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REPORT ON
NEVADA DOUGLASS PROPERTY
ESMERALDA COUNTY, NEVADA

By Ira B. Joralemon — June 9, 1934

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Conclusion:

The many veins on the Nevada Douglass Property are either very small or very lean. The indicated ore in the 4 best veins amounts to 8500 tons averaging $16.40 per ton with $35.00 gold. This tonnage may be doubled by future development. The recovery by treating the ore in the Sodaville Mill should be $14.50 per ton, and the operating cost, including a 10% royalty,

should be $8.50 per ton.

If the property can be secured on a lease, the resulting profit of $6.00 per ton will be attractive. The cash payment now demanded of about $14,000 on a purchase price including debt payments, of $104,000, plus the $5,000 required for preparatory work and working capital, make the venture a very dubious one.

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Location and Property:

The Nevada Douglass property is on the north slope of the Excelsior Mountains, 7 miles by fairly good mountain road southwest from the Southern Pacific Railroad station of Mina, Nevada. The altitude at Mina is 4600 feet, and at the Douglass camp 6900 feet. The distance by fair road from the mines to the Sodaville custom mill is 8 miles, with a practically continuous down grade. This part of Nevada is in the heart of the desert. The climate is cold in winter, with a little snow, and hot and dry in summer. Water is very scarce, and only low juniper trees and sage brush grow on the hills. Timber, fuel and all other supplies must be hauled several hundred miles by rail and truck. The location makes all costs moderately high.

The property formerly included 374 acres of mineral land in a compact group 7000 feet long from east to west by 1000 to 2800 feet wide. Nearly all of the ground was held by location only. No map is available showing property now held. Before making any payment, it would be essential to have titles checked and to make sure that the valuable claims are in good standing.

The property is now held by the Mina Gold Mines Co., which went bankrupt a few months ago, after paying $12,000 on the purchase price of $100,000. It is now offered by the trustees of the bankrupt company for the balance of the purchase price, or $88,000, plus

$16,000 in accrued debts. The underlying option calls for a $10,000 payment on July 26, 1934, and $20,000 on July 26th of each of the ensuing 4 years, less a 10% royalty to apply on the last payment. In addition to these payments on the option, 25% of the debts must be paid in cash and the balance in 3 equal installments at 6 month intervals.

History:

The first discovery in the Douglass camp was in 1893. A report of doubtful accuracy written in December, 1926 by A. A. Blow states that up to that date the total production of the camp was 8000 tons of ore. Detailed statistics of part of this production show that 4633 tons mined from shallow stopes in 12 small veins yielded $21.00 per ton by amalgamation and $4.40 additional per ton by cyaniding tailings. The values were chiefly in gold, figured at $20.00 per ounce. Including tailings loss, this early ore must have averaged about 1.3 ounces gold per ton.

From 1896 to 1904, Geological Survey reports show that there was very little production, although considerable development work was done. After 1904 the camp was almost deserted during the boom years in Tonopah, 60 miles southeast. In 1923 H. E. Springer and associates took over the property and treated 900 tons of ore averaging 0.83 ounces gold per ton. Of this ore, 160 tons from the larger Contact vein averaged 0.34 ounces per ton, and the rest of the ore, from many small veins, averaged 0.93 ounces per ton. In 1925 the property was turned over to the Nevada Douglass Gold Mines, Inc., which built a 100 ton cyanide mill, but devoted most of its attention to stock selling. The company soon failed. After several

reorganizations Springer and associates got the mine back again, and in July, 1933 optioned it to the Mina Gold Mines Co. Very little ore has been mined since 1925.

The Bounce claim, in the northeastern part of the area, did not belong to the Nevada Douglass company or its predecessors. A small stamp mill built on this property many years ago is said to have treated a few thousand tons of ore that assayed about 1.4 ounces gold per ton. During 1933 the Bounce claim was added to the Douglass group and it is included in the proposed option. Mining in the Bounce claim from October, 1923 to January, 1934 yielded 2300 tons of ore from which the recovery was about 0.3 ounces gold per ton. The ore must have assayed about 0.4 ounces per ton.

The property is now idle. Camp and equipment seem to be in good condition, and are adequate for small scale operations.

Geology and Vein System:

The core of the Excelsior Mountains is a large intrusion of quartz porphyry. South of the porphyry the lower hills are made up of alternate beds of andesitic volcanic tuff and of coarse conglomerate. The contact between the porphyry and the tuff-conglomerate series runs nearly east and west with an irregular dip of about 45 degrees south, into the mountain. The tuff and conglomerate beds strike northeast and southwest and dip 50 to 70 degrees southeast in most of the area. In the claims furthest southeast the dip becomes vertical, and in places is reversed to northwest. The beds meet the porphyry contact at an acute angle.

On or near the contact of porphyry with tuff and conglomerate is the Contact Vein. This consists of 4 to 15 feet of crushed

quartz and calcite irregularly distributed through highly altered, iron-stained porphyry and andesite. This big vein outcrops at intervals for a length of 4650 feet, from the Orphan Boy claim on the east to the Fottler on the west. The Contact Vein has been developed underground for over a quarter of its length. It has produced a few tons of 0.3 to 0.75 ounce gold ore from near intersections with bedded veins. Sampling by the undersigned in 1925, borne out by later attempts at mining, proved that the bunches of ore are too small to have any possible value. The Contact Vein as a whole assays less than 0.1 ounce gold per ton, and is worthless.

North of the Contact Vein, in and andesite and conglomerate, there are a dozen or more smaller veins from one to 5 feet wide and up to 1500 feet long. Most of these narrow veins strike northeast and dip southeast, following the bedding. Others cut the bedding at acute angles on strike and dip, forming diagonal "crossovers" between bedded veins. Nearly all of the production of the district has been from these northeast veins. The width of ore has averaged less than 2 feet, and the grade has varied from nearly 1.5 ounces to 0.4 ounces gold per ton. The best ore was mined in the early days of the camp above shallow tunnel levels. The deepest mining was only 300 feet below the surface.

The ore in the small veins consists of quartz and highly altered, silicified, kaolinized and iron-stained andesite. Much of the quartz evidently replaced calcite, some of which still remains. In barren parts of the veins there is very little quartz and much more calcite, with occasional manganese staining. In the orebodies there is usually a definite quartz strand a few inches wide, accompanied by altered material with quartz stringers a foot or two wide.

Apparently some of the soft kaolin is as rich as the solid white or glassy quartz. This kaolinized material in places resembles a highly altered porphyry, and there may have been narrow porphyry dikes along the vein fissures. All of the vein material in accessible workings is so thoroughly oxidized that only a few specks of iron sulphide or arsenide can be seen. An old shaft, sunk from the bottom of the gulch near the northeast end of the Fortune Vein, apparently entered the sulphide zone, as the dump shows quartz and altered andesite with seams and specks of pyrite and arsenopyrite. Sulphides will probably be encountered in all the veins within a few hundred feet.

There are seven strong northeast veins in the Douglass property, and many smaller veins and branches. The principal veins and the development on them are described below, beginning with the vein furthest northwest.

Mary Vein:

The Mary Vein has been exposed by frequent open cuts for a length of more than 1000 feet, crossing a ridge 200 to 300 feet above the lowest outcrops. Doubtful extensions, beyond long stretches that are hidden by talus, may make the total length more than 2000 feet. The vein occurs in the footwall of a massive bed of conglomerate. The strike is North 50 degrees East and the dip 55 degrees southeast. The best outcrops occur within a length of 780 feet. Out of this length, old shafts or shallow intermittent open cuts from which ore was evidently stoped cover a length of 260 feet. At least one shaft is connected with a raise from the tunnel level, 200 feet below. In the open cuts the vein averages a little more than a foot wide.

The Mary crosscut tunnel in the hanging wall cuts the vein about 200 feet down the dip at a length of 450 feet. Drifts follow the

vein for 260 feet northeast and 530 feet southwest, under all save the most westerly surface stopes. In the east drift, a total length of 60 feet has been stoped 20 to 30 feet above the level. Beyond the stope the vein pinches to less than 6 inches. In the west drift, two stopes total 330 feet in length, and extend from 10 to 60 feet above the level. There are several raises, one of which runs to the surface stopes. A diagonal North 70 degree East fault and vein cuts the Mary at an angle of 20 degrees 200 feet southwest of the tunnel, and offsets it about 20 feet to the north. About 50 feet of the stoping is in this cross vein, which has been developed only a few feet west of its intersection with the Mary. There is no record of production or grade from the Mary Vein, but much of it must be included in the 1.3 ounce ore mined before 1906. Most of the unstoped length in the west drift shows about a foot of fair looking quartz and gouge. Five samples of this material taken by Mr. Hall, Superintendent of the Sodaville Mill, assayed as follows:

1.	East face of west fault block,	18" wide	0.82 oz. Au.
2.	West face of west fault block, 215 ft. west of #1	12" "	0.07 " "
3.	End of stope, 90 ft. east of #2	12" "	0.14 " "
4.	West end of east fault block, 190 ft. west of tunnel	72" "	0.06 " "
5.	75 ft. east of tunnel, between stopes	60" "	0.10 " "

These samples indicate that little ore is left in the Mary Vein except above and below the old stopes. The one rich sample is so close to the fault that there is room for only a short ore shoot here. The most encouraging feature is that the stopes are a little longer than open cuts 200 feet above. Also the west drift is not quite under

the last surface stopes, and there may be more ore ahead of this face. The branch vein on the fault presents further possibilities.

Between the top of the stopes and the bottom of the open cuts there is an average vertical interval of over 100 feet. There should be at least 2000 tons of ore left here. As much ore again may be found below the tunnel level and in places that have not been stoped on that level. Based on exceedingly uncertain old records, it seems likely that the Mary ore may mine to a width of 18 inches, after dilution, and that it may average 0.5 ounces gold per ton.

This ore is so doubtfully indicated that it must be estimated only as possible ore.

South Mary Vein:

The South Mary Vein is 180 feet south of the Mary, on the other side of the massive conglomerate bed. It is parallel with the Mary in strike, but dips a little more steeply. On the surface, the vein can only be recognized in two or three little pits. The Mary adit tunnel cut the South Mary vein about 100 feet below the surface, and drifts were run 120 feet northeast and 175 feet southwest. For 50 feet at each end of this length the quartz pinches to a width of less than 4 inches. The part of the vein 60 feet east of the adit and 130 feet west is much better. For this length the quartz and highly altered andesite average 1.5 to 2 feet wide. About half of this length has been stoped from 10 to 50 feet above the level. One raise runs up to the surface. While there is no record of production, the ore was probably part of the 1.3 ounce material mined before 1906.

Forty feet east of the adit a 65-foot winze was sunk on the vein. At the bottom a drift runs 10 feet east and 70 feet west. In the east face the vein pinches. Samples taken by the undersigned

in the west drift gave the following results:

No.	Description	Oz. Au.	Value at $35.00 per oz.
111	10" quartz in west face, 65 ft. level	0.18	$ 6.30
112	13" quartz 20 ft. back from west face	0.72	25.20
113	12" quartz 50 ft. back from west face	0.64	22.40

While the ore in the South Mary vein is small, there is roughly indicated about 1000 tons of easily accessible ore that will probably average 0.6 ounces gold per ton.

Fortune Vein:

The Fortune Vein outcrops across the lower slope of the Mary hill, 160 feet southeast of the South Mary vein and parallel withit. On the surface it is exposed almost continuously for a length of 550 feet. Ore was mined in open cuts for all save 100 feet of this length. In the remaining pillars the quartz is from 6 inches to 1 foot wide. At each end of this exposed length the vein is covered by the gravel of arroyos. To the northeast, small exposures and shafts indicate that the vein continues at least 500 feet further. On the dump of the last shaft to the northeast, now inaccessible, there is a little quartz with pyrite and arsenopyrite, the only sulphide seen in these northeast veins. To the southwest beyond the arroyo there is no vein in line with the Fortune.

The Mary adit cuts the Fortune Vein at shallow depth 100 feet from the portal. It consists of two 4-inch quartz stringers about 10 feet apart. This place was lean on the surface also, with no open cut.

The Fortune Tunnel starts 420 feet northeast of the Mary adit and about 70 feet lower, and follows the vein for 400 feet

southwest. As the face has caved, the tunnel may have been longer. The attached section on the vein shows the Fortune outcrop and workings. Stopes on the tunnel level cover a length of 120 feet, and a few feet above the level the stopes expand to a length of 200 feet. This compares with a length of 350 feet stoped on the surface directly over the tunnel. Either leaner material was mined from surface cuts or the grade has decreased at a depth of 20 to 100 feet. Two winzes 240 feet apart were sunk 35 and 65 feet below the tunnel. Ten feet of drifting was done from the first winze, and 80 feet of drifting, with a small stope, from the second. Only a small pillar remains between the 2nd winze stope and the tunnel level.

Three samples taken from pillars on the tunnel level by Mr. Hall assayed as follows:

A.	310 ft. from portal	23" quartz	1.94 oz. gold
B.	195 ft. " "	14" "	1.17 " "
C.	70 ft. " "	14" "	0.56 " "

Samples by the undersigned gave the following results:

No.	Description		Oz. Au.	Value at $35.00 per oz.
133	E. end of stope from #2 winze,	16" vein	0.17	$ 5.95
134	Tunnel at 240 ft.	12" "	0.27	9.45
135	" " 220 ft.	14" "	0.33	11.55
136	" " 200 ft.	16" "	0.88	30.80
137	" " 180 ft.	16" "	0.55	19.25
138	Bottom of #1 winze, West end	12" "	1.12	39.20

Part of the ore shipped from the old Fortune stopes was included in the 1.3 ounce material shipped before 1906, and the rest, assaying slightly less than an ounce gold per ton, was shipped

more recently.

In spite of the one good assay from the bottom of No. 1 winze, it seems clear that the grade of the Fortune ore is rapidly decreasing in depth. It is not safe to count on more than the ore in the better pillars, extending only 40 feet below the tunnel level. The probable tonnage is only 1000 tons averaging 0.6 ounces gold per ton.

Crow's Nest Vein and Branches:

Starting about 200 feet south of the west end of the Fortune Vein and continuing for several hundred feet southwest toward the porphyry contact there is another bedded vein. Branches come in at acute angles to meet the main vein. A few hundred tons of ore are said to have been mined above shallow tunnels. This vein was not examined during the present visit. There is probably very little ore left in it.

Bounce Vein:

The largest of the northeast veins is the Bounce Vein, 700 feet southeast of the Fortune. The accompanying section shows the workings on this vein. Intermittent open cuts, from which little if any ore was shipped, develop the outcrop for 800 feet. More doubtful extensions may make the total length 2000 feet. The width of quartz and kaolinized andesite is from 1 to 6 feet, averaging 3 or 4 feet. This vein strikes North 70 degrees East and dips about 80 degrees north, toward the Fortune. The two veins should meet at 500 to 600 feet depth.

The Bounce Vein has been developed by a 400-foot inclined shaft near the northeast end of the good outcrop. An upper tunnel

starting at the shaft collar runs 200 feet west, and stopes extend above this level for 120 feet still further west. Although the outcrop was apparently too lean to mine, there may be a few hundred tons of available ore in the 30 to 80 feet from the top of the upper tunnel stopes to the surface.

A lower tunnel meets the shaft 70 feet below the collar. On this level the vein is developed for 220 feet east of the shaft and 750 feet west, passing under all the best outcrops at a depth of 30 to 180 feet. As the section shows, 560 feet out of the 970 feet have been stoped above the lower tunnel level. The early mining was on the richest strand of the vein, 1 to 2 feet wide, and is said to have yielded several thousand tons of 1.4 ounce ore. Ore mined during the past year, largely in the walls of the old stopes or in leaner ore between them, averaged only about 0.4 ounces gold per ton, with a width of 3 to 5 feet. This is about two-thirds of the value indicated on an assay map by L. D. Jordan dated September, 1933, just before the last mining was done. Only small pillars remain above the lower tunnel level stopes, and the material between the stopes assays only one to three dollars per ton.

Two or three samples by Mr. Hall suggested that there might be another ore shoot at the west end of the lower tunnel level. Samples taken by the undersigned to check this possibility gave the following results:

No.	Description	Oz. Au.	Value at $35.00 per oz.
114	585 ft. West of shaft, 30" wide	0.015	$0.52
115	575 " " " " 34" "	0.07	2.45
116	565 " " " " 45" "	0.035	1.22
117	555 " " " " 32" "	0.025	0.87
118	545 " " " " 38" "	0.02	0.70
119	535 " " " " 56" "	0.03	1.05
120	525 " " " " 36" "	0.01	0.35
121	515 " " " " 48" "	0.02	0.70
122	505 " " " " 64" "	0.015	0.52
123	495 " " " " 36" "	0.025	0.87
124	485 " " " " 33" "	0.05	1.75
125	475 " " " " 36" "	0.065	2.27

Sample 132 from the dump of an old surface pit 500 feet west of the shaft assayed 0.16 oz. gold, or $5.60 per ton.

The next or 120-foot level of the Bounce is 58 feet below the lower tunnel. The drifts run 210 feet west and 100 feet east. As the east face has caved, this drift may have been considerably longer. Out of the 310 feet open on this level, 200 feet has been stoped. For most of the distance the stope is only 15 to 20 feet above the rail. This stoping was probably done last winter, when the average grade of ore was 0.4 ounces. Three samples taken by Mr. Hall in the back of the stope assayed 0.31 ounces gold across 4 feet; 0.44 ounces across 6 feet; and 0.63 ounces across 4 feet. Samples taken by the undersigned from the drift between and west of the stopes gave the following results:

No.	Description	Oz. Au.	Value at $35.00 per oz.
126	75 ft. East of shaft, 33" wide	0.21	$7.35
127	63 " " " " 33" "	0.20	7.00
128	200 " West " " 36" "	0.03	1.05
129	184 " " " " 60" "	0.085	2.97
130	163 " " " " 48" "	0.15	5.25
131	143 " " " " 60" "	0.31	10.85

These samples prove that there is no ore on the 120 level except that in the 30 to 40 feet between the top of the stopes and the lower tunnel level. The ore is very much shorter than that on the tunnel level, and is probably leaner as well. There is probably not more than 3000 tons of 0.4 oz. ore remaining.

The next level, called the 200, is 70 feet below the 120. It runs 210 feet east of the shaft and 220 feet west, with the east face caved or filled at an old stope. The total length stoped on this level is only 100 feet. Between stopes the vein is usually only a shear zone with very narrow quartz seams. Mr. Hall got one 0.59 ounce assay from a sample across the end of the stope 75 feet east of the shaft. Five other samples from the 200 level assayed from 0.06 to 0.25 ounces. There has been a further reduction in the size of orebodies between the 120 and the 200 level. The only remaining ore is that from the back of the stopes to the 120 level sill, totalling possibly 1000 tons of 0.4 ounce ore.

The 300 level from the Bounce shaft runs 120 feet west of the shaft. The last 30 feet was stoped. Four samples by Mr. Hall east of the stope assayed 0.15 ounces, 0.19 ounces, 0.42 ounces, and 0.15 ounces per ton. In view of the poor showing on the 200, it is

not safe to count on any remaining ore between the 200 and the 300. Neither this level nor the 400 were visited. The small west stope is said to extend down to the 400.

The only probable ore indicated in the Bounce Vein is that above and below the old stopes. The maximum tonnage that can be expected is 4500 tons assaying 0.4 ounces gold, or $14.00 per ton.

Bounce Back Vein:

The Bounce Back Vein strikes parallel to the Bounce and outcrops 200 feet south of it. The dip is steeply south instead of north. A tunnel and shaft are said to have found only a little ore in a narrow vein. In a 280-foot crosscut south from the lower Bounce tunnel there are several small quartz stringers. A little stoping was done on one of them, two inches wide. This vein is too small to have any importance.

New Party Lode:

The most southerly of the bedded veins is the New Party Lode, 200 to 400 feet south of the Bounce Back Vein. The strike has turned to almost east and west. This vein was not examined on the present visit. A dump sample from the New Party Tunnel taken during an earlier examination assayed 0.13 ounces gold. While a little stoping was done many years ago on the New Party Lode and a southeast branch from it called the Hardscrabble Vein, the veins as a whole are said to be lean. They are not promising.

Total Ore Indicated:

The total indicated ore in the Douglass property is as follows:

Mary Vein	2000	tons	0.5	oz.	gold
South Mary Vein	1000	"	0.6	"	"
Fortune Vein	1000	"	0.6	"	"
Bounce Vein	4500	"	0.4	"	"
Total	8500	"	0.47	"	"

The gross value of the ore at $35.00 gold is $16.40 per ton.

None of this ore is thoroughly developed, and lean areas may make the tonnage or grade less than estimated. It seems likely that further development may double the tonnage. In view of the decreasing size and grade of ore in depth, any great increase in the quantity of ore is unlikely.

Equipment:

At the Bounce Shaft there is a 360-foot portable compressor, a drill sharpener, and a small gasolene hoist. This equipment is adequate for mining the remaining ore. There is no equipment at the other veins.

At the Douglass cyanide mill a 40 horsepower gasolene hoist, not set up, and a 220-foot portable compressor will be useful in mining the Fortune and Mary veins. The total expense necessary for starting production should not exceed $5,000.

The cyanide mill was intended to treat 100 tons per day, by agitation. Because of water shortage and inadequate settling capacity the actual capacity was 30 tons per day. It will be much cheaper to haul ore to the Sodaville amalgamating and flotation mill than to treat it in the Douglass plant. The Sodaville mill should make a recovery of about 90%. Tests now under way will

prove this.

Probable Costs and Profit:

The cost of mining and treating the Douglass ore is estimated as follows:

Mining	$2.00 per ton
Development	2.00 " "
Hauling to Sodaville	1.00 " "
Milling	1.00 " "
Overhead	1.00 " "
Royalty	1.50 " "
Total cost	$8.50 per ton

This cost does not include amortization of the purchase price, as the price is so high that this charge would be greater than the total value of the ore. The development charge is low, as very little development is justified. As the walls stand well, mining will be cheap. The narrowness of most of the veins will make it necessary to break down the walls before or after stripping the ore. The estimated mining cost of $2.00 per ton should be possible with careful operation.

In so small a mine, overhead must of course be kept at a minimum.

With ore of the estimated grade of $16.40, the recovery should be about $14.50 per ton. The operating profit will then be $6.00 per ton.

It will be difficult to produce more than 50 tons per day. The indicated ore will then last less than 6 months. New

discoveries may double the life. The total operating profit should be from $50,000 to $100,000.

There is a bare chance that lean material in the Contact, New Party and other veins may increase the life, without greatly increasing the profit.

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June 9, 1934