets with quartz still attached, or quartz with gold showing that could be used for jewelry, called either "gold quartz" or "jewelry quartz." 2. Oddly shaped or unusual nuggets of placer gold. 3. Small size gold.

L

LARGE HIGH PRESSURE AREA: A "high pressure area" the size of an entire section of waterway; generally a few miles long or more. Also called "major high pressure areas." See "high pressure area."

LARGE LOW PRESSURE AREA: A "low pressure area" the size of an entire section of waterway; generally a few miles long or more. See "low pressure area."

LAVA: The term "lava" as used by a placer miner may designate any solidified volcanic rock, including volcanic agglomerates.

LEAD: See "pay dirt."

LIGHT GOLD: Gold that is in very thin flake form that looks large compared to its weight and could easily be moved during flood conditions.

LODE: These are gold bearing veins or pocket gold found in or upon exposed bedrock or as an ore; rock formations containing particles of gold, that may or may not be in chemical combination with other minerals.

LODE MINING: The mining of lode deposits. Also called "hardrock mining."

LOOSE-PACKED MATERIALS: This would be materials which are not cemented together or hardpacked which is resting loosely in the streambed. These are generally a problem to dredge, since the side walls of the hole will continually slide in.

LOW-GRADE: A term applied to ores relatively poor in the metal they are mined for, lean ore.

LOW/BACK PRESSURE AREA: A "back pressure area" may be found at times located in a small size low-pressure area. "Low and back pressure areas" are often found together and formed in the same manner; because of some major change off to one side of the waterway, change in the bedrock floor, or where the waterway changes direction.

LOW PRESSURE AREA: A "low pressure area" is a general term, referring to a place where water slows down or even stops, in comparison to the main flow of water. Low-pressure areas can be of any size and are classified into three categories to clarify a particular size; large, medium, and small.

M

MAGNETITE: Magnetic iron ore (Fe_3O_4 , 75% iron), having a blackish-red to very dark red color. Magnetite is slightly darker in color than hematite. In water or when wet they look black in color; see "black sands."

MAJOR FLOOD: A flood of an exceptional magnitude, that is not usually seen for many long years; approximately every 30 to 50 years or longer.

MAJOR LOW/BACK PRESSURE AREAS: A low and/or back pressure area of any size, with a very strong force of action.

MAJOR STORM: A rainfall of an exceptional magnitude. See "major flood."

MARCASITE: A mineral often mistaken for "fools gold," though not very often. This mineral is very similar to chalcopyrite in its characteristics; it tarnishes easily, going from bronze or brassy yellow to yellowish or grayish brown. It has a dark streak, and are lighter in weight and harder than gold. Neither of these minerals commonly occur in crystalline form and most often are found as irregularly shaped masses.

MATRIX: The surrounding substance within which something else originates, develops or is contained.

MAXIMUM DEPTH ALLOWANCE: The amount of depth one should agree upon or determine, that would effectively dredge a sample hole; taking into consideration the capabilities of the dredge to be used, personal experience and preference.

MEANDER: One of a series, of somewhat regular and loop-like bends in the course of a stream, developed when the stream is flowing at grade-level through lateral shifting of its course toward the convex side of the original curves.

MEDIUM HIGH PRESSURE AREA: A "high pressure area" the general size of an entire section of streambed; roughly one mile in length. Also called "minor high pressure areas." See "high pressure area."

MEDIUM LOW PRESSURE AREA: A "low pressure area" the general size of an entire section of streambed; roughly one mile in length. See "low pressure area."

MERCURY GOLD: See "amalgamated gold."

MESH SIZE: The number of openings within a 1 inch square of screen in which materials are sifted. The most common sizes for screens used with concentrates in mining are: #20, #30, #40, #60, #80, and #100 mesh size.

MICRO-FINE GOLD: A loose description of very fine size particles of gold. This gold is so fine, that it takes thousands of pieces to make a grain; 480 grains = 1 troy ounce; and can run as small as 1,000 flakes or colors a milligram; 31,103 milligrams = 1 troy ounce. Also called "ultra-fine" gold.

MILLING ORE: Rock formations containing particles of gold, that is in chemical combination with other minerals. These must be broken up and chemically processed to free the gold.

MINE DUMPS: Discarded low-grade ore or waste materials that are found accumulated into piles, next to or downhill from tunnel or shaft openings etc.; mine tailings. Also called "waste debris."

MINER LOW/BACK PRESSURE AREAS: A low and/or back pressure area of any size, with a very weak force of action.

MINIMUM DAILY ACCEPTABLE ALLOWANCE: The amount of gold recovery; pay; needed per day that would not only pay for expenses incurred but be an acceptable profit for those mining it out.

MINING SEASON: 1. The length of time a particular area of government owned land is open to mining. 2. A "mining season" can also be interpreted loosely as; the time generally allowed by an areas particular seasonal changes or weather conditions that allows one to mine.

MOTHER LODGE: 1. The source or main vein. 2. The name of California's largest gold producing area, derived from its source or main vein of which the gold comes from. It is in an area, which begins east of Sacramento, on the western slope of the Sierra Nevada mountains and covers some 100 square miles.

N

NATIVE GOLD: Typical metallic gold found naturally through a mining region or a particular strata.

NATURAL BED: See "natural streambed formation."

NATURAL STREAMBED FORMATION: A section of streambed that is fully reformed or reverted to its natural state; the majority of the larger cobbles and rock are found to be placed, to the least resistance to the flow. Also called a "naturally formed streambed" or "natural bed" for short.

NATURALLY FORMED STREAMBED: See "natural streambed formation."

NEW GOLD: Gold of any size, found in a recently reformed streambed after a major flood; a flood of a magnitude to reform the streambed materials into "naturally formed streambed." Anything less would be flood gold."

NUGGET GOLD: A water-worn piece of native gold. The term is restricted to pieces of some size, not mere particles. Anything larger than, one pennyweight for example, may be considered a nugget. Fragments and lumps of vein gold are not called "nuggets," because the idea of alluvial origin is

implicit.

O

OLD BEDS: This is a loose term used by dredgers, referring to those more recent "ancient streambeds," still inside the waterway or still within reach of modern dredging equipment.

OLD GOLD: Gold of any size, found in an old streambed; ancient, Tertiary, or otherwise; or parts thereof that have washed into the waterway, or gold found contained within hardpan would be considered "old gold."

OUTCROPPING: Portions of bedrock protruding through the soil or gravels along the shoreline of a waterway. Those of interest to the dredger will be found to extent out into the waterway.

OUTLET: The point where a channel is cut off and exposed by a ravine or canyon on the downstream end. Usually applied to buried Tertiary channels.

OVERBURDEN: Worthless or low-grade surface material covering a body of useful mineral. Gravel, rock, clay, sand, etc. that covers the bottom of a river or stream down to the bedrock. The term "overburden" is also used as a measurement of depth; example, if the water depth is 6 feet to the bottom, and the overburden is 10 more feet to the bedrock, you would have 16 feet to bedrock, with a 10 foot overburden to work.

P

PAY DIRT: Any type of ground, earth, gravels, sand, etc. that is profitable to mine. This depends on the miner's own viewpoint as to what is profitable. It may also be called "pay-lead," or "lead."

PAY LEAD: See "pay dirt."

PAYSTREAK: A limited horizon within a streambed placer, containing a concentration of valuables or made up of material rich enough to mine. Pay streaks in gold placers, are commonly found in well-defined areas on, or near bedrock; also called "stringer" or "stringer deposit." They are commonly narrow, sinuous, and discontinuous.

PAY VALUE: The worth or value placed on materials to be mined; amount of expected gold recovery from a given amount of materials.

PERMANENT DEPOSIT: In placer mining, this refers to gold deposited on the bedrock floor; especially those caught within the bedrock itself. It would take a major flood of equal or greater magnitude to release this kind of deposit. See "retention."

PIPE CLAY: A term used for clays, or clay like materials found in finely laminated beds, within Tertiary channels. Some may consist of volcanic material that has fallen into the water in the form of ash and taken on a stratified form resembling clay in appearance.

PITCH: Used in connection with bedrock in the channel or rim to express descent.

PLACER GEOLOGY: The study of all types of placers; alluvial & eluvial; how they were formed and how they interact or work together.

PLACER: A place where gold is obtained by the washing of materials: rocks, boulders, sand, clay, etc. containing gold or other valuable minerals by the elements. These are deposits of valuable minerals, in our case, native gold, are found in the form of dust, flakes, grains, and nuggets. In the United States mining law, mineral deposits, not veins in place, are treated as placers as far as locating, holding, and patenting are concerned. The term "placer" applies to ancient (Tertiary) gravel as well as to recent deposits, and to underground (drift mines) as well as surface deposits.

PLACER MINING: The obtaining of values; minerals; from placers by washing or dredging.

PLACER DEPOSIT: A mass of gravel, sand, or similar material resulting from the crumbling and erosion of solid rocks, which contains valuable minerals; gold, silver, platinum, tin, ect.; that have been derived from the rocks or vein.

PLANATION: Lateral mechanical erosion, as of a valley, by a running stream.

PLAYED-OUT: This is when a deposit of gold being mined becomes less than the minimum acceptable allowance in recovery or is fully recovered and mined out. Also called "play out."

POCKET GOLD: Native gold found in concentration in the remnants of ore veins, or sometimes seen as bulging sections of "spill" from these veins or quartz veins containing veins and/or pockets of free-gold. These are characterized by sharp, jagged rough surfaces in many unusual and distinctive nforms

and shapes. It is usually distinguished by its roughness, since it hasn't traveled any distance from its original location.

POINT BARS: See "skim bar."

POPCORN GOLD: A loose description of small pieces of gold, resembling popcorn in shape and size.

PRESSURE EDDY: An eddy with a circular motion, formed when the streams current pushes against a natural or artificial obstruction.

PROSPECTING: 1. In most cases, prospecting simply is the searching for new deposits. 2. Work merely intended to discover a pay lead in a drift mine, or to locate a channel. 3. Drilling a known placer; including that of an active waterway; deposit to determine its value or delineate a mineable area; placer drilling.

PROSPECTOR: One who prospects likely areas for signs of gold, prior to starting a production mining operation; also called a "sniper." Samples are taken at likely sites; usually by digging or dredging sample holes; or at random to locate payable ground. Sampling is continued until a deposit is either suspected or found acceptable to those that will be working the deposit out.

PUMPKIN SEED GOLD: A loose description of small pieces of gold resembling a pumpkin seeds basic shape and size; smooth, thick, and flat.

PUNCHING A HOLE: To dredge a sample hole through streambed materials down to bedrock or to your maximum depth allowance to determine how rich the site is.

PYRITE: The most common mineral mistaken for gold; "fools gold." It occurs as veins or as scattered grains in many types of rocks. Seen in exposed surfaces in a rock, or as grains in a stream, it is often brown in color on the outside. This is the result of the exposed parts having been oxidized to limonite, a more stable iron mineral. The crystal faces are often striated parallel to the edges of the face. Pyrite can be distinguished from gold by its greater hardness, its lower specific gravity; weight; its dark streak, and by the striations on crystal faces, when it is present.

PYRRHOTITE: A mineral often mistaken for "fools gold," though not very often. Very similar to that of Chalcopy-rite and Marcasite except that pyrrhotite, when pure, is magnetic and can be picked out of mixed gravel with a strong magnet; the same as magnetic black sand. Pyrrhotite has the same dark streak and and tarnishes easily, going from bronze or brassy yellow to yellowish or grayish brown. It is harder and more light weight than gold. Pyrrhotite does not occur in crystalline form and is most often found as irregularly shaped masses.

Q

QUARTZ: A component of granite and sandstone, SiO₂. In its pure or common state, it is a six sided crystal clear in color like glass. Usually found as all-white or marbled white with brown or red. It is often found as veins or pockets layered in bedrock. Geologists believe gold was originally crystallized from hydrothermal solutions in the seams, crevices, veins, and cleavage planes within quartz formations.

QUARTZ GOLD: Gold within a quartz rock, or running through an exposed vein, wire gold exposed in a pocket of quartz rock, or gold with a piece or pieces of quartz still attached. Natural placer gold in California, is formed in quartz.

QUATERNARY GRAVEL: Gravel deposited from the end of the Tertiary geologic time period to and including the present.

R

RAW GOLD: High-grade ore in free form; gold that is not in chemical combination with other minerals withing the ore; in which gold is visible from the outside of the ore. The best example of this is pocket-gold.

RECOVERY SYSTEM: This is the equipment used to process materials for its gold; or other values. In dredging, the bulk of the materials would be processed through a hydraulic separator in the hedder box, then recovered in the sluice box concentrator. During this process it may also be classified into size groups. The complete process would be considered a recovery system. Final clean-up may also employ another recovery system designed to process these heavy concentrates into clean concentrates.

RED GOLD: Placer gold found under or in "hardpan," or cemented gravels, in rivers and streams with red rust-like spots. Usually considered very old or has been cemented in place for a long time. This "old" gold has been called "blood gold," because the color at times is either dull or bright red when freshly dug or dredged up.

RESIDUAL PLACER: Essentially an enrichment of gold or other heavy minerals/metals, caused by weathering and subsequent removal of the lode or other parent material, leaving the heavier, valuable minerals/metals in a somewhat concentrated state. This type of placer occurs at the surface of the ground, where a vein of gold crops out and is exposed to the elements; generally anything found within a few feet of the parent lode outcropping.

RETENTION: In placer mining, this refers to the tendency of gold, to stay in place after it is deposited. The ability for gold to stay in place, greatly depends on where it is deposited in the streambed and is classified into three groups; permanent, transitory, and temporary.

RICE GOLD: A description of small grains of placer gold resembling rice in shape and size. Found mainly in the Alaskan and Yukon gold country.

RIM ROCK: The bedrock rising to form the boundary of a placer or gravel deposit. Called "rim" for short.

RIVER BAR: This is a "bar placer" found alongside or in a river; also called "river bar placer." The term "river" refers to the size of the waterway, thus, "stream bar" or "stream bar placer," would be found on a larger size waterway; creek bar, etc.

RIVER PLACER: This type of placer occurs very near, at, or under the surface of a river; also called "riverbed placer." The term "river" or "riverbed" refers to the size of waterway, thus, a "stream placer" or "streambed placer," would be of a smaller size waterway; creek placer, etc.

ROSE GOLD: Native gold that is found with a high concentration of copper; usually 15 to 25%; to give a gold pink appearance. This can also, be found man-made in the jewelry trade for its attractive "rose" color.

ROUGH GOLD: Gold that has not been appreciably worn or smoothed by movement and abrasion. It may be more angular than rounded, and may have included or attached quartz particles. As a rule, rough gold is found near its place of origin.

RUSTY GOLD: Free gold that does not readily amalgamate, as the particles are covered with a siliceous film, a thin coating of oxide of iron; usually hematite or magnetite which cause iron stains. When used as a loose term, it may include other outside impurities such as sulfides, oxides, and limonite rust.

S

SALTING: 1. Intentional salting. The surreptitious placing of gold or other valuable materials in a working place or sample, to make it appear rich in valuable material. It is done with the intent to defraud. 2. Unintentional or innocent salting. The unintentional or accidental enrichment of a sample through erroneous procedures or carelessness, without intent to defraud.

SALTATION: Large rocks and boulders which bounce along the bedrock floor during floods and travel distances by a series of jumps, is classified as being moved by "saltation."

SAMPLE: A portion of an ore, dirt, or gravel systematically taken from a deposit, in order to judge its quality.

SAMPLING ACTIVITIES: The process of sampling, by means of dredging holes in the streambed material to determine its pay value.

SAND BAR: See "bar placer."

SCALY GOLD: Small, rounded, flattened gold particles, usually quite thin in proportion to their diameter.

SCHIST: A crystalline rock that can be easily split or cleaved because it has a foliated or parallel structure. Schist bedrocks, because of their rough, platy structure, generally make excellent gold-catchers.

SEAM PLACER: These are simply a type of "residual placer," formed out of seams; cracks & crevices in exposed bedrock.

SEASONAL FLOODING: The amount of water force derived from annual winter storms and spring runoffs. Its peak or highest level would be found during spring snow runoffs. Also called "annual flooding."

SET-UP: This constitutes the assembly, testing, and placement of equipment in preparation before mining. Basically refers to the proper setting up of equipment, at the site one intends to mine.

SHINER: See "color."

SHINGLE: The flatter pebbles and cobbles overlying a gravel bar will often come to rest with their uppermost edge leaning slightly downstream. This formation is also found in beach gravel.

SHOTTY GOLD: Small, granular pieces of gold resembling shot; similar to pellets used in shotgun shells. Any small, more or less rounded gold particles, that are somewhat equidimensional rather than platy.

SINGLE DEPOSIT: A "single deposit" is formed, where it has been trapped or caught in a "catch" of some type, during its movement downstream by water action. See "catch."

SKIM BAR: An area near the upstream end of an accretion bar from which superficial concentrations of flood gold are mined by "skimming" off thin layers of gravel. They are sometimes known as "point bars," because of their proximity to the upper point of the accretion bar.

SLATE: A fine-grained rock formed by the compression of clay, shale, etc., which tends to split along parallel cleavage planes to form a rough, platy bedrock, well-suited for the retention of placer gold. Placer miners hail this to be the best bedrock to work for gold.

SLICKENS: A word sometimes used to designate the finer-sized tailings or mud discharged from a placer mine.

SLUG GOLD: A loose term for a large nugget without specimen or jewelry quality.

SMALL HIGH PRESSURE AREA: A "high pressure area" of small size. See "high pressure area."

SMALL LOW PRESSURE AREA: A "low pressure area" of small size. See "low pressure area."

SNIPER: See "prospector."

SNIPING: Sampling materials for its pay value.

SPECIFIC GRAVITY: The specific gravity of a substance, is its weight, as compared to the weight, of an equal bulk of pure water. For example, placer gold with an approximate specific gravity of about 18.5 (19 is pure gold) is 18 times heavier than water. The specific gravity of a mineral or metal greatly determines its susceptibility to recovery in simple gravity concentrators such as sluice boxes.

SPECIMEN GOLD: Nugget gold or any other form suitable for the manufacture of natural-gold jewelry or for display purposes. Pocket-gold and quartz-gold are the most common. When these pieces of gold are cleaned they are called "specimens."

SPONGE GOLD: The somewhat porous mass of gold which remains after too much heat is used to separate a mercury-gold amalgam; such as with a retort or similar vessel.

SPOTTED GRAVEL: When gold is erratically distributed throughout a deposit, the term "spotted" or "spotty" gravel is sometimes applied to it.

SQUATTER: A person using a claim site for a place of habitation, using the excuse of mining the claim site as a cover. The actual living conditions that constitute a violation of BLM and/or Forestry laws, varies in each county. It is best to inquire about legal living conditions at the forestry service in the county where the claim is located. This violation is considered an "Occupancy Trespass."

STORM LAYER: These are deposits of streambed materials by water action from flood waters, that are not found reverted or reformed into a natural bed formation. A streambed may be found to contain many overlapping storm layers, which may or may not contain a natural bed formation within them.

STRATA FORMATION: 1. A bed, layer, or other mass of materials overlying another; such as storm layers, hardpans, and the streambed itself which overlays the bedrock floor. 2. One kind of rock overlying another kind of rock, such as found in bedrock; slate to granite, to shist, etc.

STREAM BAR: This is a "bar placer" found alongside or in a stream; also called "stream bar placer." The term "stream" refers to the size of the waterway, thus, "river bar" or "river bar placer," would be found on a larger size waterway; creek bar, etc.

STREAM LOAD: The streambed gravels held in suspension and carried downstream during a flood. This would include the bed load, suspended load, and dissolved load as a whole.

STREAM PLACER: This type of placer occurs very near, at, or under the surface of a stream; also called "streambed placer." The term "stream" or "streambed" refers to the size of waterway, thus, a "river placer" or "riverbed placer," would be of a larger size waterway etc.

STREAMBED: A streambed is the "material," which forms on top of the bedrock channels. See "alluvial materials."

STREAMBED DEPOSITION: Anytime a waterway carrying suspended materials, slows down for any reason, the load it carries in suspension will deposit slowly along the bottom of the streambed. This is the last process in the forming of placers.

STREAMBED GEOLOGY: The study of alluvial placers; materials moved and deposited by water action; how they were formed and how they interact or work together; also called "the science of stream deposition."

STREAMBED MATERIALS: See "alluvial materials."

STRINGER: See "paystreak."

STRINGER DEPOSIT: See "pay-streak."

SUCTION EDDY: An eddy with a circular motion, formed when the stream's current passes around a natural or artificial obstruction, faster than the water

can fill up the space.

SUSPENDED LOAD: A "suspended load" would include materials, much like that of silt or sediment; fine size soil, mud, clay, etc. When conditions are right for it, materials carried in suspension by the water flow, will deposit by means of "sedimentation."

SUSPENDED MATERIALS: All materials caught up and moved during water action; bed load, suspended load, and dissolved load. The amount of materials in play, depends on the amount of water force at any given time.

SWELL: The expansion or increase in volume of earth or gravel upon loosening or removal from the ground or streambed.

T

TAIL END: The down stream end of a paystreak deposit, where it begins to drop below one's minimum acceptable allowance.

TAILINGS: The material that washes out from the end of the sluice or other recovery device, in a placer operation. The tailings from hydraulic mines are generally referred to as "debris" and are designated as such in legislative documents.

TAIL RACE: The channel which forms from the washing of tailings exiting a recovery system in a surface mining operation.

TEMPORARY: In placer mining, this refers to gold deposits, found mainly on the outside of curves or on accretion bars. Though, these can be found at times to contain substantial deposits of fine gold, they are easily washed away during the slightest water action. See "retention."

TERTIARY: The earliest of the two geologic periods comprising the Cenozoic era, in the classification generally used; up to a little over a million years ago. Also, the system of strata deposited during that period; see "geologic time scale" end of this section.

TERTIARY CHANNELS: Buried ancient waterway systems, often auriferous, composed of Tertiary stream alluvium. Tertiary gravel is abundant in the Sierra Nevada gold belt of California, where many of the ancient waterway systems, have been covered by extensive volcanic eruptions and subsequently elevated by mountain uplifts, and are now found as deeply buried channels high above the present stream beds.

TERTIARY BED: See "Tertiary streambed."

TERTIARY STREAMBED: The materials which formed over the bedrock channels and benches of ancient waterway systems. Also called "Tertiary bed" for short. See "Tertiary" for geologic time period.

TRACE GOLD: A very small quantity of gold; usually a speck too small to weigh by common scales. In reporting samples it is abbreviated "Tr."

TRANSITORY: In placer mining, this refers to gold deposited within the materials; overburden; between the bedrock floor and the surface of the "stream load." All storm layers as a whole, are considered temporary; being extremely susceptible to release by future flooding. See "retention."

TRANSPORTATION: In placer mining, this is a term referring to the movement of gold by water action.

TRIBUTARY: This is a small waterway adjoining a larger waterway. Also called "affluent."

TRIBUTARY DEPOSIT: A "tributary deposit" is concentrations of gold formed at and shortly downstream from where a tributary enters into a larger waterway. It may form a secondary gold route for a short ways downstream until conditions allow it to join the main line of gold's travel.

TOP WASH: A deposit of gravel, not in a channel on bedrock, but resting on cement; hardpan; overlaying the bottom deposit.

U

ULTRA-FINE GOLD: See "flood gold."

UPCROPPING: Bedrock protruding through overburden in a waterway.

V

VALUES: The valuable ingredients obtainable, by treatment, from any mass or compound; specifically, the precious metals contained in rock, gravel, etc.

VIRGIN: The term "Virgin" is defined as that which has never been mined before by anyone," such as "virgin bed or bedrock," "virgin placer," "virgin ground," "virgin materials," etc.

VIRGIN BED: See "virgin streambed."

VIRGIN STREAMBED: This is a "natural streambed formation," whether it is an ancient, Tertiary, or present streambed which has never been mined, or a section of streambed which was formed more recently, into a naturally formed streambed during a major flood, even if it has been redeposited into a location, which has been previously mined and worked out. Also called "virgin bed" for short.

W

WASH: 1. A western miner's term for any loose surface deposits of sand, gravel, boulders, etc. 2. The dry bed of an intermittent stream, which sometimes is at the bottom of a canyon. Also called a "dry wash." 3. To subject gravel, etc. to the action of water to separate valuable material from worthless or less valuable material simply, to wash gold. 4. In drift mining, the term "wash" is used indifferently in describing channel gravel, volcanic mud flows, or masses of lava boulders.

WASTE: Low-grade material not profitable to mine, such as barren gravel or overburden.

WASTE DEBRIS: Discarded low-grade ore or waste materials, that are found scattered around near mine tunnel or shaft openings etc.; mine tailings. Also called "mine dumps."

WATER FORCE: See "water pressure."

WATER PRESSURE: The force, momentum, velocity of flow, or current in a waterway or the absence (lack of) of such.

WATER TABLE: The upper limit of the portion of ground wholly saturated with water. This may be very near the surface or many feet below it.

WATERWAY SYSTEM: This would encompass all waterways, regardless of size; tributaries, feeder creeks, streams, etc.; that directly flow into and contribute to a larger waterway, thus all are related as one system.

WET PLACER: Any placer, which is within an active waterways highest water mark.

WHITE GOLD: 1. Strictly man made for use in jewelry, etc. An alloy of gold, nickel and silver or other metals used with gold to harden it. White gold has a platinum-like color tint. 2. A nickname for platinum used by miners.

WIRE GOLD: It looks like its description: fine, short pieces of wire, or a tangled wire-like mass. Usually in bunches of tangled wire-like form, mostly found in pockets of veins; see "pocket gold."

Y

YELLOW GOLD: Any placer gold is usually yellow in color. Even with impurities it still remains yellow. There are variations in lightness & darkness, depending on the impurities; silver, nickel, copper, etc. The grade of gold has much to do with its color, and its quality depends mostly on the darkness and brightness of its color.

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