section. Cinnabar float was found in this area by Robinson in October 1938; its source was discovered by tracing the float up the side of a small hill. As the property is in the prospect stage of development, there has been no production.

Development work includes a 75-foot shaft, a 60-foot adit, and a small amount of drifting and crosscutting, totaling about 175 feet.

The formation is rhyolite and andesite flanked on the west by granite. The cinnabar occurs in a fissure striking N. 70° E. and dipping about 40° NW. Not enough work had been done to determine the extent of the deposit. The cinnabar occurs in a gangue of quartz, kaolin, and decomposed rhyolite stained with iron oxides.

Bimetal Group

The Bimetal group of three unpatented claims, owned by A. L. Robinson of Fallon, lies 1 mile due south of the Cinnabar Hill property. Gold was discovered here by Robinson in 1932. The only production has been several tons of ore averaging about $40 per ton.

Workings comprise four shafts ranging from 10 to 100 feet in depth and several open-cuts. Equipment includes tools for hand mining and camp accommodations for two men.

Free gold alloyed with a little silver occurs in a quartz vein in granite. The vein strikes S. 70° E. and dips about 55° NE. It is persistent and traceable on the surface for over 1,000 feet, but is narrow, ranging in width from several inches to a maximum of 2 feet.

Diatomaceous Earth Deposit

A large deposit of diatomaceous earth occurs 17 miles south of Fallon, 1-1/2 miles by road off the Fallon-Schurz Highway. Although the deposit has been known for many years, it has been little prospected, and there has been no production.

The deposit covers a group of several well-rounded hills partly capped by basalt. For the most part, the deposit is covered to a depth of several feet with detritus, consisting of basalt boulders and fragments of petrified wood mixed with sand. In one place where the diatomaceous earth is exposed on the side of a hill, a thickness of at least 30 feet is indicated. The material is pure white, homogeneous, and apparently of good quality.

I. X. L. DISTRICT

The I. X. L. district is on the east side of the Stillwater Range in central Churchill County. The Silver Hill section on the west slope of the range is sometimes considered a separate district, but in this paper it is included as part of the I.X.L. The I. X. L. district was organized in 1879.

The first locations were made in 1878 by Charles S. Kellogg, one of the pioneers of Nevada, who was identified with early-day milling operations at Virginia City.

A number of properties carrying gold, silver-lead, copper, and silver-lead-zinc were worked in this area in former years, but none of them ever passed the prospect stage. A Mexican smelter, one of the first in Nevada, was erected in the district in the early days, but it was unsuccessful. Total production, chiefly from the properties in the vicinity of I. X. L. Canyon, has been about $20,000.

Black Prince Group

The Black Prince group of four patented claims owned by Charles E. Kent of Stillwater, Nev., is at the upper end of I. X. L. Canyon near the crest of the Stillwater Range. The mouth of I. X. L. Canyon is 35 miles north of Frenchman's station on the Lincoln Highway and due west from the Curtis ranch in Dixie Valley. From the mouth of the canyon to the claims, a distance of about 3 miles, the road is impassable by automobile but may be traversed on foot or on horseback. The property was first located by Charles S. Kellogg in 1878, and Kellogg and associates prospected the claims in the eighties. It is reported that some ore was hauled across Dixie Valley to the mill in the Bernice district. The last production was made about 1908, when a small shipment of smelting ore was made. Total production has probably been not more than several hundred tons of ore. For many years the property has been inactive.

The workings consist of the main Black Prince adit about 100 feet in length, several shorter adits, and minor workings, comprising in all about 500 feet of work. The Black Prince adit is open, but the other underground workings are caved and inaccessible. There is no equipment on the property.

The formation is chiefly limestone intruded by granite. The principal showing is in the Black Prince adit, where the mineralization occurs in an irregular contact metamorphic zone, which is traceable on the surface for several hundred yards. The economic minerals are sphalerite, chalcopyrite, galena in a gangue of epidote, garnet, pyrite, quartz, calcite, and abundant magnetite. A 10-pound chip sample cut in the Black Prince adit assayed as follows:

	Ounces
Silver	2.70
Gold	Trace
	Percent
Copper	0.10
Lead	.14
Zinc	2.63
Iron	31.10

A second 10-pound sample taken from an open-cut in mineralized limestone below the Black Prince adit assayed as follows:

	Ounces
Silver	18.94
Gold	.005
Copper	Nil
	Percent
Lead	9.09
Zinc	6.49
Iron	4.76

A large sample of the material on the dump was tested for scheelite under the ultraviolet lamp, but no scheelite was detected.

Bonanza Group

The Bonanza group of 15 claims, owned by Adolph Giannini, is on the north side of I.X.L. Canyon on the east slope of the Stillwater Range. Activity on these claims began in the late seventies, since which time they have been worked intermittently by various owners and lessees with a production of approximately $20,000 in shipping ore.

Development consists of an adit 300 feet long, several shallow shafts, and other widely scattered workings, comprising in all about 1,500 feet. No mining equipment is on the property; in recent years the claims have been idle.

Ore occurs in several quartz and calcite veins in limestone carrying native silver, horn silver, gold, and lead.

Gold Bar Group

The Gold Bar group of four unpatented claims, owned by Charles P. and Leon Cirac of Fallon, is in Cox's Canyon about 1 mile south of the Revenue group of fluorspar claims. The Cirac Bros. have owned the property for 30 years, and except for a small amount of gold obtained by mortaring and hand-panning, there has been no production.

The workings consist of several adits, the longest about 100 feet, and some scattered prospect holes totaling not more than 200 feet. Equipment on the property consists of tools for hand mining and camp accommodations for two men.

The formation is shale and slate intruded by granodiorite. The sediments are locally crumpled and folded, and in places the shale contains numerous cubes of hematite, pseudomorphic after pyrite. Several quartz veins, up to a maximum of 30 feet in width, with variable strike and dip, occur within the sediments. Insufficient sampling has been done to determine whether the vein material warrants large-scale operation. The economic mineral is gold which occurs in a free state.

Revenue Group

The Revenue Group of four unpatented fluorspar claims is on the north side of Cox's Canyon on the west slope of the Stillwater Range, 23 miles northeast of Stillwater. The deposit was discovered late in 1938 by Cirac Bros. In April 1939 they were prospecting the claims with the object of producing a shipping product by hand sorting.

At the time of the writer's visit, the workings comprised several trenches and an adit 10 feet in length, which was being driven under the surface showings.

The prevailing formation is shale and limestone intruded by a fine-grained basis dike, which has an undulating outcrop traceable for about 1,000 feet; in places, fluorspar up to 5 feet in width occurs along both sides of the dike. Near the surface, the spar is considerably mixed with detrital material, but boulders of solid spar up to 60 pounds in weight had been excavated from the shallow workings. In places the limestone adjacent to the dike is traversed with a network of fluorspar veinlets over widths up to 20 feet, but this material would have to be concentrated to make a commercial product. The fluorite is green, purple, white and black. Although only a small amount of work had been done, the showings appear very promising, and when a greater depth is obtained it is probable that a commercial product can be obtained by hand-sorting. Working of the deposit is handicapped by poor transportation facilities, since the road from Stillwater is in poor condition and impassable in wet weather. The most convenient shipping point is Fallon, on the Southern Pacific R. R., 38 miles southwest.

JESSUP DISTRICT

The Jessup district is in the range of low hills at the southwest end of the Trinity Range in northwestern Churchill County. Huxley station, on the Southern Pacific R. R., is 10 miles southwest. The district is easily accessible by automobile over a desert road 4 miles in length, which branches off the Victory Highway at a point 26 miles southwest of Lovelock, the county seat of Pershing County.

The first location in the Jessup district was made by Frank Jessup and L. H. Murray in 1908, and in the same year John Macedon and associates shipped several carloads of ore from the Gold King claim reported to have averaged better than $100 per ton. Considerable activity in the district followed, and a number of small companies were organized, which, with lessees, were active in the camp in 1908 and 1909. Although considerable shallow development work was done over an area at least 1 mile in length and 1/2 mile in width, the results were not encouraging, and the camp became inactive except for sporadic leasing and prospecting operations. The total production of shipping ore from the district, largely from the Gold King claim, has been about $15,000.

Groups of claims are held in the district by Charles Polk, Albert Loose, H. O. Westergard, Emil Stank, Geo. W. Lang, Olaf Johnson, and others from Lovelock, Nev. The claims have been prospected by at least 20 shallow shafts

and a number of adits and open-cuts totaling about 3,000 feet. None of the workings are more than 200 feet below the surface. No water is available in the immediate vicinity of the camp and must be hauled for domestic use from Hot Springs station on the Victory Highway or other places. In the fall of 1938 the only activity in the area was on the Valley King group of claims, which was being worked by lessees.

Valley King Group

The Valley King group, consisting of five unpatented claims, is owned jointly by George W. Lang and Olaf Johnson of Lovelock. The Gold King, the original discovery claim adjoining the Valley King group, is owned by George W. Lang individually. In 1938 the Valley King group was under lease to Kenneth Dale and Dick Collins. The lessees, after mining and shipping about 30 tons of ore, averaging $40 per ton, to the Dayton custom mill at Silver City, Nev., relinquished the lease.

The Valley King single-compartment shaft attained a depth of 150 feet. Other scattered shafts and subsidiary workings total about 1,000 feet. No equipment other than tools for hand mining is on the property.

The formation is chiefly andesite and rhyolite. The economic minerals are gold and silver occurring in small veins ranging in width from a few inches to 1 foot. The principal vein strikes N. 25° E. and dips 60° to 70° SE. The gold is in a free state, and the silver occurs as cerargyrite in a gangue of quartz and crushed country rock impregnated with iron oxides. A small amount of scheelite occurs in the vein material.

In 1932 Olaf Johnson discovered placer gold on the top of a small hill on the Valley King claim. The alluvium, largely clay with a few small boulders and well-rounded pebbles, is cemented with lime. Several ounces of gold have been produced by dry-washing methods. The gold which is associated with black sands, has a fineness of about 600.

Diatomaceous Earth

Diatomaceous earth outcrops along the eastern foothills of the Trinity Range north and south of Jessup for 15 miles. The deposits appear to be very extensive laterally, but little work has been done to determine their thickness. For the most part the diatomaceous earth is covered with alluvial material eroded from the nearby mountains; where exposed, it is mixed with some volcanic ash. The only production has been a few carloads used locally for insulation purposes.

LAKE DISTRICT

The Lake district is on the east side of the Humboldt Sink at the southern extremity of the Humboldt Range. The salt-producing section near Huxley station on the Southern Pacific R. R. is known as White Plains Flat.