## **MINERALS AND GEMS** TO LOOK FOR.

### A DECADE OF GREAT ACTIVITY---PRODUCTS OF THE TERRITORY TRIBUTARY TO SAN DIEGO BAY---A DESCRIPTION OF THEM.

BY C. R. ORCUTT.

One hundred years ago a few patient | 12.9 per cent sulphur. One of the most burros were engaged in carrying ore from various primitive mines to rude smelters, for the various missions thoughout the Californias. Gold was thoughout the Californias. Gold was unknown from our mines; silver was king. Tradition tells of numerous points, some within the immediate vicinity of San Diego, as having yielded fabulous wealth to the ancient workers, but little more tangible than vague fancy tales can be produced in verification at the present day.

Before the expiration of the first half of the interceptive gold had been

of the nineteenth century gold had been discovered in California, and a steady stream of prospectors and travelers crossed the arid plains of the Celorado desert and the fertile valleys tributary to San Diego, eager to reach the new El Dorado, and passed, unseeing or un

El Dorado, and passed, unseeing or uncaring, over wealth a findred fold
greater than that enumerated in the
fables of tradition.

Another quarter of a century saw the
continent banded with iron. Unparalleled activity in gold and silver
production followed. Quartz mills and
smelters succeeded the gold pans, and
mining assumed its proper role of a
legitimate business.

But the last quarter of the century

legitimate business.
But the last quarter of the century has been most prolific in the material advancement of our mining industries, until today California stands in the frent rank of producers. With the opening of the twentieth century the future looks bright. The revival of business in nearly all lines of trade, the steadily increasing demand for all the metals, which seeks new sources of supply in the face of the cheapening of production, augurs well for the miner in a region rich in natural resources like

region rien in natural resources like Southern California.

Twelve years ago the writer contributed to the San Diego Union a brief annotated list of the minerals then known in San Diego county. The county has been been defined into the but man since been divided into two, but more rather than less; territory is now trib-utary to San Diego, hence the present list will not be confined to the arbitrary limits of the county, but to the terri-

initis of the county, out to the territory naturally tributary to our bay.

The past decade has been one of great activity in prospecting rather than of development, every ridge and peak grobably having been scarred with eager, but too often, uneducated eye. Fools have rushed in where angels fear to tread, with unsatisfying financial results, and just as often rushed over things that would have made independent fortunes had they but known their

The present trend of industrial progress will soon bring into demand many of our undeveloped minerals that could not be profitably utilized in the past. It is hoped that the following past. It is noped that the following notes, while showing somewhat of our present known resources, may lead to the recognition of other crude material that may add to the importance of our future industries. The writer aims to give a conservative estimate of values,

and to avoid exaggeration—the bane of mining enterprises. Since the discovery of the Julian gold Since the discovery of the Julian gold mines about thirty years ago, San Diego county has produced more than ten million dollars in gold. The listory of the various mines which have produced their sum would be interesting and instructive, but must be left to some other pen. The lithia mines of the county—probably the largest and richest in the world—considered valueless two years ago, have through the efforts of the present writer and his associates, become producers within

nopoly previously enjoyed by Germany, whose exports to this country have averaged a ton daily. The kaolin deposits at El Cajon mountain promise to develop into a healthy industry. A sale of 200,000 tons of ore from the iron mines in Baja California, shipments of sait, and other developments in copper, lead, etc., all tributary to San Diego, are all elements in favor of a

associates, become producers within

the past year, and broken into the mo-

hopeful feeling.

RARE OR USEFUL MINERALS. ACTINOLITE - Abundant in the Colorado desert. ALABASTER—An abundance of ap-

ALLABASTER—An abundance of ap-parently good quality of this form of gypsum occurs on the Colorado desert, and in Baja California. ALLANITE—Named for T. Alien, who discovered it among minerals from

East Greenland, contains the rare metals cerium, didymium, glucinum, lanthanum, and yttrium, together with alumina, silica, lime, and iron, with traces of magnesium, manganese, soda copper, and water. This occurs in Pennsylvania, New Jersey, and in

ANGLESITE—Sulphate of lead has been reported from the Colorado desert in some abundance: composition about 73.6 per cent aside of lead, and 26.4 per

et sulphuric acid. ANTONITE-A tale-like mineral.

valuable of sliver ores.

APATITE—Phosphate of lime

APATITE—Phosphate of time has been reported from the property of the San Jacinto tin mining company.

ASBESTOS—A four-foot vein seven miles east of Eisinore, Cal., has been worked to a considerable extent, and the product manufactured into boiler covering, etc. Other deposits exist in the mountains bordering the Colorado desert on the west, but the demand on this coast seems not to justify their

development at present.
ASPHALTUM—Occurs native at var-ASPIADIUM—Occurs native at various points along the coast from San Diego northward. California produced in 1896 enarly 75,000 tons, worth about haif a million dollars.

ATACAMITE—A native exycloride

attacami is—A native exychoride of copper, originally found in the form of sand, in the desert of Atacama, between Chili and Peru. A specimen received of Emiliano Ybarra from a mine near Calmalli, Baja California, is identified as this species.

AZURITE—"Mountain blue" (blue carbonate of copper) occurs sparingly in some of the copper mines of South-ern California. One of the most beautiful of copper ores, magnificent speci-mens of which have been produced by the copper mines of Arizona. Compo-sition about 69.2 per cent copper oxide, 25.6 per cent carbonic acid, and 5.2 per

BARITE—Barytes or heavy spar is composed of about 65.7 per cent baryta and 34.3 per cent of suighurte acid. The present supply in the United States is excessive of the demand.

BIOTITE—Black mica occurs in versions insalities in Southern Cali-

BIOTHIE—Black mica occurs in various localities in Southern California and in Baja California.

BOLEITE—A rare mineral described from the copper mines at Santa Rosalla, Baja California, on the west coast of the Gulf of California. Occurs in perfect cubes

BORAX—Originally obtained from a lake in Thibet; composition about 36.6 per cent boric acid, 16.2 per cent soda, and 47.2 per cent water. Of a white and 4.2 per cent water. Of a white color, sometimes grayish, or with a shade of blue and green. The deserts of California and Nevzada produce annually about half a million dollars; worth, the product in 1896 being 13,-509 0000 pounds were here?

508,000 pounds, worth \$675,400.

CALCITE—Carbonate of lime, consisting of lime and carbonic acid. Rhombohedial in crystalization. Includes marble, limestone, calcareous tufa, etc. The cement rock of San Niem courts (a retails is to be a local carbonic for the company). Diego county (notably in Jamul valley) is a form of calcite, especially adapted for the manufacture of cement. Thinolite, occuring on the Colorado desert, is another form.

Limestone occurs abundantly in var

ious places in Southern California, and is mined at Colton and San Jacinto. Marble occurs in San Diego county in various colors, but the quarries are as yet wholly undeveloped. Some deli-

cate yellow marble—the most highly rrized color among the ancients—occurs on the Colorado desert.

Ophiolyte, or Verd-Antique marble, occurs on the Mojave desert, where large quarries of this beautiful and

large quarries of this beautiful and higly prized ornamental stone have been partially developed.

CERARGYRITE — "Horn silver" (chloride of Silver), composed of about 75.3 per cent silver, and 24.7 per cent chlorine, weighs 345 pounds per cubic foot, 5.5 cubic feet making a ton.

CHALCOPYRITE — Copper pyrites exist in large deposits in Baja California, and a mine of this ore is new being developed near Encinitas.

ing developed near Encinitas.

CHRYSOCOLLA—Silicate of copper.
composed of 45.2 per cent copper oxide.
34.3 per cent silica, and 20.5 per cent
water. Beautiful specimens of this
ore occur on the Colorado desert, near the Colorado river, and in Lower California. It is sometimes mistaken for

CINNABAR—Composition \$6.2 per cent mercury. 12.8 per-cent sulphur, weighing 549 pounds per cubic feet per ton. This is the principal ore of quicksilver, and has been reported from Riverside and San Diego counties, but I have seen no specimens in proof. The writer has five specimens from two distinct sources, alleged to have been found in Baja California. The industry in this county is practically confined to California, the product in 1896 seing reported worth over one million

others.
CUPRITE—Red oxide of copper; red
apper: reported from the Colorado

fern"; some beautiful specimens have been collected on the Majave desert, by Mr. Ira J. Gray.

ERYTHRITE—Occurs at the Kelsey

ALUM—See kalimite.

ALUM—See kalimite.

AMBLYGONITE — Associated with lepidolite in the lithia mines of the country. of siver and or consit in this colored earthy masses in a single of heavy spar. This occurrence was noted in 1881, and is described in the report of the state mineralogist for 1882, page 207, and in the fourth report, page

"A pound of this mineral dissolved in 5 pounds of turpentine gently heated makes an excellent japanning varnish, applied to metalic surfaces, and then baked, becomes quite hard. This varnish mixed with half a pint of oit, renders some fabrics waterproof and flexible when the varnish is perfectly -Yates.

dry.—Yates.
GRAPHITE—Plumbago or black lead is a carbon like the diamond, with some iron oxide and clay. A good quality of this mineral occurs near the Jacumba valley, in San Diego county, California, in some abundance, but remains undeveloped. It also occurs in other parts of the country, but not in sufficient quantities to be of any commercial importance.

mercial importance.

GYPSUM—Sulphate of lime, when pulverized the plaster of paris, of commerce; when crystalized known as selenite; the finer granular variety is known as alabaster. Composed of about 29 = ner cent lime 48 6 per cent sul-

known as alabaster. Composed of about 23.5 per cent lime, 46.6 per cent sulphuric acid and 20.9 per cent water. Very abundant near Riverside, on the Colorado desert and Baja California. HALITE—The salt fields of the Colorado desert, of San Quintin bay, and of Scammons Legoon, Baja California, ensure San Diego an abundant supply aside from her own product, and premise to add considerably to our commerce. merce.

HEMATITE—This iron ore occurs

sparingly on the Colorado desert, in greater abundance on the Majare desert and in Baja California, where the writer obtained some fine specimens of hematite in quartz in the Santo Tomas valley.

KALINITE—Alum occurs in consid-

erable abundance in the sulphur mines of Baja California, especially in the region of the Cocopah mountains. KAOLINITE—The kaolin found at

Cajon mountain, now being independently tested by the owners of the num-erous claims, has attracted considerable attention, and so far seems to meet with favor. An analysis by H. Boedtker & Co., gave the following result: Silica, 62.30 per cent; alumina, 20.50 per cent; iron (trace) .00 per cent; lime, 2.20 per cent; magnesia, 25 per cent; water, 11.60 per cent; moisture, 3.10 per cent. Rational analysis: Clay substance 67.2 and cent; follower 15.6

3.10 per cent. Hational analysis: Clay substance, 67.2 per cent; feldspar, 15.6 per cent; quartz, 17.2 per cent.

LEPIDOLITE—Lithia mica occurs in an immense deposit near the old mission at Pala—probably the largest and richest lithia mine in the world—upon which about \$4,000 were expended in development work during 1899. Lithia of American production—the product of us mine—was for the first time placed upon the market, and thus a new American industry inaugurated at

new American industry inaugurated at the close of the century. LIGNITE—A vein 4 feet thick. 12 miles north of San Diego, was reported by Dr. Le Conte years ago, but seems to have been since lost sight of and re-

to have been since lost sight of and remains undeveloped.

LIMESTONE—About 11.5 cubic feet weigh a ton, or 174 pounds to the cubic foot. See calcite.

LIMOTTE—Elsinore, Riverside coun-

y, California.

MAGNETITE—Occurs eight or nine miles north of Mesquite station, on the Colorado desert. I have also found magnetic iron ore in the mountains north of Salton; in the Encantada mine near Alamo (rich in gold), in the Santo Tomas valley, and at San Ysidro, Baja

California.
MALACHITE—Green carbonate of copper composed of about 71.9 per cent copper oxide. 19.9 per cent carbonic acid and 8.2 per cent water, forms the most beautiful of copper ores, at times becoming a semi-precious stone. The finest specimens are probably found in the Ural mountains, but magnifect. nificent masses have been mined in Arizona, and it usually occurs in cop-per mines where azurite, chrysosolia or cuprite are present, in the Colorado and Mojave deserts, and in Baja Cali-

fornia. MICA-The mica of commerce is a form of muscovite, but no mine in San Diego county has yet become a pro-ducer. See biotite, lepidolite, and

MOLYBDENITE-Composed of 60 per cent molybdenum and 40 per cent of sulphur; a soft, black lustrous, foliated mineral, often mistaken for graphite. Occurs sparingly in granitic veins near the Jamul and Jacumba valleys and at the Jamui and Jacumba valleys and at Campo, in San Diego county, and in Baja California, but not yet known to occur in this region in paying quantity. The United States produced this min-eral for the first time commercially in 1898

\$98—about 10 tons, worth \$50 per ton. MUSCOVITE—Common throughout orthocLase—Feldsper is not rare near Ballena, and occurs at Julian and

in Baja California quantity, and of a quality suitable for the manufacture of fine ware.

olcanic glass for the manufacture of arrow and spear points.

ONYX-Precious onyx (pure silica) onth—Frectous only (pure silica) is yet unknown in this region. Mexican only or Calcium marbic, composed of about 56 per cent lime and 48 per cent carbonic acid, is found in abundance near the head of the Guif of Certes, and on one of the islands off the west coast of Park Collingia.

opper: reported from the Colorado the west coast of Baja California.

DENDRITE—"Footprints of the num, calcium, and natrium." Has been come, some beautiful specimens have reported as occurring in Southern Cal-

PLATINUM-This metal is found only in metalic condition, sometimes alloyed with iridium or osmium. A nuc weighing nearly two pounds (only all inches in size) from Colombia. South America, has been reported as the largest in America, with an in-trinsic value of \$250. It contained 85 the state mineralogist for 1882, page per cent pure platinum and 15 per cent of gold, palladium and 15 per cent of gold, palladium and raodium.

FLUORITE—Colorado desert. in a metal is almost as soft as copper and as massive form.

GALENA—Lead sulphide, composed of about \$3.5 per cent lead, and 13.4 would not exceed an inch in height.

Down once weighing 181 popular per cent sulphur, is one of the heaviest of the sulphur can sulphur and the sulphur can be supplied to the sulphur two willows address the sulphur two willows and the sulphur two will be supplied to the sulphur two will be supplie ANTONITE—A talc-like mineral, discovered in a copper mine at San Antonio, Baja California, not far from Todios Santos bay. It was formerly shipped to New York and used in the per cent sulphur, is one of the heaviest shipped to New York and used in the manufacture of decorative papers.

ARAGONITE—Named for Aragon, Spain, identical in composition with calcite, but harder and crystalizing in prismatic forms. Colorado deesar, ARGENTITE—Silver glance is composition of the Colorado desart.

ARGENTITE—Silver glance is composed of about \$5.7 per cent silver and content of the heaviest of critic foot. 4.34 cubic feet making a nearly two million dollars, most of the Colorado deal content of the heaviest of the heaviest

Silicified wood occurs in various parts of San Diego county, but in the greatest abundance and variety on the Colorado desert; while Arizona is noted for its Chalcedony park, where an en-tire forest is preserved in a beautiful agatized form.

Diatomaceous earth occurs on the sea coast near San Diego RHODONITE-"Between San Diego

nd Colton."
RUTILE—This rare mineral was discovered by the writer at Mesa Grande in 1898, but not in any commercial quantity SALT-See halite

SALI—See naute.

SCHORL—Black tourmaline; quite common in San Diego county and in Baja California, disseminated through

Baja California, disseminated through quartz or feldspar. Crystals six inches in diameter have been observed.

SULPHUR—Formed at the mud volcanoes on the Colorado desert. The water of various thermal springs in Southern and Baja California are strongly impregnated with this mineral. It occurs native also on the Colorado desert, and in widely separated localities in Baja California in volcanic regions.

regions.
TALC—A foliated variety occurs at

TAIX—A fonated variety occurs at Elsinore, Cal. See antonite.

WOLFRANITE—Southeast Arlzona: reported from Baja California, but I believe erroneously. The finer quality is worth as high as \$700 per ton, and in consequence everyone should look

WULFENITE—Very fine crystals of molybdate of lead were obtained by the writer in 1888 from some of the mines north of Salton, in the Colo-

CORUNDUM-Reported from Los

Angeles county by Dana.
ANTIMONY—An ore carrying about 38 to 40 per cent of this metal, and from

\$5 to \$30 per ton in gold, occurs near San Diego, and awaits development. ZINC—Late discoveries in this coun-ty near San Vicente have recently been reported. Immense deposits are also reported to exist in the Mojave desert.

RUBIDIUM—One of the rare metals, more precious than gold, occurs as a by-product of the lithiz mines.

CAESIUM—A rare metal contained in minute quantities in lepidolite. It would prove useful if an available supply existed

GEMS AND PRECIOUS STONES.

San Diego, Cal., is noted somewhat for its products, mineralogical as well as horticultural, and as a center for the abalone shell fisheries, has been mildly

abalone shell issueries, has been mildly noted for its pearls.

ABALONE PEARLS—Of great beauty, and many of very odd and curious shapes, have not been rare. The finest pearls have been produced by the black abalone (Haliotis Cracherodu), while the queer triangular or tusk-like nearls have been more abundantly been more abundantly found in the blue abolene (H. splen-

ACEROITE (colorless tourmaline) of gem quality, has been discovered in San Diego county, California, associated with other lithia tourmalines.

AMBER-See succinite. AMBER—See succinite.

AGATE—Occurs in various forms in Southern California, but not in commercial quantity. The world's supply is principally received from Uruguay and Brazil, which is mainly cut and polished in Germany,

ALMANDITE—Red garnets are not rare in the California piacer mines. Some few crystals of gem value have been produced in San Bernardino county: the finest having been valued.

county; the finest having been valued as high as \$50 apiece. In the placer mines in Lower California the garners were formerly saved, and sold for \$5 per pound—being popularly called rubies—like the garnets of Arizona and New Mexico, which are said to be much superior to the "Cape Rubies" by artificial light.

AMAZONSTONE—A beautiful semi-precious stone of the feidspar group: the finest specimens of which come from Pike's Peak, Colorado. Has been

reported from Baja California but I have seen no specimens in proof.

AMETHYST—Deep purple, bluish violet fading almost into pink, crystiline variety of quartz. Colorado yields many fine specimens. May be expected to occur in some of the mines of the

to occur in some of the mines of the Colorado desert. BERYLS—Quite equal to those from the Ural mountains have been produced in Maine and North Carolina occurrence in San Diego county has re

cently been predicted.

BRAZILIAN EMERALD—The emblem of the Brazilian clergy, is not an in considerable emerald proper, but a green colored tournaline. A few green tournalines have been found in San Diego county, rted to occur in im-

> Cornwall, England, is composed of 78.6 per cent tin, and 21.5 per cent oxygen, it occurs in the Black Hills. South Dakota, at Temescal, Riverside county. California, and near San Diego. The chinorma, and hear San Diego. The two latter localities may yield specimens equal to that from Durango, Mexico, which is polished as a gem. CHALCEDONY—An uncrystalized translucent or clouded variety of

quartz, white, yellow, brown or bine Judge M. McIlhany says of the new distribution of the west-stripes or layers of different colors it ern slope of the mountains, in the valconstitutes agatet and if the stripes are all horizontal, it is called only, land from Póway valley. The mineral belt from set to east is probably two lain a fiesh-red; sand a grayish red. Portions of the Colorado desert in San south is not yet fully known, but it Diego county are strewn with water-worm framents of challestory of different powers. quartz white, yellow, brown or worn fragments of chalcedony of different colors, acres of the mesa-like formation, near the boundary line between the United States and Mexico, being covered with peobles of every con-

CHRYSOPRASE-The locality near contain both free and refractory ore.

QUARTZ—A cubic foot weighs 162 Visalia, Cal., yielded to the value of pounds, 12.34 cubic feet making a ton. \$400 in 1856, more than half of it for Occurs in an endless number of varieties. See agate, carnelian, chalcedony, Chrysoprase is a translucent, pale cutting, the rest for specimens. Chrysoprase is a translucent, pale bluish-green or yellow-green chalced-

CYANITE-Large quantities of small crystals occur in the Cargo Muchacha district, on the Colorado desert. None of gem value have been yet dis-

DIAMOND-A small stone was reported in 1898 as having been found in Baja California, about 50 miles south of Ensenada. Diamonds have not been found in such numbers and size in California as to render the search for them profitable, but no serious prospecting for them has yet been attempted. Itacolumnite or flexible sandstone, an alleged native of the diamond has been reported from San

Diego county.

DURNORTIENTE—Reported by Durden as occuring 25 miles from Ogilby, on the Colorado desert.

EPIDOTE—The United States pro-

duced \$250 worth of this semi-precions stone in 1895. Crystals in masses have been obtained by the writer near the Alamo, and associated with crystals of Calcite from near the coast south of Santo Tomas, Baja California. GARNET—See Almandite. HYALITE, or Muller's glass—A variety of opal, is described by T. Beck as occurring in Beaver valley, Utah. • A

fine quality of this stone occurs near San Diego.

INDICOLITE—Blue tourmalines are reported as occuring in San Diego

ITACOLUMNITE - Flexible sand-

ITACOLUMNITE — Flexible sandstone has been reported from the Jacumba valley, but has not been seen by the writer.

JASPER—Baja California.

JET—A fine black jet, evidently in some quantity, is reported from the vicinity of Santa Fe, New Mexico.

OPAL—Occurs on the Colorado desert, and also credited to the limits of the city of San Diezo, but only the in-

the city of San Diego, but only the in-ferior varieties are yet known in Cali-fornia. Banded opal has been describ-ed as occurring in Bearer valley, Utah, some three miles from Granite Peak. See hyalite.

PERIDOT-New Mexico QUARTZ—Fine crystals have been ound in the lithia mine at Pala, from which some beautiful stones have been

Rose quartz in magnificent masse has been found by the writer near Mesa Grande

RUBELLITE—Beautiful radiations and masses of crystals of pink tourma-line occur in the lepidolite at Pala. A few crystals of gem quality, resembling those from the Isle of Eibe have been found in the county. The largest crystals measure two inches in di-

SCHORL—Black tourmalines, six inches in diameter, were found at Mesa

SUCCINITE—"Amber in small modules was found near Pendennis, Lane county. Texas, by L. V. Hastings. The color is a rich brown, resembling burnite." Should be looked for on our

TOPAZ—The specimens alleged to have been found at Santa Monica, Cal., were undoubtedly frauds.

TOURMALINE—See achroite, Brazil-

ian emerald, indicolite, rubellite and schori. A blue chalcedony is reported from a mine near Julian, as occurring in a thin vein at a depth of about one hun-dred feet. It may prove of some value as a gem, and specimens or further in-

formation are greatly desired by the TURQUOISE - Reported from the Colorado desert, but no specimens have as yet been seen by the writer. Certain copper ores are easily mistaken for this stone. Mines of this gem of great extent are being worked in the Moiava deept Mojave desert region northwest of

Vanderbilt. Many other gems and precious stones are likely to be detected in this region as repidly as attention is directed to the

# PROPERTIES,

One of the new mining camps of the county, which is attracting no little attention, is at Peachland. This location was originally called Vallecitos-"Little Valley"—which aptly describes the character of the country.

There being another place in the and gas fitting entering into the con ountry by the same page, this has struction of the numerous building "MEMINAN—Reported to occur in immune at Paia, and in sermense quantities near the head of the eral other localities, some of them of been changed to Peachland, but might have found small fragments in San Diego county, evidently brought from a distance by the Indians, who valued termination, is banded green at the front the production of all kinds of fruit, from the apple to the lemon. Peach-land is strated at the meaning that the meaning the same name, this has been changed to Peachland, but might have been with more propriety called termination, is banded green at the front the apple to the lemon. Peachland is strated at the meaning that the meaning the same name, this has been changed to Peachland, but might have been with more propriety called the production of all kinds of fruit, from the apple to the lemon. Peachland is strated at the meaning that the meaning the same name, this has been changed to Peachland, but might have been with more propriety called the production of all kinds of fruit, from the apple to the lemon. Peachland is strated at the meaning that the meaning the same name. The same name this has been changed to Peachland, but might have been with more propriety called the production of all kinds of fruit, from the apple to the lemon. Peachland is the meaning that the meaning ame, this has to the production of all kinds of fruit, from the apple to the lemon. Peach-land is situated at the western base of

if equaled, by any place in the county. It is about fourteen miles from the occan, and twenty-eight from Diego. with miles of the sex. Florence Heights the hav. Coronado and other islands in

discoveries that are very interesting. Writing at the request of the Union. Judge M. Mclihany says of the new dis

probably belongs to a belt extending into Lower California. The district contains a perfect network of ledges. The north and south ledges are what is the United States and Mexico, being covered with pebbles of every conceivable color and as smoothly laid as from 10 to 30 feet in width. The east and west lodges vary in width CHRYSOPRIST. The location

The north and south ledges have been opened at 8 or 10 different places from 10 to 25 feet deep, and in one of them a tunnel has been run about 70 feet, and a cross-cut made, showing a ledge 22 feet in width. At the surface these ledges assay from \$1.50 to \$3; at 5 to 10 feet, from \$5 to \$10; at 20 to 25 feet, from \$16 to \$18. One of them, however, which assayed between \$12 and \$13 at best part of the ore shoot. Another at 10 feet or less assayed less at 23 feet. It may be, however, that the miner has missed the best part of the ore shoot. Another at 10 feet or less assayed \$91 per ton, but as this value was obtained ton, but as this value was obtained from antimony, nickel, gold and silver, it is not a fair way to estimate its value, for all of these cannot be realized by any one process of treatment. The assay showed \$20.80 in nickel, \$6.20 in gold, and several dollars in silver, making of these metals about \$20.80 which probably represents about \$30, which probably represents

about \$30, which probably represents the true value of the assay; the balance was in antimony.

"Assays taken from the east and west ledges varied greatly from a trace to over a hundred dollars. Many of them seem to be broken and "pockety," while the north and south ledges seem to be of uniform width and assay him. to be of uniform width and assay minto be of uniform width and assay mineral from foot to hanging wall. Most of the experienced miners who have examined them have expressed the opinion that they will 'go down' and improve as they go. As for myself, I express no opinion in regard to the matter, but simply give the facts, and would not now consent to this publication if others who have no interaction if others who have no intercation if others who have no interest in the matter had not previously volunteered to give the newspapers re-ports not in all respects correct. Most of these ledges are on private

property owned by people who live here. A few are on government land, but most of these have been filed on as fast as discovered. Other parties are fast as discovered. Other parties are now interested to some extent with the original owners, among whom are Sterling Heneycutt of Pacific Beach; Mr. McLaughlin of Jowa, now residing at Pacific Beach; T. W. Grandstaff and H. O. Miller of San Diego, and W. L. Brooks, a miner from Colorado.

McIlbany has for himself, Honeycutt, McLaughlin and Miller entered into a contract to hond to a Colorado com-

contract to bond to a Colorado company part of one ledge at \$10,000 and agreed to give the same parties the refusal of several other ledges.

#### VALLEY CENTER LEAD.

#### A Good Thing Discovered By Ranchers-Showing Better.

While plowing in his field, about two miles northeast of the Valley Center store and postoffice, a year or more ago, W. H. Wilhite came across specimens of argentiferous ore, turned up by his plow point. He was not a miner, but having an idea that the ore was worth something, he searched and found the main body. Last September he and his neighbor, Hill, opened up a cut in the ore body. They had the product tested, with such a satisfactory showing that they have continued the work of opening up the mine. They have driven a tunnel into the sidehill a distance of fifty feet, all the way through ore, and attained a depth of over thirty feet below the surface of the hill. They have also begun sink-ing at the end of the tunnel, which will be driven still further into the hill.

The deposit is a contact between granite and mica schist, and is primarily a leaft proposition. The ore, howrily a lead proposition. The ore, how-ever, is unlike any other found in this part of the country, and carries lead, silver and gold. The owners have had several good offers, but have not yet felt disposed to sell. They are carrying on the work energetically, and being repaid by continual improvement both in the size and quality of Several specimens sent into the city by them recently show the pres-ence of lime in the body, which was lacking at first. Every stroke of derelopment only adds evidence of the

richness of the mine.
Several other claims have been located by other parties in the neighborhood of the Wilhite-Hill mine. The

#### extent of the ore body is immense. J. S. JOHNSTONE & SONS.

An Unusually Large Amount of Business the Past Year.

The old Chicago plumbers at the Griswold block, 1154 Fifth street, are now in the thirteenth year of a successful business career in this city. A large percentage of plumbing, heating erected during the past few months has been done by this firm. Principal among these might be mentioned the State Normal school, the Gas and Elecinto rubelitie where fractured. Another specimen is green at the center, with a thin outer crust of black.

• CARUELIAN—A veriety of quartz, translucent like horn, yellow, brown or red. Has been found on the Colorado desert, and specimens collected in the seer to an experiment of the mountains are about 2.000 feet above high and the valley 1.500 feet above high and the valley 1. state Normal school, the Gas and Elec-tric Light company's new business block, Johnson & Connell's, J. W. Seinew residences: Mrs. E. S. Babcock's, Miss Pratt's, Dr. Edwards', Miss Thompson's, Geo. Churchill's, A. P. Stephens', Graham Babcock's, Mrs. Cossiti's and Dr. Edwards' sanitarium.
At the Hotel Florence, a new steam-heating plant has been put in. Besides these are numerous large changes and improvements all over San Diezo and

At E. W. Scripps' Virimar ranch a large hot-water heating plant has been put in by this firm, besides plumbing, with Turkish showers and baths of finest and latest improvement; and at Point Loma they have fitted up for Dr. Wood the large sanitarium with plumb ing, gas fitting and fixtures, besides a steam-heating plant for heating the entire building.

This firm's sweet of plumbing, gas and electric chandellers cannot be ex-celled this side of San Francisco. A liberal share of the work of the coming year, in any of its branches, if bestow ed on this firm, will receive the usual