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Report on the  
1984 Exploration Results

of the

GRAND UNION PROPERTY

for

HOMESTEAD RESOURCES INC.

Nelson M.D.

N.T.S. 82F/6W

'DRAFT' COPY ONLY'

September 6, 1984  
Vancouver, B.C.

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Report on the  
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PART A

SUMMARY

HOMESTEAD RESOURCES INC. holds 21 contiguous claims on Erie Creek 20 km east of Castlegar and adjacent to the former gold producer - the Second Relief Mine - from which some 100,000 ounces of gold were produced from 1900 to 1959.

The Second Relief vein is persistent for a distance of "a thousand feet" and is developed by eleven levels. Massive sulphide gold bearing zones over widths of "eighteen inches" in addition to free gold and pyrrhotite, chalcopyrite and arsenopyrite in zones up to "seven feet" in width occur with the veined structure. Grades mined and processed were up to 0.5 oz Au/ton in 1937.

On the HOMESTEAD GRAND UNION PROPERTY, Relief-Arlington Mines explored and developed two veins - the Rand and Inez. The veins could be traced for up to 640 meters on surface and were developed by two levels to the Cliff claim which was not owned by Relief-Arlington.

Relief-Arlington reported that the final 82 meters of the 268 meter long Rand No.1 drift returned an average of .25 oz Au/ton across a minimum mining width of .9 meters. In addition the Rand No.2 drift disclosed intervals of mineralization averaging 0.31 oz Au/ton.

Surface channel samples taken from the vein near the end of the underground workings returned up to .623 oz Au/ton across 0.6 meters.

The Inez workings reportedly contain a 120 meter mineralized zone which averages 0.32 oz Au/ton over "four feet". The lower drift reportedly contained three mineralized sections over 55 meters averaging 0.38 oz Au/ton across "four feet".

Samples taken (1984) from the Inez vein 700 meters from the No.2 adit returned values of up to .359 oz Au/ton across 2.64 meters (8.66 feet). The mineralized zone averages .305 oz Au/ton across one meter over a strike length of 35 meters.

Diamond drilling (1984) in the sampled area returned up to 9.92 oz Au/ton over .46 meters.

Geophysical and geochemical surveys completed over localized areas of the property disclosed an indicated eastward extension of the Second Relief Vein to the Grand Union Property.

In addition other correlative anomalous areas indicate potential mineral bearing structures.

### CONCLUSIONS

The Rand and Inez Vein systems offer the potential for the development of sufficient gold bearing material to establish an economic mine-mill complex.

The potential for developing tonnage on the Vein structures is:

- 1) Within the bounds of the present drifts where previous assays indicate that potentially economic gold values are indicated. The workings should be made accessible to check the extent of stoping (if any) in these areas.
- 2) Below the Rand No.1 drift level where the 82 meter mineralized zone was not explored or developed by the No.2 level.
- 3) Along the westward extensions where surface sampling and diamond drilling indicated economic gold bearing zones.

Additional areas of locating potential mineralized zones are:

- 1) Along the westward extension of the Second Relief Vein system where geophysical and geochemical anomalies suggest a continuation of the mineralized structure.
- 2) Within the delineated correlative anomalous areas.

RECOMMENDATIONS

A two stage diamond drilling program is recommended to develop mineral zones on the Rand, Inez and Second Relief vein systems. In conjunction with the drilling, follow-up geochemical and geophysical surveys would be initiated over prime areas as determined in the 1984 program. The cost of the recommended exploration and development program is estimated at \$500,000.

Respectfully submitted

Laurence Sookochoff, P.Eng.

September, 6, 1984  
Vancouver, B.C.

Report on the  
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PART B

INTRODUCTION

During the 1984 exploration season, HOMESTEAD RESOURCES INC. completed an exploration program of geochemical, geophysical and geological surveys, surface rock sampling and diamond drilling on the Grand Union Property.

The program was initiated upon the recommendations as set out in a Geological Report on the property by J. S. Kermeen, P.Eng. dated January 16, 1984.

John Robins geologist, supervised the field program under the direction of the writer. D. Vieweger of Homestead Resources was the field co-ordinator of the project. Geotronic Surveys of Vancouver carried out the VLF-EM survey, recce geological mapping and the interpretation of the geophysical and geochemical results. The results of the surveys are summarized with detailed results presented by D. Mark, geophysicist of Geotronic Surveys under separate cover dated September 5, 1984.

Information for this report was obtained from sources as cited under bibliography and from personal property examinations carried out on May 10, May 29-30 and June 13, 1984.

PROPERTY

The property consists of 21 contiguous claims comprised of three crown granted claims, 13 reverted crown grants, two staked two post claims and three grid claims totaling 37 units. Particulars are as follows:

<u>Claim Name</u>	<u>Record No.</u>	<u>Lot No.</u>	<u>Expiry Date</u>
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Crown Grants

- Inez Fr.		14669	
Cliff		2915	
- Rand Fr.		14666	

<u>Claim Name</u>	<u>Record No.</u>	<u>Lot No.</u>	<u>Expiry Date</u>
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Reverted Crown Grants

- Grand Union	590	2467	April 14, 1987
- Star Shine	1147	2466	August 8, 1986
- Risk Fr.	1148	14655	August 8, 1986
- Peggy Fr.	1149	14656	" "
- Lucy	1150	14661	" "
- Gus Fr.	1151	14662	" "
- Eva Fr.	1152	14665	" "
- Dolly	1314	14664	October 26, 1986
- Rhodes Fr.	1315	14667	" "
- Amos	1316	14670	" "
- Lee	1831	14658	July 22, 1986
- Pitt	1832	14659	" "
- Winnie	1834	14663	" "

Staked

	<u>Units</u>	<u>Record No.</u>	
Lil Geez		592	April 14, 1987
Digit		1181	August 27, 1986
Rush #1	15	3552	October 26, 1984
Rush #2	10	3553	October 26, 1984
Deejay	12	3452	August 9, 1986*

\* Assessment work approval pending.

The claim status was obtained from the Nelson Gold Commissioners office on September 4, 1984. Any legal aspects pertaining to the claim group is beyond the scope of this report.

### LOCATION AND ACCESS

The property is located 418 kilometers east of Vancouver and 40 km northwest of Trail where smelting facilities are located. Castlegar, which is served daily by commercial airline is 20 air kilometers east and it is 75 km by road via Trail.

Access is provided from the southern trans provincial highway No.3 four km west of Salmo and 35 km east of Trail, by a secondary logging road northward for 18 km. Four wheel drive roads provide access to some showings on the property.

### WATER AND POWER

Sufficient water for all phases of the exploration program would be available from Erie Creek - the main creek on the property - or from numerous other water courses within the property boundaries.

### HISTORY

The history of the immediate area stems from the Second Relief Mine where production from the Second Relief Vein was sporadic prior to 1933 and continuous from 1933 to 1941. Production totalled some 250,000 tons of 0.39 oz/ton Au and 0.13 oz/ton Ag from eleven levels.

A 1939 report by Relief-Arlington Mines Ltd., the operator of the Second Relief for the year 1938, reported treating 29,367 tons of ore (34.74% of the tonnage received from the mine) averaging 0.44 oz Au/ton from which 12,344 ounces of gold and 3,733 ounces of silver were recovered. In 1937 26,822 tons were milled grading 0.5 oz Au/ton with 13,170 ounces of gold and 3,569 ounces of silver recovered. At the end of 1938 reserves were estimated at 83,261 tons averaging 0.30 oz Au/ton

In 1939 31,498 tons were milled averaging 0.49 oz Au/ton with 14,896 oz Au and 3,675 oz Ag recovered.

In 1940 mining was carried out on the 11th level of the Second Relief which was the lowest limit of the underground workings. Tonnage treated at the mill for the year was 31,680 averaging 0.351 oz Au/ton with 10,603 oz of gold and 3,634 oz of silver recovered.



Reserves on the Rand, Inez and main Second Relief Veins were reported by Arlington Relief Mines in 1940 (as of Dec. 31, 1939) at 19,417 tons averaging 0.26 oz Au/ton.

From 1900 to 1959 production totalled (MINDEP) 100,235 oz Au, 27,856 oz Ag, 555 lb Cu, 2,330 lb Pb and 324 lb Zn.

The first mention of the Inez and Rand veins was in 1936 (Cockfield) when

"a vein has been traced continuously for about 800 feet by a series of open units. It strikes north 70 degrees east and dips 75 degrees northwest and ranges from 1 to 3 feet wide"

In 1937 the "vein... has been opened by drifting over a length of several hundred feet."

In 1938 "on the showings... 1,406 feet of trenching was done by hand and 4,290 feet of stripping was done by bulldozer as well as 1,689 feet of drifting, 176 feet of crosscutting and 766 feet of diamond drilling."

Additional mention in an annual report was that the exploration work on the Inez and Rand veins by Relief-Arlington Mines was explored for a distance of 942 feet from a new drift No.2 driven from a point vertically below No.1 adit driven in 1937.

There was not any mention of production from the Inez or Rand veins (MINDEP) however if any material were processed the production would probably have been included in the Second Relief statistics.

In 1969 Calmark Exploration Ltd. carried out geochemical and magnetometer surveys in addition to underground and surface geological mapping and some underground work over ground presently held by Homestead Resources.

The magnetometer survey results showed magnetic relief in some areas over the Rand and Inez veins. Other trends were paralleling the intrusive contact, paralleling Erie Creek and the westerly dipping andesite dykes.

Soils from the geochemical survey were only assayed for mercury. Mercury anomalous readings were recorded associated with shearing, weakly mineralized quartz veins and several old workings. Other anomalies were associated with disseminated magnetite in the granodiorite, with quartz veining and with a diorite prophyry.

A mercury and magnetometer anomaly was delineated along the eastern extension of the Second Relief Vein.

In 1981 two ore shipments were made to the Trail smelter by HOMESTEAD RESOURCES LTD. The material was taken from the surface on the Digit Fraction and was comprised of 22.37 tons averaging 0.275 oz Au/ton and 7.78 tons averaging 0.4490 oz Au/ton.

### GEOLOGY

The geology of the property is described in a report by Wayland S. Read, P.Eng. for Calmark Resources Ltd. dated November 29, 1969.

Generally a granodioritic Nelson intrusive is in contact with rocks of the Rosslund Formation in a general east-west trend through the property.

The granodiorite with minor variations from quartz diorite to monzonite is medium to coarse grained greyish white in color. Augite is abundant, hornblende and biotite minor.

Volcanic members of the Rosslund-Beaver Mountain Group consist mainly of very hard dark colored andesites and darker andesitic porphyries, augite and feldspar being the most prominent phenocrysts.

Interbedded or interformational argillites, slates, andesites and minor tuffs are present. The argillites are soft, finely laminated grayish colored rocks slates being somewhat harder and darker in color.

Diorite porphyry dykes are of a fine grained dioritic ground mass of feldspar and mafics. The dykes are reportedly pre-mineral.

Other dykes include coarse grained quartz-eye porphyry or feldspar porphyry with grayish rounded phenocrysts of quartz and anhedral phenocrysts of feldspar.

The greenstones are intruded by diorite tongues of various widths. At or near the contacts between these rocks very persistent fracturing varying in intensity occurs. These fractures in some cases are filled with quartz and in other cases the country rock is altered and highly silicified.

Preliminary geological mapping results are reported on by D. Mark in a report on the property dated August 22, 1984.

The Second Relief vein varies in width with the vein and mineralized wall rock up to "seven feet" in width. The vein is persistent for a distance of a "thousand feet" in strike and is developed by eleven levels. The vein is cut by numerous dykes varying in width from a "few inches up to twenty feet". The dykes diminish in width generally to the west, dip steeply to the east and cut the vein at an acute angle.

A major fault displaces the vein "ninety feet to the north in the 4th level.

On the Grand Union Property the Rand and Inez veins are located within 700 meters to the west and approximately 300 meters north of the western projection of the Second Relief Vein and were explored by Relief-Arlington Mines during the period of production from the Second Relief property.

The Rand Vein could be traced underground from the No.2 to the No.1 tunnel, and on surface from the No.1 tunnel for a distance of 600 meters.

The veins converge to the east-northeast and may be less than 15 meters apart at the portal crosscut. The Rand vein has been cut off at the portal crosscut by a strong fault containing seven to twelve cm of gouge and crushed wallrock. The strike of the fault is N68°E and dips from 69° to 80° NW

The Inez vein could be traced for 640 meters (2100 feet) west-south west from the No.2 tunnel. At the portal the vein is on a hanging wall of a banded, hard, light buff (one meter thick) rhyolite dyke that has a strong fault paralleling the footwall.

#### Mineralization

At the Second Relief pyrrhotite, chalcopyrite, arsenopyrite and pyrite predominate with gold occurring with all sulphides. Free gold also occurs as very fine flakes and minute particles. Solid sulphides over widths of "eighteen inches" occur and could be consistent for up to "thirty feet" These massive sulphide zones generally return high gold values.

Sulphides in very fine stringers occur in the wall rocks along fractures.

On the Rand Vein the No.2 adit reportedly disclosed eight short mineralized lenses with an aggregate length of 41 meters which averaged 0.31 oz Au/ton across "four feet".

Documented results of sampling by Relief-Arlington Mines indicates that in the final 82 meters (271 ft.) of the 268 meter (880 foot) Rand No.1 drift averages .25 oz Au/ton (face samples) across a minimum mining width of .0 meter (Figure 4).

The intervals, widths and assay results are as follows:

<u>Intervals</u> (feet)	<u>Average width</u> (inches)	<u>Assay</u> (oz Au/ton)
25	38.8	.196
34	36.2	.223
27	36.0	.108
13	36.6	.308
14	36.0	.198
39	36.4	.068
43	36.6	.577
26	82.6	.301
<u>50</u>	36.5	.180
271 (82 meters)		

The amount of stoping in this area, if any, is not known.

Relief-Arlington Mines reported that surface exposures on the Inez Vein disclose a generally narrow, erratically mineralized and possibly discontinuous structure which converges northeastward on the Rand vein. The northeasterly section of this structure shows the greatest strength and in a strike length of 120 meters mineralized lenses with an aggregate length of 70 meters were uncovered which averaged 0.32 oz Au/ton over "four feet".

Underground drifting in 1938 below the best part of the northeasterly section on the surface cut, in a drift length of 66 meters, three ore lenses aggregating 55 meters in length reportedly averaged 0.38 oz Au/ton across "four feet".

Thirteen additional workings on nine separate mineral occurrences other than those on the Rand and Inez vein systems were located in a 1969 exploration program.

Assays of samples taken by J. Kermeen (1983) from a portion of the Inez vein which cuts across the northwest portion of the Digit claim assayed up to 1.96 oz Au/ton (grab) and .70 oz Au/ton across 37 cm.

1984 Exploration Program

During the 1984 exploration season HOMESTEAD RESOURCES INC. completed geochemical and geophysical surveys and recce geological mapping in addition to diamon drilling.

Channel samples were taken by J. Robins (1984) from vein exposures 700 meters southwest of the No.2 adit on the Inez vein and 250 meters southwest of the terminus of the Inez underground workings (Figure 6) and on the Rand Vein 235 meters west of the No.1 adit at or near the western terminus of the underground workings (Figure 15)

<u>Sample Site</u>	<u>Location</u>	<u>Lentgth</u> (cm)	<u>Assay</u> oz Au/ton	<u>Weighted Avg</u>
Channel 1	Inez vein	10	.018	.130
		15	.047	
		34	.031	
		24	.430	
		90	.022	
		15	.301	
		60	.007	
	248			
Channel 2	5 meters west of Chan 1	90	.582	.256
		15	.006	
		150	.050	
		15	.550	
		43	.024	
	313			
Channel 3	6 meters west of Chan 2	30	.217	.134
		15	.015	
		30	.145	
		60	.094	
		75	.006	
		30	.094	
		30	.006	
		10	.072	
	20	.009		
Channel 4	12 meters west of Chan 3	150	.042	.359
		44	.230	
		160	.235	
		60	.785	
		20	.008	
Channel 5	5 meters west of Chan 5	50	.336	

Channels 1-5 were taken across the vein structure along a strike length of 35 meters. Channel 5 was restricted in length due to overburden.

Over a strike length of 25 meters (1-4) the mineralized zone averages two meters in width with a weighted assay value of .249 oz Au/ton.

<u>Sample Site</u>	<u>Location</u>	<u>Lentgth</u> (cm)	<u>Assay</u> oz Au/ton	<u>Weighted Avg</u>
Channel 6	Inez vein	120	.486	
	90 meters south of Chan 5	80	.008	.486
Channel 7	19 meters SW of Chan 6	90 100	.011 .206	.206
Channel 8	16 meters SW of Chan 8	20 50 } 100cm 50 }	.010 .128 } .246 }	.187

Over a strike length of 35 meters the mineralized zone averages one meter in width with a weighted assay value of .305 oz Au/ton.

<u>Sample Site</u>	<u>Location</u>	<u>Lentgth</u> (cm)	<u>Assay</u> oz Au/ton	<u>Weighted Avg</u>
Channel 9		30 70	.005 .008	
Channel 10	25 meters west of Chan 9	110 50 } 160cm 30 }	.208 .126 .022	
Channel 11	<u>Rand Vein</u> 240 meters west of Adit No.1	.80 60	.003 .620	
Channel 12	one meter east of Chan 11	100	.202	

A drill hole - WDH-11, at this site returned "12 feet" of .765 oz Au/ton. The true width would be approximately one meter.

DIAMOND DRILLING

Winkie diamond drill holes were put down to test the southwestern extension of the Inez vein. One hole was located on the Rand Vein in an old shaft area 250 meters west of Adit 1. Particulars are as follows:

<u>Drill Hole No.</u>	<u>Location</u>		<u>Depth</u> <u>(ft)</u>	<u>Strike</u>	<u>Dip</u>
	<u>Vein</u>	<u>Claim</u>			
WDH 84-01	Inez	Inez Fr.	17	030	-40°
WDH 84-02	"	"	50	-	-90°
WDH 84-03	"	"	20	-	-45°
WDH 84-04	"	"	49	-	-90°
WDH 84-05	"	"	20	-	-90°
WDH 84-06	"	"	50	-	-90°
WDH 84-07	"	"	44	310	-73°
WDH 84-08	"	"	32	130	-75°
WDH 84-09	"	"	13	-	-90°
WDH 84-10	"	"	41	-	-90°
WDH 84-11	Rand	Rand Fr.	27	160	-80°
			363(110 meters)		

The drill holes and assay results are shown in drill hole sections in attached Appendix I.

Generally the results of the drilling disclosed a gold bearing quartz vein with values of up to 9.92 oz Au/ton over .46 meters in WDH 84-09. An adjacent assay returned .554 oz Au/ton over 1.5 meters. The true width of the zone would be in the order of .7 meters.

Three BQ diamond drill holes (8401,02,07) were put down to test the northeastern extension of the Inez-Rand Vein system. Four short drill holes tested the Inez Vein 200 meters southwest of the No.2 adit. Particulars are as follows: (Figure 3,8&9)

<u>Drill Hole No.</u>	<u>Location</u>	<u>Depth</u> <u>(ft)</u>	<u>Strike</u>	<u>Dip</u>
84-01	NE projection of Inez Vein	Rand Fr. 202	310	-15°
84-02	"	" 366	300	-15°
84-03	Inez Vein	Digit 151	285	-37°
84-04	"	" 76	285	-15°
84-05	"	" 55	295	-15°
84-06	"	" 85	295	-40°
84-07	NE projection of Inez Vein	Rand Fr. 525 1460 (445 meters)	80	-45°

The northeastern extension of the veins was not located. Drill holes 84-03 and 83-04 on the Inez Vein (Figure 8) returned values of up to .163 oz Au across "2.0 feet".

GEOCHEMICAL SURVEY

The results of the Geochemical and VLF-EM surveys as reported on by Mark in his August 22, 1984 report states that:

- 1) the VLF-EM survey may have picked up the northeastward extension of the Second Relief vein which would extend into the Homestead property.
- 2) The VLF-EM survey responded well to the Rand Vein with soil geochemistry response very spotty.

RECOMMENDED EXPLORATION PROGRAM

It is recommended that a two stage program of diamond drilling should be initiated to test the vertical and horizontal extensions of the Inez-Rand vein systems. In addition, diamond drilling to test the extension of the Second Relief Vein should be carried out.

In conjunction with the drilling program, follow up surface geophysical and geochemical surveys should be completed as per D. Mark's recommendations (August 22, 1984).



ESTIMATED COST OF RECOMMENDED EXPLORATION PROGRAM

STAGE I

Diamond Drilling - 2500 meters @ \$80	\$200,000
Allowance for geophysical and geochem surveys and field expenses	30,000
Engineering, supervision and reports	<u>20,000</u>
	\$250,000

STAGE II

Diamond drilling - 250 meters @ \$80	\$200,000
Allowance for trenching and follow-up surveys	30,000
Engineering, supervision and reports	<u>20,000</u>
	<u>\$250,000</u>

Two stage estimated cost: \$500,000  
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The second stage of the recommended program would only be initiated on the completion of and encouraging results of the first stage.

Respectfully submitted

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September 6, 1984  
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