REPRODUCTION FOR

Central Canada Chamber of Mines.

Statistical Analysis for month of Sept. 1898. Witwatersrand, Johannesburg, South Africa

T	DISTRICT AND COMPANY.	T	TONNAGE.		PROM MILL.							73	PRON TAILINGS.			FROM ALL SOURCES.			E8. Concentrates produced during the month.								
		701	2 2 E	10 mg	1	Milling.	11	Yield of Gold.		Value of Yield.			1 6	Yirld of Gold.			Value o	Yield.		Equivalent	Total	Total value of		Assay	8	REMARKS.	
		Tone M	Percent waste a	2,000	No. of 8		Tage In	a Bullion.	Rquivalent 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Total.	Per Ton.	Process.	Tomas	In Bullion	Kquivalent 5 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Total. Per Ton.		In Bullion	in tine gold.	Total Value.	yiekl per ton milled.	Tonnage	per ton in one.		
3 H C C C C C C C C C C C C C C C C C C	WITWATERSRAND. Ingelo Ingelo Ingelo Ingelo Islamoral Islack B Langlaagte Estate Bonanza Champ D'Or City and Suburban Consolidated Main Reef Crown Deep Crown Reef Itc. Driefontein Consolidated	9448 7242 10850 8210 7532 24204 10639 24300 19295	27.77 56 21.30 66 16.60 196 40.00 66 16.36 236 16.15 166	100	-	7.00 5 7.70 4 7.34 4 7.63 5 8.50 5	15 76 00 77 33 47 73 117	ons. dwts. 3467 19 1069 4 2632 0 5267 17 2576 18 7117 19 2434 18 6714 18 7666 5	000. d 3046 939 2192 4477 2206 6370 2202 5703 6597		2 12902 3954 9210 18906 9267 26941 6261 24050 27901	\$ a. d 1 16 2 0 12 7 0 16 11 3 7 6 1 10 11 1 7 8 1 9 6 1 13 10	Cyanide Siemena Cyanide Siemena Cyanide Cyanide Cyanide Cyanide Cyanide Cyanide Cyanide	56773 4800 6750 5651 4804 15767 4225 18660 18687	on. dwe 2416 1: 560 14 610 (8276 1: 1517 (1302 (7465 1: 3000, 1:	1276 1276 1276 1015 5701	7 29 2 2 36 0 1 22 6 10 03 5 81 5 3 57 0 4 80 0 6 04 5 4 26	£ 9064 2240 2730 11696 5361 11999 4316 23797 11013	\$ a. d. 1 10 10 0 9 11 0 8 1 1 2 2 1 1 4 5 0 15 1 1 0 5 1 5 3 0 17 10	osa, dwta. 6080 11 1721 6 3872 0 8544 14 4093 18 10305 9 3736 18 14831 6 11495 17	des. dwts. 5373 18 1522 1 3077 0 7262 19 3482 18 9191 15 3218 8 1944 8 9873 15	£ 22574 0369 12930 30504 14628 36730 13677 50069 41585	4. 53-64 20-36 25-85 100-90 48-76 50-57 45-15 42-45 50-60 38-28			1 2 3 4 5 6 7 8 9	Tailings include Slimes and Concentrates. No clean up of Slimes Plant. 90 per cent. dividend.
11 I 12 I 13 F	Durban Roodepoort Durban Roodepoort Deep Ferreira Beldenhuis Deep Beldenhuis Katate	15954 12006 11110 18028 26992 25099	11 00 14 15 06 10 46 13 66 43 32 10 14 17 24 23 43 17	195 900 217 200 152	10 2 80 2 47 2 80 2 80 2	7-91 4 9-00 4 9-42 4 8-42 4 7-80 4	81 30 92 40 58	4264 12 4808 0 2962 16 7256 8 9093 0 6940 3	3724 4350 2634 6344 7931 5860	7 5-08 0 8-53 18 7-74 16 12-42 3 6-56 9 6-52	18270 11117 26120 33379 24687	1 15 10 1 12 2 11 1 7	Cyanide Cyanide Cyanide Cyanide Cyanide	4477 7560 17230 11378	1861 1436 3134 6651 16	1965 1166 1166 2663 2664 2705	5 490 0 368 9 498 7 7:10 7 4:25 8 4:51	12474 5260 4661 10735 15310 11388	0 15 5 1 0 10 1 8 5 0 17 9 0 19 0	6359 0 4383 10 12246 3 14190 13 12539 9	5602 10 5602 10 3740 7 10814 9 12010 13 10344 14	28295 23530 15778 43998 50407 43459	40°15 40°40 86°12 41°65 48°41			11 12 13 14 15	60 per cent. dividend.
16 0 17 0 18 0 19 0 20 21 1 22 J 24 J 25 J 26 1 27 1 28 1 29 1	Do.	949 11387 6179 29613 11136 11136 1456 6664 18133 9680 26180 4710 3326	22 64 86 10 21 5 10 00 16 24 10 8 24 1 35 56 12 33 55 12 14 0 8	574 909 177 350 153 200 100 100 100 100 100 100 100	30 60 40 110 60 60 60 30 30 90 60 60 80 80 80 80 80 80 80 80 80 80 80 80 80	5·16 3 8·79 5 6·50 4 6·50 5 6·50 5 6·50 4 8·40 3 8·66 8 8·37 4 6·75 4 3·300 4 4·50 5 8·25 5	72 10 10 10 10 10 10 10 10 10 10 10 10 10	156 14 1278 19 1921 13 4048 0 25625 1 14832 12 3266 9 11892 9 4158 13 4272 2 498 6 11892 9 11061 14 7341 10 1061 14 7341 10 1061 14 7345 14 2760 19 1705 12 3660 6 1072 3 1124 16 1762 15 1126	131 1108 1108 3569 2301 4226 2841 1663 3803 420 2819 6119 881 1967 2367 2482 1513 3262 525 257 104 4974 901	0 4-56 18 2-51 10 6-55 7 4-40 1 5-51 6 10-6 16 18-62 18 6-04 5 6-33 0 16-18 5 6-85 0 4-96 0 3-74 17 6-57	560 4630 7125 15117 9702 17750 11432 7068 15480 16037 1690 11770 25700 4015	0 19 10 10 10 10 10 10 10 10 10 10 10 10 10	Cyanide Cyanide Siemena Cyanide	836 6004 3875 11360 3176 6410 2160 3564 7007 450 6660 17560 4560	195 1366 1214 1252 1362 1362 1465 1465 2008 1465 2008 12125 1894 12125 1465 1465 1465 1465 1465 1465 1465 146	764 748 1171 2245 158	0 3:32 5 3:17 6 41 7 5:67 0 5:67 0 5:67 0 5:67 0 5:48 0 3:91 0 1:72 0 1:76	585 4070 4547 8090 3776 7594 2866 3132 4930 9811 5476 6375 1696	0 14 0 0 13 4 1 6 11 0 14 3 1 3 8 1 6 6 0 17 7 0 14 1 2 9 1 9 10 0 16 5 0 7 3 0 7 5	352 0 2636 6 3135 0 4108 10 7148 17 74221 18 2252 19 6170 3 7509 3 942 12 11358 7 1946 12 11358 7 1947 3	270 0 2075 3 2779 5/ 5525 11 3405 3 5215 0 3606 3 2431 5 5331 3 6573 9 4123 5 8668 0 1438 0 987 17	1135 8700 11672 23207 14327 26103 14298 10200 22520 26772 2603 17246 37750 6045	39 54 19 75 45 09 22 38 33 31 62 15 90 69 38 34 37 22 44 60 100 30 41 96 30 61 25 66 27 30			16 17 18 19 20 21 22 24 25 26 27 28 29 30	25 per cent. dividend.
32 33 34 35 36 37 38 40 41 42 43 44 45 46 47	May Consolidated Meyer and Charlton New Comet New Heriot New Hierion New Melenfontein New Modderfontein New Primarose New Ristfontein New Besse Bona Nigst North Randfontein Nourse Deep Pages Randfontein Pelsones Estate Ristfontein Robinson Robinson Deep Robinson Randfontein Roodepoort United Main Reef	9680 9610 4710 4710 4710 4710 4710 4710 4710 47	10 0 3 22 71 7 15 41 9 19 90 8 34 9 1 7 16 9 3 20 9 1 17 16 9 3 20 16 9 3 11 26 6 6 1 2 2 2 2 6 9 1 2 9 6 6 1 2 9 6 1 2 9	070 641 315 106	80 440 70 7120 660 660 660 660 70 70 70 70 70 70 70 70 70 70 70 70 70	28:35 27:25 25:16 27:00 26:46 28:33 28:00 28:30 28:30 28:30	110 100 152 143 152 165 166 166 166 166 166 166 166 166 166	2435 0 2196 7 3247 9 11059 2 4055 10 2006 1	1010 1577 1039 2155 1653 2028 2013 2014 4421 1670 548	2 3-96 7 7-53 17 3-87 7 4-50	10085 10290 6449 13635 14973 11411 2092 4368 4368 4368 6852 6852 8405 12034 4048 18502 11203 14504 1454 1454 1454 1454 1454 1454 145	1 2 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Cyunide Cyunid	0405 4904 4900 10773 5650 14356 4000 4000 64730 64730 6486 4485 20466 3626 3626 3626 3626 56134 10774 6456 4456 20666 5613 5613 5613 5613 5613 5613 5613 5	1401 1101 12001 1471 1471 1500 1 1 500 1 1 500 1 1 500 1 1 1 1	727 3555 1 3565 1 3565 1 362 2 1362 2 1362 2 716 3 366 2 319 3 362 3 366 3 362 3 362 3 362 3 363 3 362 3 363 3 362 3 363 3 362 3 363 5 716 7 212 7 212 7 212	2 3:35 2 4:58 2 4:58 2 2:55 6 2:25 6 2:25 6 2:15 6 2:15 8 3 8:50 8 6:50 9 6:50 2 2:70 0 3:70 0 3 0 3:70 0 3:70 0 3:70 0 3:70 0 3	4473 4119 5611 5126 3061 1403 1405 2815 5730 1150 2613 2900 3496 12820 890 3090 3090 22115	0 13 11 0 19 5 1 1 1 0 9 6 0 11 1 1 0 9 0 9 0 9 0 0 6 10 1 8 10 0 11 4 0 8 10 0 11 4 0 8 10 0 11 4 0 8 10 0 11 4 0 8 10 0 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2765 14 4252 2 2839 15 6004 17 5461 11 4066 12 10090 12 10090 12 1035 3 3615 10 17777 6 5943 13 2940 12 3561 1 4368 18 17427 12 8783 0 3136 0 3136 1 8783 1	5331 3 6373 9 6553 14 4123 5 8868 0 1438 0 967 17 2387 1 3526 1 3526 1 3525 1 14772 16 3534 0 8531 1 1270 17 1698 18 2899 10 1435 1 2337 0 2729 7 2697 9 15425 2 27123 2 2479 0 2500 12 14133 17 16021 16	8700 11672 23207 14327 26103 14298 14298 14298 14290 26772 2603 177246 37750 6045 4015 10026 14757 10649 24764 24764 24764 2530 14806 3400 14806 14757 1178 12269 6026 20041 1395 1530 11840 11895 1530 11895 1530 16415 3193 14290 16415 3193 14291 2042 2053 11840 11866 118	22'30 41'15 46'10 28'40 41'88 35'16 21'75 22'12 58'01 52'47 32'47 32'47 32'47 32'48 32'53 41'57 35'59 61'35' 61'35			32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	25 per cent. dividend.
52 53 54 55 56 57 58 59 60 61 62 63 64 65	Rose Deep	771 980 1224 1948 867	1 15-00 2 2 2 3 2 1 8 0 5 1 1 9 6 5 2 1 9 6 5 1 1 9 6 1 1 9 1 1 1 1 1 1 1 1 1 1 1 1 1	036	200 50 50 270 60 50 80 190 50 20 30 40 120 120 120 40 40 40	27.65 27.80 30.00 28.50 29.12 28.75	4 88 3 93 5 36 4 62 5 00 7 1 7 9 4 7 7 5 4 4 9 3 9 6 5 0 0 4 9 3 4 2 8 5 0 5	614 52983 19 9447 19 1716 6 13064 0 4790 2786 19 2786 19 5966 19 762 1134 14 14 14 14 14 14 14 19 10 19 13 2 0 19 13 2 0 19 13 2 0 19 13 2 0 19 13 2 0 19 14 14 14 14 14 14 14 14 14 14 14 14 14	11586 3991 2442 2461 7186 3857 806	5 6 5.78 0 10:34 2 6 6:51 12 4:25 7 10:28 7 0 11:29 0 3:99	16765 10290 10339 30191 16220 3385	2 3 1 7 0 17 1 2 3 2 7 0 16 0 15	Cyanide Cyanide Cyanide Cyanide Cyanide Cyanide	10560 4750 2560 3394 3645 11390 10040	4073 1 978 546 804 1 700 2072 2910 1 584	5 445 9 4217 8 609 5 1088 9 973 7 3218 754 390 5 578	3 506 0 2-44 2 3-18 6 4-00 2 2-19 0 5-17 0 3-04 2 3-40 8 3-26 0 4-16 0 4 3-26	22:115 185? 17772 2560 4570 3942 13519 3170 1640 2413 2487 77112 8732 2222 2800	0 11 10 1 1 1 0 10 3 0 13 5 0 7 9 0 16 1 1 5 7 0 12 10 0 14 2 0 13 7 0 12 10 0 13 7 0 12 10	1506 10	3690 12 14133 11 1978 17 16021 16 4819 0 3693 7 3484 14 10776 13 5436 0 1196 18 6359 8 2531 10 2287 12	5298	42:56 29:46 33:69 52:45 41:42 24:66 64:72 90:90 24:90 28:59 31:03 47:59 33:03			52 53 54 55 56 57 58 59 60 61 62 63 64 65 66	20 per cent. dividend. WITWA'MERSRAND SUMMARY.
1 2 3	Ousroms' WORKS.— Robinson Witw'ers'd Sm'ting & Refg. C Banks per other sources Witwatersrand Totals		31 6	53712	5042	27-16	479	241609 10	21113	5 13 645	200.00	17		460752	122877	0 96158	8 4:17	402622	0 17 5	617 19 127 0 783 11	611 5 115 0 652 0	2567 483 2740				1 2 3	From Mill ona. dwts. Value. Concentrates, etc. 10,500 16 383,641 Tailings 122,977 0 402,622 Slimes 7,900 3 28,300 Banks 783 11 2,760 Total 384,080 0 1,366,609
1 2 3	LYDENBURG. Glynn's Lydenburg Liabon Berlyn Transvaal Gold Mining Estates Nooitgedacht	1028	9 1	1954 0002 1480				759 G	3777	6 0 7:12	2864		Siemena Cyanide Siemena	2424 2100 6600	1000	920	0 7:50 0 3:22 0 6:08	3680 3630 3520	1 10 4 1 14 6 1 4 4	2549 0 1385 1 7226 0 326 0	2337 0 864 0 6625 0 310 0	9428 3630 27409 1304	96·49 54·81 17·62			1 2 3	10 per cent. dividend. Partial clean up of Central Works. Worked on tribute.
1 2 3	DE KAAP. Albion Transvaal G. M. Co. Barrett Gold Mining Co Sheba United ly Reef Do. Do Banks per other sources	130	1	1300			3·02 2·99 2·70	499 8 842 0 2623 0 370 14	3 41 70 215	6 0 64		1 61	O O 7 Cyanide Cyanide	7190	2086 166 1	1250	3-47	5232 400	0 14 6	490 8 842 0 5304 0 605 14 419 2	416 U	1750 2950 18494 1889	26-83 20-00 36-07 30-46	,		1 2 3 4 5	
1 2	KLERKSDORP. Buffelsdoorn New Ariston	118	32 7·00 1	1394 805	90	25·00 26·00	5·06 3·09	1785 (110 15	148	1 8 2.66 2 16 2.30	6070	0 10	8 Cyanide Cyanide	9719	2650 220	0 1895 8 163	8 3-90 5-02	7770	0 15 11	4435 0 331 3	3376 16 256 2	13840 1082	24-29 26-88			1 2	GENERAL SUMMARY. oen. dwts. Value. Witwatersrand 384,680 0 \$1,356,600 Lydenburg 11,486 1 41,771 De Knap 8,170 4 26,560 Elerkadorp 4,766 3 14,562
	Grand Totals			95103	_	-		253046	7 22107	5 17	928372	-	-	-	132708	5 108473	12	432544		408502 8	344264 1	1441850		-	-		GRAND TOTAL 408,502 8 1,441,850

Where the value of the Gold is not stated by the Companies it is taken at £3 10 per oz. for mill gold and at £3 for cyanide per oz.

The Mineral Resources of Central Canada.

An Address given by Mr. F. H. Malcolm (late President of the Johannesburg Diamond Boring and Developing Company Limited) to the Members of the Central Canada Chamber of Mines.

From the above statistics it will be noted that Transvaal ores are low grade, averaging only 61/2 dwts. to the ton, over the plates, in value slightly under \$6.00 per ton. The mines are deep averaging 2,500 feet, some exceeding 4,000 feet, before the reef is reached. Water is also scarce.

The cost of constructing these immense dams averages about \$500,000.00, and sinking and equipping a shaft to that depth about \$250,000.00, or (£150,000 in all) has to be spent before they are on the same basis as a Canadian out-crop mine, when the first pick is put into the ground.

The Transvaal reefs average 10 feet 6 inches in thickness. In Canada a fair average reef is 4 feet, but many run in Ontario up to 15 feet. An average return from mines now working would give about \$14 to the ton, some giving much higher results. Large out-crop Dykes returning \$5.00 per ton upwards are common in Ontario which might be worked as quarries. The cost of mining and milling the latter with modern appliances (as on the Randt) should not exceed \$1.50

Labour is considerably higher in Africa, averaging for white labour \$6.00 per day. Kaffir labour being \$17.00 per month and found. All necessaries of life are much more expensive in Africa and a workman's three-roomed cottage cannot be obtained in Johannesburg under \$35.00 Transvaal mines are highly capitalized but not more than twenty per cent. of nominal capital

has been provided in cash as working capital, yet, notwithstanding this, the dividends are large as will be observed from these statistics. The dividends are paid also upon the vendors shares which equal about 80 per cent. of the whole nominal capitalization.

Both Transvaal and Central Canadian ores are free milling and these remarks apply to over plate yields only (in both cases) for the reason that few Canadian mines are equipped with modern Cyanide or other process for extraction of residues from tailings, slimes, etc., which would probably increase yields about 35 per cent., as in the Transvaal.

The Mill Batteries in Canada have mostly light stamps (in Africa the average weight of stamps is 1250 lbs. against 900 lbs. in Canada) and other appliances compared with the Transvaal are of most primitive description, (the advantage of heavy stamps being that they double the capacity at only 10 per cent. increase of power,) see returns.

The Johannesburg Chamber of Mines he's been established only 9 years but has introduced during that short period about twelve hundred and fifty millions of dollars of capital equalling (£250,000,000) now invested in the mining industry in that region, and supplies of capital are always forthcoming for new enterprises. The reason of this being the absolute confidence reposed by European investors in the integrity of the Johannesburg institution which has desseminated its monthly statistical information and is now known and recognized as the Premier institution of its kind

The Johannesburg main reef is about fifty miles long by seven miles wic In Western Canada the Lake of the Woods gold district alone is about 350 miles long by abou 150 miles wide, then there are many other promising gold areas, such as on the shores of Lakes h'anitoba and Winnipeg, Port Arthur, etc., and taking all these facts into consideration and comparing the conditions with those obtaining elsewhere, there is no reason whatever, with adequate appliance and machinery, why the Central Canadian gold mines should not soon be included amongst the most productive in the world.

The returns of Gold, Tonnage, and Concentrates produced are published on the responsibility of the Companies concerned

As outside issues and enterprises emenating from the Johannesburg Chamber of Mines are the Railways and Telegraphs. No less than five lines of railway converge on Johannesburg, all built during the last six years, the cost of which is about equal to the entire Canadian Pacific Railway System, and a line of Telegraph is now being built right through Africa from the Cape to

Johannesburg, at the time of establishing its Chamber of Mines, was much in the same condition as the mining districts of Central Canada are to-day, their very existence being unknown in Europe and necessarily, therefore, without capital. That city was centered in the heart of the South African Continent, and being without either railway or telegraphic communication, 1400 miles by road from Cape Town, was quite unknown to the rest of the world. It has achieved its fame throughout the world entirely through the reliable information and propaganda of its Chamber of Mines and now there is scarcely a newspaper in the whole world, in any language, that does not publish its telegraphed information of the progressive monthly output of gold.

Compare these results with the mines of Canada and the United States of America, which in consequence of no such institution being hitherto in existence, not a single American or Canadian mine has yet been listed or recognized on the Stock Exchanges of Europe.

In order to rectify this anomaly the Central Canada Chamber of Mines has been organized, for there is no doubt whatever that the mines of Central Canada are greatly superior to any yet known in South Africa, both in extent, size of ore body and grade of ore. The conditions and facilities for economical working are greatly in favor of Canada, both in respect to cost of labour, abundance of water power, cheapness of provisions, accessibility through regular railway communication in all directions, and the important fact that the reefs are payable almost from the surface as has been abundantly proved by the few mines now working at the Lake of the Woods and other centres, where with the most primitive appliances highly encouraging results are even now being achieved.

The total white population of South Africa never exceeded 500,000 persons, the gold fields being distant and difficult of access. Compare this with the central position of Canada. with probably eighty millions of people on the American continent South of us, and about three hundred and fifty millions in Europe, all within ten days reach of the Central Canadian goldfields. Many of these (especially those who have made money through mining investments elsewhere) would undoubtedly invest, if they knew of the existence of these mines, a fractional percentage of which will suffice to place Canada on a satisfactory basis as a gold-producing centre, and cannot fail to prove advantageous to Canada as a whole, and the great expansion of commerce generally.

(Late president of Johannesburg Diamond Boring and Development Company Ltd.)

JOHANNESBURG CHAMBER OF MINES

STATISTICAL RETURNS.

The gross output for the past nine years was twenty-one millions, one hundred and fiftythree thousand, nine hundred and fifty-three ounces of the value (£84,615,853) or in Canadian currency \$423,079,060.00, in fine gold, exported as follows:

PROGRESSIVE OUTPUT OF GOLD.

Certified	Total	Output	1890								494,817	OZ
	**	41	1891								729,238	**
	**	**	1892								1,210,869	**
**	**	**	1898								1,478,477	
**	**	**	1894		0		0				2,024,162	
**	**	**	1895			·	1	:		Ċ	2,277,685	
**	**	**	1896		÷	- 0			•	•	8,947,782	
	**		1897	:	:		•	•	•	•	4.114.581	**
	**	**	1898		:	:	:	:	:	:	4,876,892	**

The average return of gold over the plates being 6.51 dwt. (\$6.00) per ton, extraction from residues being 35% additional.