It is recognized that, in general composition, desert basin salines are quite distinct from salines that have been produced by the desiccation of marine waters. The Stassfurt salts are similar to the deposits that would be left by the evaporation of normal sea-waters. They contain soluble magnesium salts as an important constituent, especially in conjunction with the potash-rich portions of the deposits. Most of the desert basin salines in the United States are more or less of the Searles lake type—that is, they are composed largely of chlorides, but contain considerable proportions of sulphates and carbonates, chiefly of sodium with some potassium, and little or no soluble magnesium salts. The desert basin salts may be described as salines derived by the direct leaching of continental areas, as distinguished from salts of direct marine origin. Ultimately both classes may be said to have had a common origin.

It is still too early to offer any general summary statement regarding the industrial situation at Searles lake. An immense mass of salts and an equally great volume of saturated residual brine exist in this deposit. The compositions of the salt and brine are fairly well determined. Several of the ingredients which could be extracted have an established value in the chemical markets generally, and some, like sodium sulphate, have potential value.

Withdrawal from Entry

The lands at Searles lake were withdrawn from entry by an order approved February 21, 1913. This withdrawal is not intended to interfere with any valid mining claims that existed prior to the withdrawal, a fact that is made clear in the express wording of the order itself: "This withdrawal is made subject to all rights lawfully initiated under any valid mining locations made upon such lands so long as such rights are maintained in full compliance with the law." In order to relieve the existing uncertainties regarding the validity of 'potash' or general placer locations carrying saline deposits in large area, a draft of a law has been prepared and submitted to the appropriate committee in Congress, which it is believed will provide a satisfactory title basis under which such lands can be worked. It is to be hoped that in the interest of a possible American potash production the matter may receive due consideration and that enactment of a proper measure to this end may be accomplished.

Iron Production for 1912

The iron ore mined in the United States in 1912 amounted to the great total of 55,150,147 long tons, compared with 43,876,552 tons mined in 1911, an increase of 11,273,595 tons, or 25.69%, according to an advance statement by Ernest F. Burchard, of the United States Geological Survey. The production for 1912 was second only to the output of 1910, falling 1,864,759 tons below the record production of that year, which was 57,014,906 long tons.

The Minnesota iron ranges are producing at present considerably more iron ore than is produced in all the rest of the states together, having furnished nearly 62.5% of the total for the United States in all the mines in Minnesota and Michigan and part of those in Wisconsin, mined 46,368,878 tons in 1912, or nearly 84.08% of the total.

The total quantity of ore marketed in 1912, according to reports received by the Survey, was 57,017,614 tons, valued at $107,050,153, compared with 41,092,447 tons, valued at $86,716,575, in 1911. The marketed production, therefore, represents an increase in quantity of 15,925,167 tons, or 38.75%, and in value of $20,333,578, or 23.45%. The average price per ton in 1912, according to these figures, was $1.88, compared with $2.11 in 1911. According to the reports of producers, many of which have been somewhat revised since the report for 1911 was published, the total quantity of iron ore in stock at the mines at the close of 1912 amounted to 10,241,287 tons, compared with 12,206,390 tons at the close of 1911, a reduction of 1,965,103 long tons, or 16.1%, which balances closely with the excess of sales over quantity mined.

Gravel Plant in Nevada

The following is a description of T. Wilson's plant in operation in the main Manhattan gulch, as published in the *Manhattan Post*. The main feature about the hoisting machinery is an endless double-chain elevator with shallow buckets every two feet, the two chains making an elevator about 20 in. wide. This hoists the gravel from a feed-bin of 35-cu. yd. capacity, at the bottom of the shaft, on bedrock, 65 ft. below the collar of the shaft, up to a storage-bin which holds about 25 cu. yd. of gravel, this bin being about 25 ft. above the surface. From the storage-bin the gravel is sluiced whenever sufficient yardage has accumulated. From the chute of the storage-bin, the gravel falls into a revolving trommel made of heavy screen of sufficient mesh to allow rock of 1½ inches in size to fall through, the oversize working out at the lower end into a chute and from there to the waste pile. A steady stream of water is played on the trommel, washing the loose clay from the rocks and gravel which holds the gold. Directly below the trommel is the shaker, a box similar to a sluice-box, but with deep riffles, crosswise, every 2 in. of its 12-ft. length. By means of an ingenious system of pivots, this box is rapidly shaken, with a play of about three inches, endwise, and an inch up and down. At the lip of the shaker three small copper plates are fixed. The gravel falls from the shaker, passes over these plates, and any fine light gold which will not settle readily between the riffles becomes amalgamated with the quicksilver on the plates, and then is soon caught by the lower riffles. Below the plates a line of sluice-boxes, all containing riffles, some cross and some lengthwise with the boxes, extends for about 150 ft. The small percentage of gold which escapes the shaker box is caught in the travel down these boxes. Mr. Wilson estimates that over 90% of the gold is caught by the shaker. The power for the elevator, trommel, and shaker is obtained from a 15-hp. Westinghouse motor. About 15,000 gal. of water is added to the supply each day.

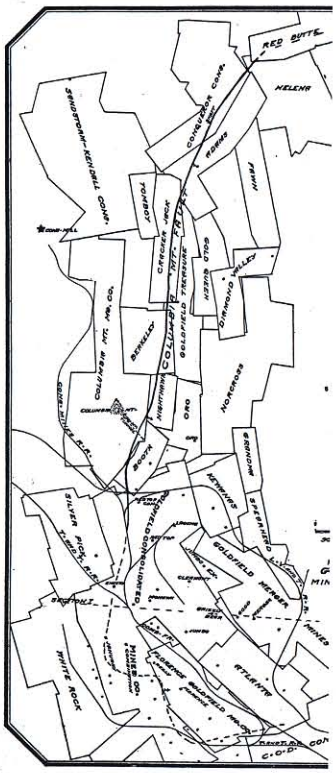
Relation of Faultir

By C

That portion of the Goldfield mini which has so far proved the most pro cludes the Goldfield Consolidated an mines, and it is here intended to point lation existing between the Columbia fault and this mineralization.

System of Fissuring

F. L. Ransome, in his report on the G trict, suggested a relation between this



GOLDFIELD DISTRICT.

the ore deposits of this portion of the d while the extent and character of the well demonstrated, there was not at sufficient development in the undergroun to determine its relation to the ore depo developments have furnished informa which this relation may be deduced, and system of mineralization outlined.

This fault, as shown on the plan map, along the surface from its northern en Conqueror mine shaft, south a distance o miles to the vicinity of the Red Top, w

OTERO & MANHATTAN MINE WORKINGS

MANHATTAN MINING DISTRICT

NYE COUNTY, NEVADA

GEOLOGY

for

FLETCHER MINING & MILLING CORPORATION

CARSON CITY, NEVADA

and

MONTEDEORO-CORPORATION

TUCSON, ARIZONA

by

RESOURCE EXPLORATION, INC.

MARQUETTE, MICHIGAN

DECEMBER, 1980

PLANE TABLE AND OPEN-SIGHT ALIDADE SURVEY

R GRUNWALD, R FLETCHER, JR. & J WERLE

AUGUST 27, 1980 TO SEPTEMBER 4, 1980

SURVEY ORIENTED WITH TRANSIT SURVEYS & MAPS FROM

WALLACE T BOUNDY, R.L.S. 2518 (9/30/79)

CARL DDELL, (5 1/51)

SCALE

20 0 20 40 Feet 60 80 100

40

1 INCH = 20 FEET

LEGEND

- U-01 — 1980 SURVEY STATIONS
- 1979 SURVEY POSTS
- 1951 SURVEY STATIONS
- SURVEY LINE
- CLAIM BOUNDARY
- BUILDING
- TIMBERS
- CHUTE
- STOPED ABOVE LEVEL
- STOPED BELOW LEVEL
- STOPED VERTICALLY ABOVE LEVEL
- +6' — RAISE, DISTANCE ABOVE BACK OF DRIFT
- -3' — WINZE, DISTANCE BELOW SILL OF DRIFT

NOTE x SPAD IN CROSS TIMBER. LOCATION OF POINT DERIVED FROM TRIANGULATION OF ALL SURVEYS AND MAPS REFERENCED.
SPAD IN CROSS TIMBER. LOCATION OF POINT DERIVED FROM TRIANGULATION OF LIDDELL'S SURVEY AND MAPS.

- STRIKE & DIP OF BEDDING
- STRIKE & DIP OF FRACTURES OR FAULTING
- GEOLOGIC CONTACT
- TECTONIC BRECCIA
- QUARTZ VEIN
- ZONE OF INTENSE SHEARING OR BRECCIATION

Lower Tunnel
elevation 0.0'

Upper Tunnel
elevation 117.2'

Manhattan Tunnel
elevation 53.5'

Claim Boundary

N 8° 48' E

S 52° 07' W

S 32° 03' E

S 32° 11' E

S 32° 51' E

S 71° 02' W

OTERO NO. 2

SUNDAY NO. 1

M-26

M-27

M-28

M-29

M-30

Underground Sample Locations
T. P. Patton, Sept. 1-3, 1986
M-26 thru M-30

29600123

Map 02