LEWIS DISTRICT

The Lewis district, also known as the Pittsburg, is in the vicinity of Lewis Canyon at the north side of the Shoshone Range, about 17 miles southeast of Battle Mountain, the nearest shipping point. It adjoins the Hilltop district on the northwest. Silver deposits were discovered here in 1867 by Jonothan Green and E. J. George, and in 1876 several stamp mills were erected in Lewis Canyon to treat ore from the Eagle and Starr Grove mines.

The gold deposits of the Pittsburg and Morning Star mine, discovered shortly after the silver deposits, were actively worked in the early days. The Pittsburg mine is on a ridge between Lewis and Krum Canyons. In the early eighties a pan amalgamation mill was erected in Krum Canyon and connected by a tramway with the mine, 1-1/2 miles distant. This mill operated until 1891. Judging from the size of the tailings pile and extent of the old stopes, a considerable tonnage of ore was treated. The Morning Star mine, adjoining the Pittsburg on the southwest, was sold to W. E. Dean of San Francisco, Calif., in 1892; he erected a 10-stamp amalgamating mill in Lewis Canyon. Litigation between Bewick, Moreing & Co., owners of the Pittsburg mine, and W. E. Dean resulted in a consolidation in 1904 of the two properties by W. E. Dean under the name of Cumberland mine. It is reported that Dean extracted enough ore from the old stopes in the Pittsburg mine to pay for the property. The Cumberland mine closed down in 1909 and remained idle until recent years.

The Betty O'Neal silver mine was opened as a prospect in 1880, and in 1882 production was $30,000 per month; the ore was treated at the Star Grove mill near the mouth of Lewis Canyon on a custom basis. A disastrous boiler explosion occurred at the mine in the fall of 1882. The mine was flooded and operations were discontinued. In 1920 N. H. Getchell acquired the property and organized the Betty O'Neal Mines Co. A 100-ton flotation mill was erected by the company in 1922, which operated for several years.

No accurate statistics are available on the production of the district prior to 1903, but from the fragmentary information, extent of old workings, size of the tailings piles, and reported value of the ore it is estimated to be at least $1,200,000, most of which was derived from the Pittsburg and Morning Star mines. The annual production from 1902 to 1936 is shown in table 6. During the period the Betty O'Neal mine has been the principal producer.

Cumberland Mine

The Cumberland or Dean mine, owned by the W. E. Dean estate of San Francisco, Calif., comprises a group of 12 patented claims. When the writer visited the property in April 1938 it was under bond and lease to C. B. Lancaster, who with several helpers was engaged in mining shipping ore.

TABLE 6. - Gold, silver, copper, and lead production from Lewis District, Lander County, Nevada, 1902-1936, in terms of recovered metal

(Compiled by Charles White Merrill, Mineral Production and Economics Division, Bureau of Mines)

Year	Placer						Lode			
	No. of mines	Gold		Silver		Total value	No. of mines	Ore	Gold	
		Fine ounces	Value	Fine ounces	Value			Short tons	Fine ounces	Value
1902	-	-	-	-	-	-	1	2,664	950.66	$19,652
1903	-	-	-	-	-	-	1	1,822	854.69	17,668
1904-07	-	-	-	-	-	-	-	-	-	-
1908	-	-	-	-	-	-	1	5	-	-
1909	-	-	-	-	-	-	1	30	-	-
1910	-	-	-	-	-	-	1	4	2.64	55
1911-12	-	-	-	-	-	-	-	-	-	-
1913	-	-	-	-	-	-	1	111	1.19	25
1914	-	-	-	-	-	-	1	3	.06	1
1915	-	-	-	-	-	-	-	-	-	-
1916	-	-	-	-	-	-	1	1,720	.92	19
1917	-	-	-	-	-	-	1	1,200	3.20	66
1918	-	-	-	-	-	-	1	11	-	-
1919	-	-	-	-	-	-	1	41	-	-
1920	-	-	-	-	-	-	1	21	-	-
1921	-	-	-	-	-	-	2	18	12.47	258
1922	-	-	-	-	-	-	1	4,812	2.81	58
1923	-	-	-	-	-	-	2	38,209	126.81	2,621
1924	-	-	-	-	-	-	2	28,984	43.06	890
1925	-	-	-	-	-	-	2	23,293	38.91	804
1926	-	-	-	-	-	-	1	27,716	52.17	1,078
1927	-	-	-	-	-	-	1	26,314	64.47	1,333
1928	-	-	-	-	-	-	1	21,749	40.40	835
1929	-	-	-	-	-	-	2	11,164	23.05	476
1930	-	-	-	-	-	-	2	1,355	6.71	139
1931	-	-	-	-	-	-	3	113	54.10	1,118
1932	-	-	-	-	-	-	-	-	-	-
1933	-	-	-	-	-	-	1	36	-	-
1934	1	(2/)	(2/)	-	-	(2/)	3	665	62.53	2,185
1935	1	(2/)	(2/)	(2/)	(2/)	(2/)	4	715	65.43	2,290
1936	-	-	-	-	-	-	3	440	142.83	4,999
Total	-	10.09	$353	1	$ 1	$ 354	-	193,215	2,549.11	56,570

See footnotes on page 61

TABLE 6. - Gold, silver, copper, and lead production from Lewis District, Lander County, Nevada, 1902-1936, in terms of recovered metal (Continued)

(Compiled by Charles White Merrill, Mineral Production and Economics Division, Bureau of Mines)

Year	Lode								Total value (lode and placer)
	Silver		Copper		Lead		Total value	Average recoverable value of ore per ton 1/	
	Fine ounces	Value	Pounds	Value	Pounds	Value			
1902	547	$290	-	-	-	-	$19,942	$7.49	$19,942
1903	420	227	-	-	-	-	17,895	9.82	17,895
1904-07	-	-	-	-	-	-	-	-	-
1908	536	284	-	-	-	-	284	56.80	284
1909	998	519	-	-	-	-	519	17.30	519
1910	1	1	-	-	-	-	56	14.00	56
1911-12	-	-	-	-	-	-	-	-	-
1913	14,872	8,983	-	-	-	-	9,008	81.15	9,008
1914	395	219	-	-	-	-	220	73.33	220
1915	-	-	-	-	-	-	-	-	-
1916	4,414	2,904	185	$46	493	$34	3,003	1.75	3,003
1917	9,370	7,721	945	258	1,367	118	8,163	6.80	8,163
1918	428	428	-	-	-	-	428	38.91	428
1919	2,432	2,724	399	74	-	-	2,798	68.24	2,798
1920	1,385	1,510	217	40	615	49	1,599	76.14	1,599
1921	107	107	-	-	-	-	365	20.28	365
1922	32,083	32,083	2,266	306	17,763	977	33,424	6.95	33,424
1923	661,847	542,714	48,295	7,099	279,780	19,585	572,019	14.97	572,019
1924	480,321	321,815	28,347	3,713	164,531	13,163	339,581	11.72	339,581
1925	571,156	396,382	31,784	4,513	183,629	15,976	417,675	17.93	417,675
1926	755,917	471,692	56,923	7,969	346,971	27,758	508,497	18.35	508,497
1927	774,739	439,277	52,961	6,938	314,256	19,798	467,346	17.76	467,346
1928	569,295	333,037	38,013	5,474	229,544	13,314	352,660	16.21	352,660
1929	201,604	107,455	22,541	3,967	76,108	4,795	116,693	10.45	116,693
1930	18,187	7,002	6,531	849	7,481	374	8,364	6.17	8,364
1931	629	183	411	37	1,927	71	1,409	12.47	1,409
1932	-	-	-	-	-	-	-	-	-
1933	5,274	1,846	460	29	1,370	51	1,926	53.50	1,926
1934	50,626	32,728	3,278	262	10,335	382	35,557	53.47	35,609
1935	40,432	29,060	2,741	227	14,188	568	32,145	44.96	32,447
1936	6,642	5,144	1,983	182	20,144	927	11,252	25.57	11,252
Total	4,204,657	2,746,335	298,280	41,983	1,670,502	117,940	2,962,828	15.33	2,963,182

1/ Not to be confused with average assay value of ore.

2/ Bureau of Mines not at liberty to publish figures but concealed figures included in totals.

6967

The Pittsburg vein is developed by seven adits and other workings totaling about 5,000 feet. The deepest working is about 550 feet. The Morning Star vein is developed by the Sconset and Mayo inclines, both 230 feet deep vertically; the Bousfield adit, 1,500 feet long, cutting the vein at the 460-foot level; the Dean or Cumberland adit, 3,000 feet long; an underground shaft 465 feet deep connecting the Bousfield and Cumberland adits; and other workings totaling about 2 miles. The Morning Star workings have a vertical range of 925 feet, but virtually all the ore from this vein was mined above the Bousfield adit or 460-foot level. Some of the workings are caved and inaccessible, and there is very little mining equipment on the property.

The country rock is silicified shale, quartzite, and granodiorite. Three veins occur on the property - the Morning Star, Pittsburg, and Cumberland.

The Morning Star vein is a fissure in granodiorite and quartzite striking nearly north and south and dipping 50° to 60° westward. Below the 380-foot level the vein splits into two branches, both branches reported to have carried good ore. On the 460-foot level the vein has six branches, some of which are barren. Ore occurs in shoots ranging from 1 to 10 feet in width. The principal ore shoot on the Morning Star vein between the Sconset and Mayo inclines is 300 feet long. The ore consists of free gold and a little galena and sphalerite in a gangue of quartz, pyrite, arsenopyrite, and subordinate amounts of calcite and barite. The smelter returns on a carload of ore sorted from the mine dumps and shipped to the American Smelting & Refining Co. by C. B. Lancaster on June 23, 1937, furnished the following data:

Metal quotations:	Gold	$34.9125 per ounce
	Silver	.77 per ounce
		Ounces
Settlement assay:	Gold	0.70
	Silver	1.35
		Percent
	Lead	0.8
	Copper	nil
	Pounds	
Wet weight	70,580	
Moisture, 2.4 percent	1,694	
Dry weight	68,886 or 34.443 tons	
Metal payment:	Gold, 100 percent at $31.81825 per ounce	$22.27
	Silver, 100 percent less 0.5 ounce	.65
	Gross value per ton	22.92

Treatment charge:	Base charge	$3.00	
	10 percent of excess over $20	.29	
	Labor increase, 4/1/37	.59	$3.88
	Net value per ton		19.04
	34.443 tons at $19.04		655.79
Deductions:	Freight at $3.20 per ton	$112.93	
	Hauling at $3.25 per ton	114.69	
	Labor charge	6.00	
	Sampling	21.17	
	Assaying	3.00	257.79
	Net proceeds		398.00

The Pittsburg vein, also in granodiorite and quartzite, has a strike of S. 70° E., dipping southward 70°

The Cumberland vein, traceable on the surface for a distance of at least 500 feet, strikes S. 80° E. and dips southward about 45° It is a network of quartz seams, in places 20 feet wide, at the contact between shale and granodiorite. Very little development work has been done on the vein.

Several years ago the tailings from the Dean mill were located by Burt J. Kelley, since they were on the public domain. A small flotation mill was erected, and about 15,000 tons averaging $3 per ton was treated; but the venture was financially unsuccessful. The total tonnage of tailings available is about 35,000 tons. The tailings from the Pittsburg vein in Krum Canyon have been reworked several times by lessees.

Betty O'Neal Mine

The Betty O'Neal mine is on the west slope of the Shoshone Range 12 miles southeast of Battle Mountain. The property comprises a group of 36 patented and unpatented claims and other acreage owned by the Gold Circle Consolidated Mines Co. The mine attained its greatest production from 1923 to 1929, when it was operated by the Betty O'Neal Mines Co. This company completed the erection of a 100-ton flotation mill in November 1922, and in 1923 a second flotation unit was installed, doubling the capacity. Since 1929 the property has been worked intermittently, principally by lessees.

The mine is developed by five adits, a shaft 330 feet deep, a main drainage and transportation adit, which connects with the shaft at the 300-foot elevation at a point about 1,900 feet from the portal, and other underground workings totaling several miles and covering a range of 1,600 feet measured on the dip of the veins.

Equipment includes a 200-ton flotation mill, 15 horsepower, air hoist, two Chicago-Pneumatic, single-stage compressors, drill sharpener, storage-battery haulage equipment, machine shop, power plant, and living accomodations for a large crew. Power plant consists of two 300-horsepower Fairbanks-Morse,

type Y, semi-Diesel engines each direct-connected to a type D Fairbanks-Morse alternator supplying current at 460 volts, 60 cycles.

Past mining operations have been confined to the Betty O'Neal and Estella veins, which strike nearly north and south, dip an average of 45° westward, and range from a few feet up to 55 feet in width. The ore bodies are of the replacement type in limestone and slate, cut by porphyry dikes. In places the limestone is highly silicified. The ore containing chiefly silver with a little copper and lead, is a mixture of silicified limestone and slate, fractured and recemented by calcite and quartz. The sulphide ore minerals are tetrahedrite, stephanite, argentite, polybasite, galena, pyrite, and sphalerite. In the oxidized ore near the surface the principal silver mineral is cerargyrite associated with copper in the form of malachite and azurite.

McCOY DISTRICT

The McCoy district is in the low, rolling hills on the west side of Reese River Valley 32 miles by automobile road south 35° east from Battle Mountain, the nearest shipping point and supply center. Gold was discovered here in 1914 by Joseph H. McCoy, who with others located a number of claims in a mineralized area about 1-1/2 miles long and 3/4 mile wide. Desultory prospecting followed for a number of years, but no ore was produced until about 1928, when, stimulated by the discovery of high-grade gold ore, a small boom ensued. In 1930 and 1931 the camp had a population of about 75 people. Mining activity gradually subsided, so that at the time of the writer's visit in April 1938 there was no mining activity in the district and the camp was almost deserted.

The production of the district has been about $35,000, most of which was shipping ore mined from the Gold Dome property, which includes the Iron King claim, upon which the original discovery of gold was made.

Nevada Gold Dome Mining Co.

The Nevada Gold Dome Mining Co. comprises a group of 17 unpatented claims controlled by H. D. Brown, Jr., of Los Angeles, Calif. It includes the original discovery claims acquired by the present company in 1928. A 20-ton amalgamation mill was erected in 1930, but it operated only a few months. Production from the Gold Dome property, as compiled by the writer from the smelter and mint shipments, has been 468 tons of ore with a gross smelter value of $26,863.62, an average of $57.37 per ton; the bullion had a value of $5,391.07.

Principal development has been from the Dome 1-1/2-compartment vertical shaft 265 feet deep, from which levels have been cut at the 50-, 100-, 150-, 200-, 250- and 265-foot points below the collar. Workings total approximately 1,200 feet. Equipment includes a blacksmith shop, tools, a single-drum gasoline hoist, a Gardner-Rix 160 cubic-foot compressor belt-driven by a Novo gasoline engine, a camp building, and a partly equipped mill. The mill is equipped with a jaw crusher, (9 by 16 inches), a ball mill (4 by 5 feet), and