The salt bed of probably greatest commercial value is 4 miles south of St. Thomas and is about 100 feet thick. It is covered with a coating of sand and silt, but under this coating it is hard and solid and in order to be mined must be blasted. Some specimens of the salt are nearly as transparent as plate glass, but the bulk of it is mixed with clay and silt.

Sodium Sulphate (Glauberite) Deposit

Sodium sulphate (glauberite) occurs on the west side of the Virgin River about 5 miles south of St. Thomas. This deposit is on patented land formerly owned by the Stewart brothers. This land has been purchased by the Federal Government, since it will be submerged when water rises to the crest of Boulder Dam. The deposit has been explored by an adit 200 feet long, near the end of which is a winze 40 feet deep. No production has ever been made.

The sodium sulphate occurs as a crystalline mass of glauberite in horizontal sedimentary beds. Composite samples of the material analyzed 46.8 percent sodium sulphate, 45.85 percent calcium sulphate, and 7.35 impurities, including sodium chloride, iron, alumina, and silica. Glauberite when pure is composed of 51.1 percent sodium sulphate and 48.9 percent calcium sulphate, and the foregoing samples indicate that the deposit is fairly pure. The reserves are probably large.

SEARCHLIGHT DISTRICT

(Gold, Silver)

The Searchlight district is in southeastern Clark County, 40 miles south of Boulder City, Nev., and 22 miles east of Nipton, Calif. Nipton, on the main line of the Union Pacific R.R., is the nearest shipping point. The town of Searchlight, with a population of about 200, is 16 miles west of the Colorado River at an elevation of 3,600 feet.

The first claims in this area were located in 1897 by G. F. Colton, John Swickard, and others. The first important discovery was made on the Searchlight claim, now part of the Duplex mine, and the Quartette mine was discovered shortly after. The latter was financed by Col. C. Hopkins of Buffalo, N. Y. In 1902 the Quartette Mining Co. erected a 20-stamp mill on the Colorado River, 16 miles east, and built a narrow-gage railroad to connect the mine and the mill. In 1903 water was encountered in the Quartette shaft and a second mill of 20-stamp capacity was built at Searchlight.

The greatest activity occurred from 1902 to 1916, during which period a large number of companies were organized, many of which were merely stock-selling ventures. From 1916 to the present time mining has been principally in the hands of lessees. In 1936 an average of 60 men were employed on various properties in the district.

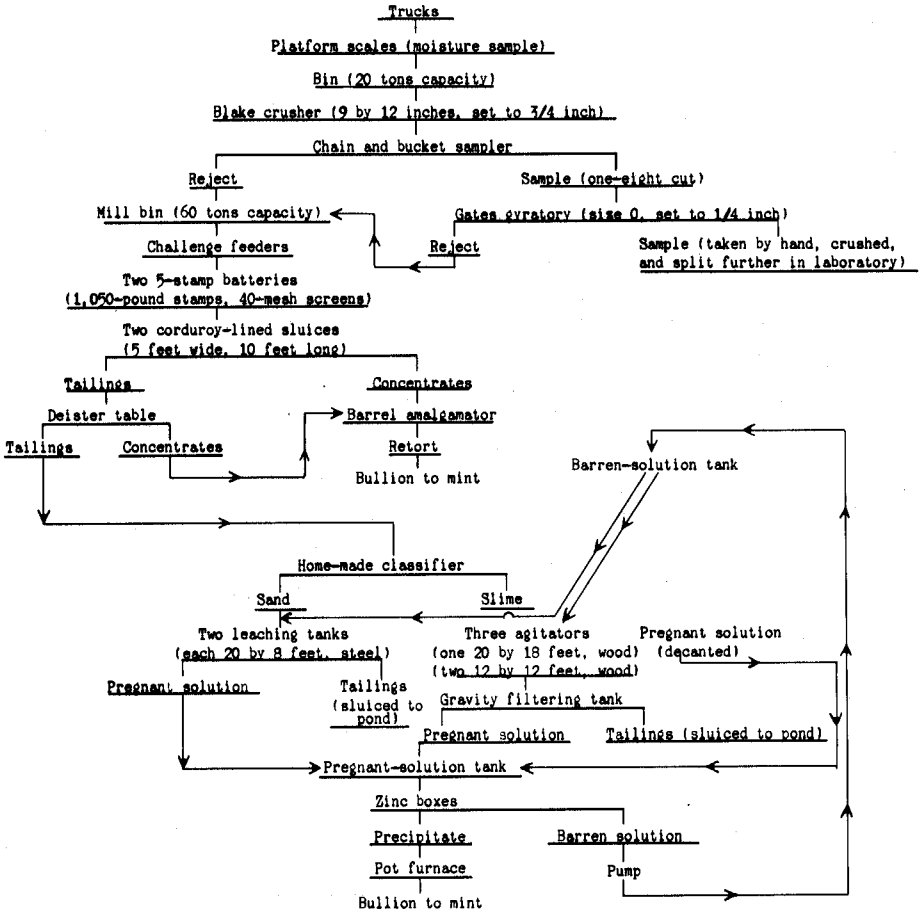

Figure 9.- Flow sheet of Kelsey custom mill, Searchlight district, Clark County, Nev.

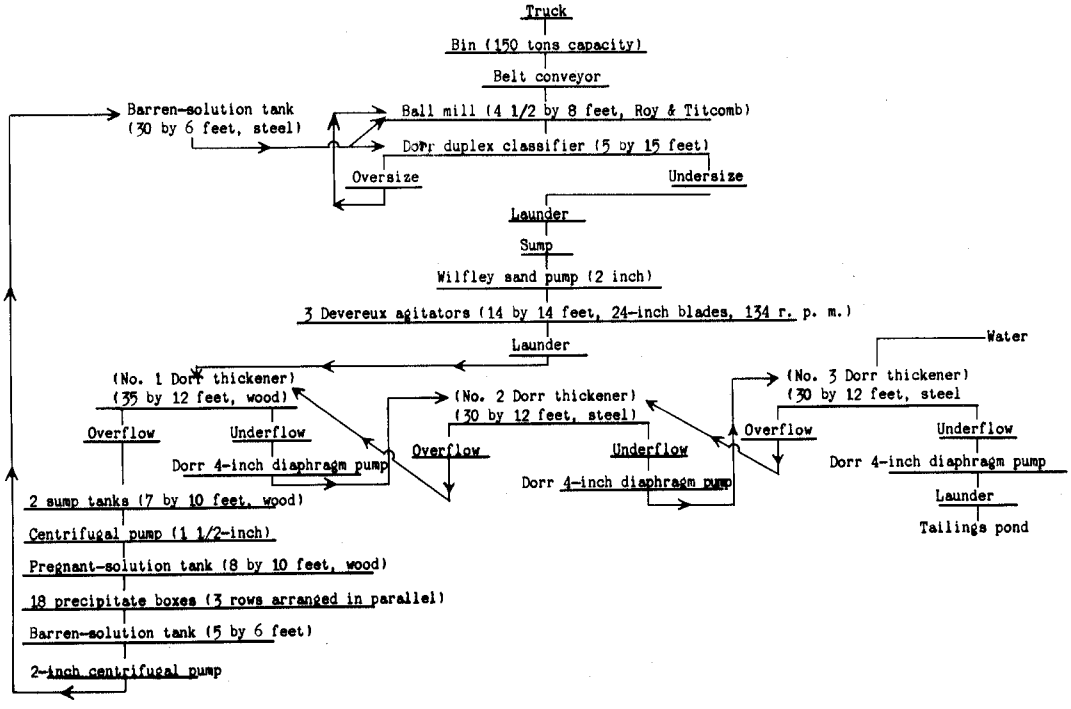

Figure 10.- Flow sheet of Mollin Mining Co. cyanide plant, Searchlight district, Clark County, Nev.

The mineralized area in the vicinity of Searchlight is 3 miles long and 1 mile wide. The ore occurs in fissure veins near a major fault contact between quartz monzonite and Tertiary eruptives. The fissures contain very little quartz, and the pay ore usually is a mass of shattered country rock or gouge material stained with iron oxides and carrying free gold associated with copper and lead minerals generally oxidized. Production of the district is shown in table 4.

A number of properties at Camp Thurman, Camp Dupont, Black Mountain, and Newberry Mountain are included in this report under the Searchlight district.

Custom Milling

The Kelsey custom mill at Searchlight, owned by W. H. Kelsey, was built in the latter part of 1935 to treat custom ores derived from various properties within the Searchlight area. The capacity of the mill is 30 tons per 24 hours, but the supply of ore has been insufficient to permit steady operation of the mill. In 1936 an average of 400 tons or ore, valued at from $7 to $100 per ton, were treated per month.

The flow sheet of the mill is shown in figure 9. A crew of four men is required to operate the mill on a one-shift-per-day basis. The cost of the plant, with all used equipment excepting the stamps, which were new, but including laboratory and assay office, was $20,000. Power for milling is furnished by a 100-horsepower, Fairbanks-Morse, Y-type, 3-cylinder, Diesel engine. Water for milling is pumped from the Santa Fe shaft near the mill. Custom milling charge is $4 per ton, and payment is made for 90 percent of the assay value of the gold estimated at $33 per ounce and 90 percent of the assay value of the silver less one ounce at 70 cents per ounce.

Blossom Mine

The Blossom mine, comprising five patented claims, is owned by William H. Crozier of Los Angeles, Calif. This mine, originally part of the Southern Nevada property, was purchased by Crozier at a tax sale several years ago. In 1936 the western portion of the mine was leased to A. S. Gaines and Chris Kirkeby of Searchlight, Nev. During the last 6 months of 1936 the lessees had shipped 27 carloads of ore averaging about $100 per ton. An average of 12 men are employed. In the early days the mine is reported to have produced $325,000.

Development work on the Blossom property comprises several shafts, the deepest of which is 430 feet, and other workings, totaling in all about 2,000 feet. Mining equipment on the Gaines-Kirkeby lease includes a Fairbanks-Morse geared hoist driven by 6-horsepower gasoline engine and blacksmith shop.

The formation is andesite and quartz monzonite. In former years the production of the Blossom mine was derived from a blanket vein averaging

TABLE 4. - Gold, silver, copper, and lead production from Searchlight District, Clark County, Nevada, 1904-1935

(Compiled by Charles White Merrill, supervising engineer, San Francisco office, Mineral Production and Economics Division, U. S. Bureau of Mines)

Year	Placer						Lode			
	No. of mines	Gold		Silver		Total value	No. of mines	Ore, short tons	Gold	
		Fine ounces	Value	Fine ounces	Value				Fine ounces	Value
1904	------	----------	-----	----------	-----	-----	3	16,750	18,401.17	$380,386
1905	------	----------	-----	----------	-----	-----	6	38,069	19,329.44	399,575
1906	------	----------	-----	----------	-----	-----	5	45,668	25,144.60	519,785
1907	------	----------	-----	----------	-----	-----	6	45,921	23,440.98	484,568
1908	------	----------	-----	----------	-----	-----	7	52,193	13,137.34	271,573
1909	------	----------	-----	----------	-----	-----	8	68,931	16,236.83	335,645
1910	------	----------	-----	----------	-----	-----	13	27,331	10,405.32	215,097
1911	------	----------	-----	----------	-----	-----	10	1,850	966.48	19,979
1912	------	----------	-----	----------	-----	-----	9	4,158	2,237.05	46,244
1913	------	----------	-----	----------	-----	-----	15	5,989	6,653.84	137,547
1914	------	----------	-----	----------	-----	-----	5	3,057	3,998.53	82,657
1915	------	----------	-----	----------	-----	-----	13	7,766	4,984.66	103,042
1916	------	----------	-----	----------	-----	-----	15	6,322	3,902.75	80,677
1917	------	----------	-----	----------	-----	-----	14	12,866	3,444.93	71,213
1918	------	----------	-----	----------	-----	-----	14	1,700	2,649.06	54,761
1919	------	----------	-----	----------	-----	-----	9	6,980	2,854.37	59,005
1920	------	----------	-----	----------	-----	-----	7	2,131	3,432.35	70,953
1921	------	----------	-----	----------	-----	-----	9	1,182	3,600.65	74,432
1922	------	----------	-----	----------	-----	-----	7	1,441	1,661.29	34,342
1923	------	----------	-----	----------	-----	-----	6	1,142	1,006.93	20,815
1924	------	----------	-----	----------	-----	-----	2	850	830.12	17,160
1925	------	----------	-----	----------	-----	-----	5	2,833	3,313.93	68,505
1926	------	----------	-----	----------	-----	-----	4	1,881	1,879.42	38,851
1927	------	----------	-----	----------	-----	-----	4	106	334.90	6,923
1928	------	----------	-----	----------	-----	-----	3	77	223.78	4,626
1929	------	----------	-----	----------	-----	-----	3	184	105.26	2,176
1930	------	----------	-----	----------	-----	-----	3	124	19.40	401
1931	------	----------	-----	----------	-----	-----	8	20,855	3,276.29	67,727
1932	------	----------	-----	----------	-----	-----	7	2,973	2,018.41	41,724
1933	------	----------	-----	----------	-----	-----	10	2,996	912.58	23,326
1934	1	8.32	$ 291	----------	-----	$ 291	24	6,701	1,745.52	61,006
1935	1	2.96	10,656	----------	-----	10,656	35	29,617	3,825.62	133,897
Total	2	11.28	10,947	----------	-----	10,947	-----	420,644	185,973.80	3,928,618

TABLE 4. - Gold, silver, copper, and lead production from Searchlight District, Clark County, Nevada, 1904-1935. (Continued)

(Compiled by Charles White Merrill, supervising engineer, San Francisco office, Mineral Production and Economics Division, U. S. Bureau of Mines)

Year	Lode							Average recoverable value of ore per ton[1]	Total value (lode and placer)
	Silver		Copper		Lead		Total value		
	Fine ounces	Value	Pounds	Value	Pounds	Value			
1904	13,245	$ 7,682	------	-----	------	-----	$ 388,068	23.17	$ 388,068
1905	28,528	17,402	22,808	$ 3,558	12,064	$ 567	421,102	11.06	421,102
1906	11,543	7,849	11,182	2,158	9,655	550	530,342	11.61	530,342
1907	7,494	4,946	37,063	7,413	38,113	2,020	498,947	10.87	498,947
1908	10,917	5,786	14,954	1,974	44,857	1,884	281,217	5.39	281,217
1909	13,544	7,043	22,916	2,979	36,209	1,557	347,224	5.04	347,224
1910	11,489	6,204	93,848	11,919	45,847	2,017	235,237	8.61	235,237
1911	2,136	1,132	12,095	1,512	7,659	345	22,968	12.42	22,968
1912	2,562	1,576	10,126	1,671	10,032	451	49,942	12.01	49,942
1913	5,903	3,565	53,971	8,365	61,006	2,684	152,161	25.41	152,161
1914	2,855	1,579	5,556	739	21,919	855	85,830	28.08	85,830
1915	3,546	1,798	20,970	3,670	35,562	1,671	110,181	14.19	110,181
1916	4,340	2,856	24,392	6,000	9,951	687	90,220	14.27	90,220
1917	9,073	7,476	98,923	27,006	59,453	5,113	110,808	8.61	110,808
1918	8,395	8,395	44,477	10,986	77,863	5,528	79,670	46.86	79,670
1919	5,502	6,162	18,074	3,362	39,307	2,083	70,612	10.12	70,612
1920	5,275	5,750	44,941	8,269	91,436	7,315	92,287	43.31	92,287
1921	9,877	9,877	31,128	4,016	98,048	4,412	92,737	78.46	92,737
1922	5,024	5,024	12,847	1,734	44,375	2,441	43,541	30.22	43,541
1923	2,708	2,221	22,150	3,256	47,651	3,336	29,628	25.94	29,628
1924	1,267	849	5,801	760	46,050	3,684	22,453	26.42	22,453
1925	2,586	1,795	14,974	2,126	86,768	7,549	79,975	28.23	79,975
1926	1,720	1,073	7,430	1,040	81,977	6,558	47,522	25.26	47,522
1927	306	174	1,429	187	10,415	656	7,940	74.91	7,940
1928	252	147	1,929	278	8,991	521	5,572	72.36	5,572
1929	58	31	654	115	2,743	173	2,495	13.56	2,495
1930	27	10	------	-----	------	-----	411	3.31	411
1931	5,826	1,690	6,022	548	274,687	10,163	80,128	3.84	80,128
1932	4,853	1,369	4,353	274	355,458	10,664	54,031	18.17	54,031
1933	1,182	414	2,261	145	12,040	445	24,330	8.12	24,330
1934	8,478	5,477	2,237	179	4,951	183	66,845	9.98	67,136
1935	12,317	8,853	9,195	763	72,271	2,891	146,404	4.94	157,060
Total	202,828	136,205	658,706	117,002	1,747,358	89,003	4,270,828	10.15	4,281,775

1/ Not to be confused with average assay value.

3 feet in width and outcropping around the sides of a small hill. This form of deposit is unique in the district, as all the other deposits are inclined veins of the fissure type. On the Gaines-Kirkeby lease the vein varies in width from a few inches to 15 inches, and the values occur in crushed andesite and gouge. Most of the ore has been mined between the surface and the 110-foot level. Values are chiefly in gold and silver.

Because of the erratic distribution of values the ore is mined by irregular workings with little regard for development. There are no pronounced structural features to distinguish the vein material, and constant panning is necessary to distinguish between ore and waste. In places where the ore is continuous the resuing method of mining is employed. In February 1937 the inclined shaft had reached a depth of 160 feet. The ore is hoisted in a bucket (600 pounds capacity) sliding on skids. The ground is soft and drilling is done with hand augers or hand steel.

A shipment of ore made by A. S. Gaines and Chris Kirkeby to the U. S. Smelting & Refining Co. on November 20, 1936, furnished the following information:

Metal quotation:	Au at $34.9125		
	Ag at .77		
		Oz	
Settlement assay:	Au	3.845	
	Ag	47.62	
		Percent	
	Insol.	83.4	
	Fe	3.2	
	S	.2	
	Lime	1.0	
Metal payment	100 percent Au at $32.3183		$124.26
	Ag at .77		36.67
	Total metal value		160.95
	Less 5 percent value of Ag		1.83
	Gross metal value		159.10
	Less treatment		7.70
	Net value per ton		151.40
		Lb.	
Wet weight		122,560	
Less 6.7 percent moisture		8,212	
Net weight		114,348 or 57.174 tons at $151.40	$8,656.14
Deductions:	Freight, $11.50 per ton	$704.40	
	Assay charges	6.00	
	Sampling charges	44.90	
		755.62	755.62
	Net proceeds		7,900.52

The cost of hauling to Nipton, Calif., on the Union Pacific R.R., 22 miles west of the mine, is $3 per ton on contract. The royalty payments, based on the net smelter returns, are as follows:

Value of ore	Percent royalty
$20 or less	10
$20 to $45	15
$45 to $65	20
$65 or more	25

Quartette Mine

The Quartette mine, owned by Mrs. Frank Miller of Los Angeles, Calif., has been the best producer in the Searchlight district, with a production in excess of $2,000,000. The period of greatest activity was from 1905 to 1912, when this mine was operated by the Quartette Mining Co. In recent years the property has been worked intermittently by lessees. In 1936 the Mollin Mining Co., controlled by Rex Moss of Los Angeles, Calif., erected a cyanide plant to treat the Quartette tailings. This plant superseded a flotation mill on the Quartette property.

The mine is developed by three shafts 500, 900, and 1,350 feet deep and extensive underground workings. The maximum vertical depth attained in the mine workings is 900 feet. Most of the mining equipment has been removed.

According to Ransome[28/], the Quartette lode is a strong fissure zone striking about north 65° west and dipping from 20° to 70° to the south. The main ore shoot was 350 feet long and up to 50 feet in width. Formation is andesite and gneiss cut by aplite dikes. The ore consists of crushed country rock generally oxidized and carrying values chiefly in gold, with some silver associated with chrysocolla, cuprite, iron oxides, and quartz. The less frequent constituents in the ore are cerussite, wulfenite, cuprodescloizite, azurite, malachite, and vanadinite.

The flow sheet of the cyanide plant for the treatment of tailings is shown in figure 10. The all-slime cyanidation process with countercurrent decantation is employed. Capacity of the plant is 85 tons per day, and it grinds from about 50 percent plus 48-minus 8-mesh to minus 100-mesh. Cyanide at the rate of 1 pound and lime at the rate of 2 pounds per ton of solution are added to the ball mill. Precipitation is effected with zinc shavings in zinc boxes made from 50-gallon oil drums. The cyanide strength for precipitation is 1 1/2 pounds per ton of solution. To improve precipitation, lead acetate solution is added at the head of the zinc boxes. Power for milling is furnished by a 300-horsepower Fairbanks-Morse Diesel engine. Water is pumped from several shafts in the vicinity.

The Duplex mine dumps have been sampled by the Mollin Mining Co. for mill material, and it is reported that by screening the dumps through 3/4-inch mesh screen about 40,000 tons of material averaging about $6 per ton can be obtained.

28/ Ransome, F. L., Preliminary Account of the Goldfield, Bullfrog, and Other Mining Districts in Southern Nevada: U. S. Geol. Survey Bull. 303, 1907, pp. 69-72.

Chief of the Hills Mine

The Chief of the Hills mine, owned by the Riverview-Cumberland Mining Corporation (Emil H. Koehl, president, Hollywood, Calif.), comprises a group of six claims (four patented) 3 1/2 miles southeast of Searchlight. In 1936 the property was leased to J. T. Woodward and associates for 10 years. From July 1936 to February 1937 Woodward, working with three men, shipped 175 tons of ore, averaging $11.77 per ton, to the Kelsey mill at Searchlight. Total production has been about $100,000.

Property is developed by several adits; the main adit is 1,100 feet long and from this adit a winze has been sunk to a depth of 165 feet. Two levels have been driven from the winze below the adit level. Total workings comprise about 3,500 feet. Mining equipment includes a Chicago pneumatic 2-stage compressor (capacity 300 cubic feet), a 6-horsepower geared hoist driven by gasoline engine, a LeRoi Rix portable compressor, blacksmith shop, assay office, and mining tools. The mill on the property is equipped with a Dodge crusher (12 by 4 inches), a 25-ton, slow-speed, Lane Chilean mill, and two amalgamation plates (5 feet wide and 10 feet long). The power plant for the mill has been removed.

The ore occurs in a shear zone in andesite porphyry. The shear zone ranges in width from 1 to 6 feet and dips about 70°. It has been disturbed considerably by faulting. Values are chiefly in gold, with a small amount of silver.

Duplex Mining Co.

The Duplex Mining Co., controlled by Mrs. Frances Roller of Searchlight, Nev., comprises seven patented claims about 1/2 mile north of the Quartette mine. This property has been the second largest producer in the Searchlight district, with a production of about $1,000,000, most of which was made during the early days of the camp. In recent years the property has been worked intermittently by lessees. About 4 years ago an attempt was made to work the mine on a large scale, but this venture was unsuccessful. In 1936 lessees are reported to have shipped about 1,000 tons of ore to the Kelsey custom mill at Searchlight.

The mine is developed by several shafts, the deepest of which is 700 feet, and extensive underground workings.

The ore occurs in several veins ranging from 2 1/2 to 5 feet in width. The formation is principally monzonite. Values are in gold and silver, which at depth is associated with copper, lead, and zinc. The ore mined near the surface was treated by amalgamation, but at depth the ore became base, so that it was either shipped to smelters or treated in a flotation mill at the mine.

Southern Nevada Group

The Southern Nevada group of two patented claims, owned by Mrs. Ada K. Becker of Los Angeles, Calif., and Mrs. M. L. Reynolds of Buffalo, N. Y., is about 1 mile north of Searchlight, Nev. In 1936 the property was leased to J. A. Leavitte and Ernest Sandquist of Searchlight on a royalty basis of 10 percent of the net returns. When the writer visited the property the two lessees were screening and hand-sorting gob material from the old stopes.

Property is developed by several shafts, the deepest of which is 400 feet, and lateral workings, totaling about 4,000 feet. Considerable water was encountered at about 300 feet. Equipment includes a geared hoist driven by 5-horsepower gasoline engine.

Two veins occur on the property, one vertical and the other dipping about 30° and averaging about 1 1/2 feet in width. Formation is andesite. Values are in gold, with some silver.

The stope filling is screened through a 1/2-inch mesh screen, and the undersize product is sent to the Pompeii mill owned by John R. Mendenhall. The oversize is hand-sorted. About 50 percent of the material is rejected. The screened product averages $12 per ton. The milling charge at the Pompeii mill is $4.50 per ton, and payment is made on 90 percent of the assay value of the ore. Trucking to the mill, 1 1/2 miles distant, costs 75 cents per ton, and the lessees were required to do the loading by hand shoveling. The lessees averaged better than wages.

Pompeii Group

The Pompeii group, comprising eight patented and two unpatented claims owned by John R. Mendenhall, lies 2 1/2 miles north of Searchlight. A small tonnage of ore was mined from this property in the early days. Development comprises a shaft 330 feet deep, inclined 60°, and about 1,000 feet of lateral workings. In sinking the shaft a large flow of water was encountered at a depth of 265 feet. Equipment includes a 25-horsepower, Fairbanks-Morse, single-drum, geared hoist and a 50-horsepower, Fairbanks-Morse, gasoline engine gear-connected to a Cornish pump in the shaft. Mining is done by hand methods. The mill on the property is equipped with a jaw crusher (6 by 9 inches), 10 stamps (850 pounds each), 2 Challenge feeders, 2 amalgamation plates (each 5 feet wide by 10 feet long), and a 40-horsepower, Fairbanks-Morse, gasoline engine.

The main vein strikes northwest-southeast and dips southwest about 50°. The ore occurs as lenticular bodies in brecciated andesite. The best values are found where the vein is traversed with seams of quarts and calcite. The demarcation between ore and waste is usually poorly defined. Values are in gold and silver. When the writer visited the property two men were employed in prospecting the old workings near the surface.

Black Mountain Mining Co.

The Black Mountain Mining Co., owned by Ad Rickard of Searchlight, Nev., and associates, comprises 14 unpatented claims on Black Mountain 12 miles east of Searchlight and 4 miles west of the Colorado River. No production has ever been made. Development comprises an adit 250 feet long and scattered surface workings, totaling in all about 300 feet. Mining is done by hand methods.

Free gold occurs in a stringer zone 6 to 12 feet wide in hard andesite. The adit has been driven on the strike of this zone and, according to Rickard, car samples for the first 75 feet assayed from $5 to $6 per ton.

Goldenrod Group

The Goldenrod group of five patented claims (formerly known as the Lloyd Searchlight property) is owned by John Nelson of Searchlight, Nev., and associates. It lies 16 miles by road southeast of Searchlight in an area sometimes called the Thurman district, after John Thurman who made the original discovery in this locality in 1906. In February 1937 two men were employed on the property. In 1936, 50 tons of ore, averaging $70 per ton, were shipped. In former years a small amount of ore was mined and treated locally in a small amalgamation mill equipped with two Nissen stamps.

Development comprises a shaft 200 feet deep, another 75 feet deep, and about 1,000 feet of lateral workings. Equipment includes a Gardner Rix compressor driven by 6-cylinder Buick engine, a small hoist geared to a 3 1/2-horsepower gasoline engine, a blacksmith shop, and mining tools.

The ore occurs in a quartz vein that strikes about north 60° east, dips about 80°, and is 6 to 18 inches wide. The country rock is of granitic composition. Values are principally in free gold.

Jackdaw Group

The Jackdaw group of three unpatented claims (formerly known as the Old Roman mine), owned by J. J. McDonald of Searchlight, Nev., lies on the north side of Newberry Mountain, 18 miles southeast of Searchlight, Nev. It has been worked intermittently on a small scale for many years. Production has been probably about $15,000 in shipping ore. In February 1937 one man was working under lease agreement.

Development comprises two adits and subsidiary workings, totaling in all about 1,500 feet. Equipment includes an Ingersoll-Rand compressor (6 by 8 inches), belt-driven by a Mack truck engine. A small cyanide leaching plant on the property is equipped with a Cottrell ball mill (3 1/2 by 5 feet), jaw crusher (7 by 9 inches), and four concrete leaching tanks holding about 15 tons each. Power for the mill is furnished by a Ford automobile engine. Only a small amount of ore has been treated in this mill.

The ore occurs in a quartz fissure-vein. The dip is 60°, and the average width is about 2 feet. Values are in silver, associated in places with malachite and azurite. Formation is granite.

Homestake Group

The Homestake group of seven unpatented claims, owned by J. J. McDonald of Searchlight, Nev., lies in the southeast corner of Clark County, 9 miles north of Hiko Springs and 39 miles by road southeast of Searchlight. This mine was discovered by soldiers from Fort Mohave, Ariz., in the early sixties, and the remains of three steam plants on the ground indicate that it was exploited very early. In the early days the mine was equipped with a 20-stamp amalgamation mill. According to McDonald, production has been about $150,000. Since 1910 McDonald has worked the property intermittently on a small scale, employing one to three men. Selected ore averaging $40 per ton is hauled to Cottonwood Camp 18 miles north, where it is treated in a small mill that employs amalgamation and cyanidation.

Development comprises a shaft 300 feet deep, inclined 66°, and several adits, which, with other workings, total about 4,000 feet. There is a small gasoline hoist at the shaft. Mining is done by hand methods.

The ore is in three parallel fissure veins that strike east and west and dip about 50° to the north. Formation is pre-Cambrian granite. The main vein, on which most of the work has been done, is from 4 to 20 feet wide, averaging 12 feet, and it can be traced on the surface for several thousand feet. Values are chiefly in gold, with small amounts of silver, in a gangue of iron-stained quartz.

Other Properties

Searchlight mine

The Searchlight mine, comprising a group of 11 claims, owned by George W. Lichtenberger of Los Angeles, Calif., lies 1 mile north of Searchlight, Nev. It was formerly operated by the Searchlight Mine & Milling Co. In 1936 the mine was leased to J. L. Harper of Los Angeles, and in December a crew of 10 men was employed on development work. Production has been about $400,000. Property is developed by a shaft 340 feet deep and several thousand feet of underground workings. Mining operations in former years were handicapped by a large flow of water. Equipment installed by the present operators includes an amalgamation-concentration mill having a capacity of 18 tons per day, a Worthington portable compressor, and a small gasoline hoist.

St. Louis group

The St. Louis group of eight unpatented claims, owned by W. H. Barton and associates, lies 10 miles northerly of Searchlight, Nev. In 1936 lessees produced ore valued at $22,000, which was treated at the Kelsey mill.

Oakland group

The Oakland group of four unpatented claims, owned by Albert C. Calkins, lies 3 miles west of Searchlight. In 1936 property was under bond and lease to William G. Smith and associates and three men were employed in the latter part of the year to sink a shaft to intersect a vein exposed on the surface. Development comprises several shallow shafts, short tunnels, and open cuts, totaling about 500 feet. Equipment includes a 25-horsepower Western geared hoist, an Ingersoll-Rand Imperial No. 11 2-drill compressor, and a small amalgamation mill. The mill contains a jaw crusher (7 by 10 inches) and four Nissen stamps driven by a Dodge automobile engine, and two amalgamation plates (3 feet wide and 8 feet long). The ore occurs in fissure veins in andesite near a contact with monzonite. In sinking the shaft a flow of water, estimated at about 2,500 gallons per day, was encountered at a depth of 80 feet.

Bay City group

The Bay City group of three unpatented claims, also owned by Albert C. Calkins, adjoins the Oakland group on the south. This property is under lease to E. C. Douglas, who produced ore valued at $1,000 in 1936. The ore was treated in the mill on the Oakland property. Development includes a shallow shaft and other workings totaling about 200 feet. Mining equipment includes a small gasoline hoist.

Camp Dupont

In the vicinity of Camp Dupont 17 miles northeast of Searchlight, a number of claims are owned by individuals from Las Vegas, Nev., and Searchlight. Although considerable work has been done, all the properties are in the prospect stage. In 1922 the Dupont Copper Mines Co. (probably defunct) acquired the Sazarac, Bornite, and other groups of claims in this area, but no production was ever made.

In February 1937 the only activity was on the Big Shot group of two unpatented claims owned by George H. Kent of Searchlight and C. G. Duff of Las Vegas, Nev. About 35 tons of ore were mined from this property in 1936. The ore was treated in a two-stamp amalgamation mill on the Colorado River 6 miles to the east. Development work comprises an adit 150 feet long driven on a narrow vein. Mining is done by hand methods. The vein ranges in width from a few inches to 2 feet, strikes east and west and dips 60° to the south. Formation is rhyolite. Values are in gold in a gangue of quartz and crushed country rock stained with iron oxides.

SLOAN DISTRICT

(Limestone, Dolomite, Radium)

The Sloan district, in the vicinity of Sloan, a station on the main line of the Union Pacific R.R. connecting Salt Lake City, Utah, and Los Angeles, Calif., is about 20 miles a little west of south from Las Vegas, Nev.,