SILVER CITY, NEW MEXICO
PRELIMINARY REPORT ON WATER RESOURCES
AUGUST 15, 1925

Horace A. Tanner, Mogollon, New Mexico
Mr. E. H. Wells,
State Geologist,
Socorro, New Mexico

Sir:

In accordance with your request I have compiled the following data on the present water sources and possible water sources of Silver City:

**PRESENT SUPPLY**

The present water supply for Silver City is derived from five (5) sources.

**SOURCE #1**
Silver Valley Water Works Main Pumping Plant

**SOURCE #2**
Continental Gas, Light and Power Company

**SOURCE #3**
Silver Spot #3

**SOURCE #4**
Silver Spot #1

**SOURCE #5**
Silvears Well
OWNER
Silver Valley Water Works.

LOCATION
About one-half mile north of the city.

HISTORY
The local water company started in business in 1886-87, installing at the time the present pumping plant, reservoir and nucleus of the present distribution system.

ELEVATION
About 5975 feet above sea level.

GEOLOGY
This source of supply consists of a well 55 feet deep, the last six feet serving as a sump. The water is pumped from the sump either to the city reservoir or directly into the water main.

Six feet from the bottom of the well a drift is driven in a westerly direction for a length of approximately 570 feet. The first 100 feet of this drift is entirely within the Kaolin formation, which forms only the floor of the drift for the next 300 feet. Beyond this point the floor is a lime conglomerate.

Over lying the Kaolin formation is a gravel wash which fills the floor of the valley. In several places the drift has gravel forming the side walls, also the back.
The drift is situated through the center, which should allow all the water to discharge freely into the sump, but as it is filled in several places, it is allowing the water to back up at these points to a depth of about two feet. Where it is backed up, I believe a large portion of it is escaping through the gravel (which forms the side walls), and flows on down the valley.

This can be overcome by thoroughly cleaning out the ditch. The water will then drain into the sump as fast as it enters the drift.

Most of the water is entering the drift at a point about 250 feet west of the sump. The last 150 feet is making very little water. The reason for this may be that it is not on the rock floor of the valley.

**PRODUCTION**

From July first to fifteenth inclusive the city received 405,000 gallons of water from source #1, or an average of 27,000 gallons per day, all of which was pumped into the main water line.

Included in this production is the flow of #2 well, which is 2,690 gallons per 24 hours. Later in this report is a full description of this well.
Silver City Water Works,
c/o Mr. Vesely,
Silver City, New Mexico

Sample of WATER Marker-- MAIN PUMPING PLANT,
Dated August 5, 1925.

This sample was tested for hardness and found to contain
the following results:

**Acidimetric Determinations.**

Temporary Hardness .............. 34.50 Parts per 100,000
Permanent Hardness .............. 6.25 " " "
Total Hardness .................... 30.75 " " "

**Soap Determination.**

Total Hardness .................... 32.00 Parts per 100,000

**REMARKS:** This water would be classed between fair and
good for steam boiler use. The above analysis
does not tell anything concerning its sanitary
condition.

Yours very truly,

W. J. Akert
Chief Chemist.
OWNER

Continental Gas Light and Power Company

LOCATION

In the south-eastern part of the city.

HISTORY

This plant was installed in 1912, and the water was developed by driving a 40' drift from the bottom of a 21' well or shaft. This water was not developed for the town although all the water in excess of their immediate requirements is pumped into the city main.

ELEVATION

About 5875 feet above sea level.

GEOLOGY

The shaft and drift are driven in a monzonite porphyry. The size of the well is four feet by six feet and the size of the drift is five feet by six feet.

PRODUCTION

Between July the first and fifteenth the city was receiving approximately 36,800 gallons per 24 hours.
Ray Consolidated Copper Co.
Chino Mines

August 8, 1925

Silver City Water Works,
c/o Mr. Vesely,
Silver City, New Mexico

Sample of WATER Marked --- LIGHT and ICE PLANT.
Dated August 4, 1925.

This sample was tested for hardness and found
to contain the following results;

Acidimetric Determinations.
Temporary Hardness .......... 26.75 Parts per 100,000
Permanent Hardness .......... 16.50 " " "
Total Hardness ............. 43.25 " " "

Soap Determination
Total Hardness ............. 56.00 Parts per 100,000

Total CHLORINE ............ 10.64 " " *

REMARKS: This water contained considerable solid matter in
suspension. The difference in Total Hardness by
Acidimetric and Soap determinations is due to the
high Chlorine content. The Chlorine is probably
in solution as Sodium and Calcium Chlorides. This
would be classed as a very poor boiler water. The
above analysis does not tell anything concerning
its sanitary condition.

Yours very truly,

W. J. Akert
Chief Chemist.
No. 2 Ice plant, treated water. Total count, 350 bacteria per cc, negative for B. Coli.

No. 3 Light plant well. Total count 8000 bacteria per cc, B. Coli present in 5 10 cc portions, absent in 1 cc portions.

Although the total count of bacteria is rather high, sample 2 indicated no serious pollution. Sample 3 from the light plant well, however, shows pollution which would be sufficient to condemn this water for domestic use. If this water is used for domestic purposes, I would suggest that you give the well a dose of chlorinated lime. Get a small 12 ounce can of chlorinated lime from one of your local druggists, first, mix the powder into a paste, then dilute to 3, or 4 gallons by the addition of more water. All of this solution should then be poured into the well. This will absolutely sterilize all the water in the well and it should improve the quality of the water which is taken from the well in the future. The chlorinated lime will cause some disagreeable taste for a time, but it should entirely disappear within two or three days. The disappearance of the taste can be hastened by pumping out water and allowing it to be wasted or used for irrigation.
SOURCE #3

OWNER

This property is known as the Silver Spot #3 and is owned by the Silver Spot Mining Company.

LOCATION

N. E. 1/4, S. W. 1/4, Sec. 10, T. 16S, R. 14W.

HISTORY

The Silver Spot Mining Company started working this property November, 1923, and ceased operations June 1924, during which time a shaft was sunk to a depth of 235 feet.

ELEVATION

6015 feet above sea level at collar of shaft.

 GEOLOGY

For the first 217 feet the shaft is in Percha Shale. Below this point it is in the Fusselman limestone, which is dipping 26 degrees to the east. To the east of the Percha Shale is a Monzonite Porphyry.

At the depth of 225 feet a drift has been driven in a westernly direction for the length of 250 feet and in an easternly direction 100 feet.

PRODUCTION

From July 1 to 15th inclusive the city received an average of 52,000 gallons per 24 hours.
Mr. Vesely,
Silver City, New Mexico

Dear Sir:-

Your Sample of WATER was tested in this laboratory for Hardness and found to contain the following results:

SAMPLE - Water; SILVER SPOT #3, Dated July 29, 1925.

**Acidimetric Determinations.**

Temporary Hardness ............... 45.00 parts per 100,000
Permanent Hardness ............... 46.05 " " "
Total Hardness .................. 91.05 " " "

**Soap Determination.**

Total Hardness .................. 88.00 part per 100,000

**REMARKS:-**

This water would be classed as very poor for steam boiler water. It would probably cause some trouble over a period of time due to depositing of scale in pipe lines. The above analysis does not tell anything concerning its sanitary condition.

Yours very truly,

W. J. Akert
Chief Chemist

Charges $5.00
REPORT OF WATER ANALYSIS JUNE 11 to 12.

Old well north of town. Total count, 750 bacteria per cc. negative for B. Coli.

Although the total count of bacteria is rather high, sample indicated no serious pollution.
OWNER

This property is known as the Silver Spot #1 and is owned by the Silver Spot Mining Company.

LOCATION

N. E. 1/4, N. W. 1/4, Sec. 10, T. 18S. R 14W.

HISTORY

The Silver Spot Mining Company started working this property in November, 1919, and have worked it intermittently ever since, during which time a shaft has been sunk to a depth of 145 feet.

ELEVATION

6000 feet at collar of shaft.

GEOLOGY

The shaft is located about 1500 feet north of Silver Spot #3. For the first forty feet the shaft is in the Percha Shale, at which point its encounters the Fusselman limestone. From the bottom of the shaft a drift has been driven in an easternly direction for the length of 231 feet.

PRODUCTION

From July first to July fifteenth the city received from this source an average of 9,000 gallons per day.
OWNER

This property is known as Silvears Well and is owned by Silver Valley Water Works.

LOCATION

E. 1/2, N. W. 1/4, Sec. 21, T. 17 S, R. 14 W. and N. W. 1/4, N. E. 1/4, Sec. 21, T. 17 S, R. 14 W.

HISTORY

In 1899 the company drilled the first of its artesian wells located about two and one-half miles north of the main pumping plant. This is a 4 inch cased well and when a depth of 280 feet was attained the water flowed over the casing.

In 1908 the company drilled a six inch well not far from their four inch well and struck water at a depth of 280 feet. They continued drilling to a depth of 330 feet, but the combined flow of the four inch and six inch wells did not greatly exceed the flow of the four inch well.

In 1911 they drilled a 12" well not far from the other two and duplicated their former experience. Since this well has been drilled to a depth of 665 feet at which point they discontinued drilling. It is stated that by a bailer test, there was a small flow, the amount of which was not determined.

In addition to the flow from the drilled wells, this source is aided by the drainage from 202 feet of drifts which have been driven from the bottom of a
shaft, the depth of which is 36 feet. The drifts are in turn fed by raises connecting with the bottom of the stream bed.

**GEOLOGY**

The drilled wells are located just above the diorite dike, which is cutting through the Colorado shale.

It is impossible to get into the shaft and drifts, but from inspecting the dump material, I believe they are within the diorite dike.

**PRODUCTION**

The water from system #5 is conveyed by a four inch cast iron pipe by gravity directly into the city mains.

When measured on July 21, 1925, the flow from the six inch drilled well was 10,300 gallons per 24 hours, all of which discharged directly into the city mains.
<table>
<thead>
<tr>
<th>Source #</th>
<th>Amount</th>
<th>Units</th>
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<tbody>
<tr>
<td>#1</td>
<td>27,000</td>
<td>Gallons per day</td>
</tr>
<tr>
<td>#2</td>
<td>36,800</td>
<td>&quot;</td>
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<tr>
<td>#3</td>
<td>52,000</td>
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<td>#4</td>
<td>9,000</td>
<td>&quot;</td>
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<tr>
<td>#5</td>
<td>10,300</td>
<td>&quot;</td>
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<tr>
<td>Total</td>
<td>135,000</td>
<td>&quot;</td>
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</tbody>
</table>
WELL #1

OWNER

This well is owned by the Silver Valley Water Works, and is known as one of Silvear's Wells.

LOCATION

The well is located about two and one-half miles north of the main pumping plant.

Sec. 21, T. 17 S, R. 14 W.

HISTORY

This well was drilled in 1899. This was the first well drilled by the Silver City Water Works.

ELEVATION

About 6190 feet above sea level.

SIZE OF WELL

This well is four inches in diameter and is three hundred feet (300 ft.) deep.

CASING RECORD

This a cased well, although the casing record is not available. It is reported that the well is closed part way down.

WATER BANDS

The log for this well is not available, but from report by Sanderson & Porter, the well flowed over the casing at a depth of 280 feet.

PRODUCTION

No record has been kept.
WELL #2

OWNER

This well is owned by the Silver Valley Water Works. (Flowing Well)

LOCATION

This well is located 325 feet west of the main pumping plant.

HISTORY

Drilling was first began on this well March 15, 1911, and completed May 11, 1911.

ELEVATION

About 5965 feet above sea level.

SIZE OF WELL

70' .................. 14" hole
530' ............... 11 5/8" hole
540' ............... 8" hole
561'561' .................. 6 1/4" hole
104' ............... 4 3/4" hole
(Total depth 1,865')

CASING RECORD

50' .................. 11 5/8" casing
460' .................. 9 5/8" "
1200' .................. 6 1/4" "

WATER SANDS

From blue print of this well prepared by J. A. Boller, I find that at a depth of 1370 ft. the well flowed at the rate of two and one-half gallons per minute. The well held at 525 ft.
when bailing 25 gallons per minute. At 1450 feet the well flowed five gallons per minute, and the well held at 225 feet when bailing fifty gallons per minute.

**PRODUCTION**

This well when measured was flowing at the rate of 1.87 (one and eighty seven hundredths) gallons per minute.

This discharge into the tunnel of source #1.

**GEOLOGY OR LOG**

<table>
<thead>
<tr>
<th>1 to</th>
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<tbody>
<tr>
<td>60 ft.</td>
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<td>65 ft.</td>
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<td>200 ft.</td>
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<td>250 ft.</td>
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<td>295 ft.</td>
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<td>375 ft.</td>
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<td>400 ft.</td>
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<td>420 ft.</td>
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<td>475 ft.</td>
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<td>530 ft.</td>
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<td>690 ft.</td>
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<td>700 ft.</td>
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<td>710 ft.</td>
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<td>750 ft.</td>
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</table>
905 ft. .......... 155 ft. sandstone
915 ft. .......... 10 ft. slate
990 ft. .......... 75 ft. sandstone
1045 ft. .......... 55 ft. slate
1105 ft. .......... 60 ft. sandstone, very hard, probably Bear Tooth Quartzite.
1215 ft. .......... 110 ft. slate
1295 ft. .......... 80 ft. black sandstone and slate.
1365 ft. .......... 70 ft. black flint mixed with quartz.
1370 ft. .......... 5 ft. white sandstone, water 200 ft.
1380 ft. .......... 10 ft. gray sandstone, water 600 ft.
1385 ft. .......... 5 ft. white sandstone, hole running over.
1460 ft. .......... 75 ft. black sandstone, very hard, some iron.
1475 ft. .......... 15 ft. red rock lime formation, increase in water.
1535 ft. .......... 110 ft. limestone
1600 ft. .......... 15 ft. slate
1730 ft. .......... 130 ft. limestone
1780 ft. .......... 50 ft. limestone and slate
1865 ft. .......... 85 ft. limestone
1865 ft. Total
WELL #3

OWNER

This well is owned by the Silver Valley Water Works.

LOCATION

This well is located about two and one-half miles north of the main pumping plant.

HISTORY

This well was drilled in 1908. (Sanderson & Porter)

ELEVATION

About 6185 feet above sea level.

SIZE OF WELL

This is a 6" well, 330 ft. deep.

CASING RECORD

The casing record for this well is not available, but from report by Thomas S. Shepperd the well is cased to the quartzite formation which at this point, lies 198 ft. below the surface of the ground.

WATER SANDS

Water was struck at a depth of 280 feet. The log for this well is not available.

PRODUCTION

When measured on July 21, 1925, the flow from this well was 10,300 gallons for 24 hours, all of which discharged into a sump. From the sump it is conveyed through a 4" cast iron pipe by gravity into the city water main.
WELL #4

OWNER

This well is owned by the Silver Valley Water Works.

LOCATION

This well is located about two and one-half miles north of the main pumping plant.

HISTORY

This well was drilled in 1911.

ELEVATION

About 6185 feet above sea level.

SIZE OF WELL

This is a 12" hole to a depth of 500 ft., where it is reduced to an 8" hole, which continues to its present depth of 665 feet.

CASING RECORD

This well is cased, but no casing record is available.

WATER SANDS

No log available.

PRODUCTION

It is stated that on a bailer test this well proved to have some flow, but is not artesian, and the amount of flow has not been determined.
WELL #5

OWNER

This well is owned by the Silver Valley Water Works.

LOCATION

This well is located about 260' east of well #2, or about 60' west of the main pumping plant.

HISTORY

Date of drilling not known.

ELEVATION

About 5970 feet above sea level.

SIZE OF WELL

This well is 12" in diameter and is 1500 ft. deep.

CASING RECORD

From all information available, this well is not cased.

WATER SANDS

No log available.

PRODUCTION

No production record available, although at present water stands within 45 feet of the surface. W. D. Murray informs me that this well is practically destroyed. He thinks that the casing has been pulled, but there is still casing at the collar.
WELL #6

OWNER
The well is owned by the Silver Valley Water Works.

LOCATION
This well is located a few feet to the south of well #5, near the main pumping plant.

HISTORY
Date of drilling not known.

ELEVATION
About 5970 feet above sea level.

SIZE OF WELL
This well is 6 inches in diameter and is 800 feet deep.

CASING RECORD
From all information available the well is not cased.

WATER SANDS
No log available.

PRODUCTION
No production record available.
WELLS #7, #8, #9, #10.

OWNER

These wells are owned by the St. Mary's Academy.

LOCATION

These wells are located directly west of well #2 of the Silver Valley Water Works, at a distance of about 1200 ft.

HISTORY

Well #7 was drilled in 1919 to a depth of 73 feet, but is partly filled in now and is not producing.

Wells #8 and #9 were drilled in 1923 to a depth of 140 feet. These two wells are furnishing the academy what water they are using at present, also the public swimming pool.

Well #10 was drilled in 1924 to a depth of 160 feet. This is used as an emergency well.

ELEVATION

About 6000 feet above sea level.

GEOLOGY

These are all 6 inch wells, drilled in the gravel.

To the west of these wells is the Fierro limestone, which is dipping to the north-east. A dike running in a north-south direction cuts through the country about 700 feet west of the wells.
OWNER

These wells are owned by the St. Mary's Academy.

LOCATION

These wells are located directly west of well #2 of the Silver Valley Water Works, at a distance of about 1200 ft.

HISTORY

Well #7 was drilled in 1919 to a depth of 73 feet, but is partly filled in now and is not producing.

Wells #8 and #9 were drilled in 1923 to a depth of 140 feet. These two wells are furnishing the academy what water they are using at present, also the public swimming pool.

Well #10 was drilled in 1924 to a depth of 160 feet. This is used as an emergency well.

ELEVATION

About 6000 feet above sea level.

GEOLoGY

These are all 6 inch wells, drilled in the gravel.

To the west of these wells is the Fierro limestone, which is dipping to the north-east. A dike running in a north-south direction cuts through the country about 700 feet west of the wells.
I believe the Kaolin floor as shown in the well and tunnel at the main pumping plant is dipping to the west, which would throw the main under-flow to the west of the main pumping plant.

**PRODUCTION**

These wells have never been given a thorough test to determine the maximum pumping that they will stand, although they hold to about the same level under what pumping is being done at the academy. This probably would not exceed 20,000 gallons a day.

It is quite possible that more water would be encountered if the wells were drilled to a greater depth.
WELL #11
THE OLD EMPIRE ZINC COMPANY'S WELL
OR
THE CLEVELAND MINE WELL

OWNER
This well is owned by Mrs. Fleming of Silver City.

LOCATION
Located about 4 1/2 miles north of town.
N. W. 1/4, S. E. 1/4, Sec. 15, T. 17S, R. 14W.

HISTORY AND PRODUCTION
At the time the Empire Zinc Company was operating the Cleveland Mine, they dug a well to a depth of 31 feet, and then drifted east about 100 feet from the bottom of the well. From this drift they also drove two short cross cuts. This was done in hopes of getting an adequate water supply.

Mr. Schmidt, who was in charge of the work, claims the well produced about 20 to 25 gallons per minute at its maximum.

Mrs. Jesse Light, who was pump man, claims they used a No. 5 Cameron sinker for handling the water, and that unless the pump was kept running continuously the water would rise and force the workmen to leave the drift.
There is a 10" drilled well within a few feet of the dug well. Mr. Light says this would stand pumping at the rate of 25 gallons per minute for 4 or 5 hours. They would then allow the pump to rest for about one hour and could then pump 4 or 5 hours again. The water rises within 11 feet of the surface.
OWNER

These wells are owned by McMillan Brothers.

LOCATION

N. W. 1/4 Sec. 1, and the N. W. 1/4 Sec. 3,
T. 19 S, R. 14 W.

These wells are located about five miles
south of town.

ELEVATION

The elevation at the wells is about 5575 feet
above sea level.

The water would have to be lifted about 400 feet,
The topography and accessability to the road is
very favorable for laying pipe line, also the
installation of any equipment that would be needed.

HISTORY

One of these wells has been drilled for about
20 years, the other two were drilled more recently.
Their exact depths are not known, but they are
about 150 feet deep.

GEOLOGY

These wells are drilled entirely within the
gravel which covers a very large area of the south-
west of Silver City.

PRODUCTION

These wells have never been pumped to determine
their maximum out-put, although they have never
been known to be dry or short of water. Each of
the wells are equipped with a wind-mill, this is the only means of pumping at present.

There are several drilled wells in these gravel beds. To the south-west of the McMillan wells, on what is known as Oak Grove Creek, a well was drilled about 400 feet deep, but proved to be a dry well.

It is also stated that at Whitewater, which is about nine miles south-east of the McMillan wells, a well was drilled to a depth of 1200 feet, but this is said to have been a failure.

All the wells to the north-west of the McMillan wells, including those across the divide, that were drilled in the gravel beds, apparently have plenty of water.

There are three or four wells to the north-west of the McMillan wells on the same side of the Continental Divide which are pumped by wind-mill and have never been pumped dry.
Silver City Water Works,
c/o Mr. Vesely,
Silver City, New Mexico.

Sample of WATER Marked -- GRAVEL BEDS, S.W. of Town.  
Dated August 4, 1925.

This sample was tested for hardness and found to contain the following results;

**Acidimetric Determinations.**

Temporary Hardness .............. 16.00 Parts per 100,000
Permanente Hardness .............. 0.75 " " "
Total Hardness .................. 16.75 " " "

**Soap Determination.**

Total Hardness .................. 17.69 Parts per 100,000.

REMARKS:-- This water would be classed as a good water for steam boiler use. Permanent Hardness is practically absent. The above analysis does not tell anything concerning its sanitary condition.

Yours very truly,

W. J. Akert  
Chief Chemist.
WELL #15

TYRONE'S WELLS

OWNER

The Burro Mountain Branch of the Phelps Dodge Corporation.

LOCATION

W. 1/2, Sec. 14, T. 19 S, R. 15 W.

Tyrone is about 9-1/2 miles south-west of Silver City.

ELEVATION

Tyrone is about 5800 feet above sea level.

HISTORY

In 1919 the company drilled their last well to a depth of 683 feet. Previous to this time they had drilled two wells, each 1200 feet deep.

Mr. E. M. Swwyer, manager of the Burro Mountain Branch of the Phelps Dodge Corporation, has made Silver City an offer whereby he would furnish them with an adequate supply of water for the city. This proposal may be found in Sanderson & Porter's report dated Sept. 25, 1923.

GEOLOGY

The 683 foot well is entirely within the gravel with the exception of the last 55 feet, which is in the granite forming the bedrock.

The 1200 foot wells are entirely within the gravel.
The granite outcrops a little to the southwest of Tyrone, and is dipping to the northwest towards the Mangus fault, which strikes in a northwest and south-east direction. The Mangus fault acts as a large dam along the north-east for several miles.

The gravel near the fault is 1000-1400 feet deep.

**PRODUCTION**

Most of the water used for domestic use in Tyrone is pumped from the 683 foot well. They have pumped as high as 300,000 gallons per day from this one well. From the three wells they have pumped as high as 800,000 gallons per day, but in doing so they noticed that the water level lowered.

For the month of June they pumped 25,200,000 gallons from the mine, (and average of 840,000 gals. per day), and for domestic purposes pumped 96,000 gallons per day from the 683 foot well. There was a drop in the ground water level of about 20 or 30 feet.

Mr. Sawyer believes that Tyrone has an adequate supply of water for both Silver City and Tyrone, even with the camp in full operation.
REMARKS

The topography, also the accessability of the road, between Tyrone and Silver City is very favorable for the construction of a pipe line.

The length of pipe line needed is 9.2 miles, according to Sanderson & Porter report.

The water must be lifted 780 feet and would be 469 feet above the center of town.

Tyrone is one the railroad which is a very favorable point, should the city install it's own pumping and power plant.
CASPER'S WELLS

OWNER

These wells are owned by C. A. Casper.

LOCATION

These wells are located about four and one-half miles east of Silver City on Whiskey Creek.

S. E. 1/4, S. W. 1/4, Sec. 33, T. 17S, R. 13W.

ELEVATION

About 6050 feet above sea level.

GEOLOGY, HISTORY, PRODUCTION.

Whiskey Creek heads near Pinos Altos and flows south, entering the large gravel area a little south of Asper's ranch.

Mr. Casper has a dug well 30 feet deep, located near the creek, which has 30 inches of water in the bottom. This well is said to have an abundance of water, although it has never been pumped continuously over a period of time to determine the amount of water it is producing.

There is also a drilled well located several hundred feet located west of the dug well. Shale was encountered at a depth of 110 feet in this well. This well was never as good as the dug one.

About three-fourths of a mile further north on Whiskey Creek on the Nash range are two wells. One is near the creek, the other is several hundred feet west of the creek.

The one near the creek is dug for a depth of
40 feet and then drilled 40 feet. This well has plenty of water for ranch purposes.

The well that is several hundred feet west of the creek is a drilled well, but this is said to have been a failure, having very little water.

The Stevens ranch is about one-half mile further north on Whiskey Creek. On this ranch is a drilled well located a few hundred feet to the west of the creek bottom, but has very little water in it. There is also another well near the creek. This well has plenty of water for the ranch.

It seems that the wells located near the creek bottom get the main underflow or drainage from the gravel.

REPORT ON WATER ANALYSIS—JUNE 11 and 12.

Caspers Well. Total count. 2000 bacteria per cc, negative for B. Coli.

Although the total counts of bacteria are rather high, sample indicated no serious pollution.
OWNER

In the hands of the receiver.

LOCATION

N. W. 1/4, S. E. 1/4, Sec. 26, T. 16 S. R. 15 W.

The spring is located on what is known as the Allen or Dorsey Ranch, about 12 miles northwest of Silver City, and is one-half mile east of the main road on Walnut Creek.

The road from Silver City to the spring is in very bad condition. It would be expensive to get this road in condition for the hauling of heavy machinery, as would be required in case this spring is used in furnishing Silver City with water.

ELEVATION

The spring is 5850 feet above sea level.

The water would have to be pumped over the divide, which is 915 feet above the spring, and is then 834 feet above the elevation of the center of town. It is possible that another route may be selected whereby the divide may be crossed at a lower elevation.
GEOLOGY

The spring is located on the upper side of a fault in the Fierro limestone. The water is apparently coming from considerable depth as the temperature on July 30, 1925, was 79 F.

PRODUCTION

Most of the water from the spring discharges through an 8" pipe into an irrigation ditch on the opposite side of the creek. All the water not entering the 8" pipe flows to waste down Walnut Creek.

On July 30, 1925, I made a Weir measurement of the water in the irrigation ditch and found it to be 120 gallons per minute. I also made a Weir measurement of the water in the creek and found it to be 15 gallons per minute, making a total flow from the spring of 135 gallons per minute. There is some seepage that could not be measured which would probably amount to 10 gallons per minute.
Mr. Vesely,
Silver City, New Mexico.
Dear Sir:-

Your sample of WATER was tested in this laboratory for Hardness and found to contain the following results:

SAMPLE - Water. Allen Springs

Acidimetric Determinations.
Temporary Hardness ............... 11.5 Parts per 100,000
Permanent Hardness ............... 6.1 " " "
Total Hardness ................... 17.6 " " "

Soap Determination
Total Hardness ................... 15.8 Parts per 100,000

REMARKS:- This water would be classed as a good water from the chemical properties as outlined above. The above analysis does not tell anything concerning its sanitary condition.

Yours very truly,

W. J. Akert
Chief Chemist

Charges $5.00
TWIN SISTERS SPRINGS

OWNER

These springs are owned by Tom Foy of Central, New Mexico.

ELEVATION

The elevation is about 7200 feet above sea level.

LOCATION

These springs are located in the N. W. 1/4, Sec. 34, and the S. W. 1/4, Sec. 27, T. 16 S, R. 13 W.

They are on the head of Twin Sisters Creek about 10 miles north-east of Silver City.

GEOLOGY AND PRODUCTION

The country consists of layers of sandstone and Andesite and Basalt (lava flows), and is cut by a strong dike which runs in a north-south direction.

The water apparently flows through the sandstone until it hits the dike and is forced to come to surface.

The combined flow of the several springs is about 20 gallons per minute. The springs are all in a bad condition and need a thorough cleaning out, which would probably increase the flow.

The water from these springs could be piped to town and would flow by gravity, but the quantity is not sufficient to warrant the construction of a pipe line. There is a possibility, however, of constructing a dam across the canon about one-half mile below the springs. This would hold the flood water, also the water from the springs.
CAMP FLEMING WATER

OWNER

The Old Man Mining Company.

LOCATION

About six and one-half miles north-west of Silver City, and about two miles south-west of the Continental Divide.

ELEVATION

About 5900 feet above sea level.

GEOLGY AND PRODUCTION

This is an old abandoned mining camp, about forty years old.

The water is coming from a drift, driven from the bottom of a forty foot shaft, which is sunk in the Gila Conglomerate.

The water is carried through a pipe several feet under the ground to a trough which is about 1000 feet from the shaft. I was told that this pipe is disconnected somewhere between the trough and the shaft, in which case it is possible that part of the water is being lost.

When measured on August 15, 1925, the flow entering the trough was 15 gallons a minute, but it is stated that when measured several years ago it was making about 37 gallons a minute.
REMARKS

There would be a lift of four or five hundred feet to get this water over the divide.

I would consider this a minor source, as there is only a small amount of water at present, and the camp has never been known to have an abundance of water.