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ALLUVIAL DIAMOND OCCURRENCES
OF THE WESTERN AND SOUTHWESTERN
TRANSVAAL - A COMPILATION OF
PRODUCTION DATA
APPENDICES A-H

T. R. MARSHALL

• INFORMATION CIRCULAR No.194

UNIVERSITY OF THE WITWATERSRAND
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TRANSVAAL - A COMPILATION OF PRODUCTION DATA

by

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FOREWORD

The alluvial diamond deposits of the western and southwestern Transvaal occur on all or part of six 1:250 000 topocadastral sheets. In order to present the production data for all the gravel deposits these have been subdivided into eight production areas according to the Degree Square Index System used by the Surveyor Generals Office (Fig. 1). In this system each 1:250 000 topocadastral sheet (2626 Wes Rand, for example) is divided in two and given an alphabetical designation (IP and IQ). Each alphabetical subdivision is divided into eight sections (1 to 8) and these are, in turn, further subdivided into four (A to D). Any farm can thus be designated by four figures (IP 3C, for example) in order to facilitate its positioning on a map. Eight subdivisions were chosen for the present study. Alluvial diamond production over the period 1904 - 1984 is recorded from farms in the following areas:

- (1) 2524 Mafikeng J0
2526 Rustenburg JP and JQ
2624 Vryburg I0
- (2) 2626 Wes Rand IP (1A - 4D)
- (3) 2626 Wes Rand IQ (1A - 4D)
- (4) 2626 Wes Rand IP (5A - 8D) and IQ (5A - 8D)
- (5) 2724 Christiana H0 (1A - 2D)
- (6) 2724 Christiana H0 (3A - 4D)
- (7) 2724 Christiana H0 (5A - 8D)
- (8) 2726 Kroonstad HP
2824 Kimberley GN

The subdivisions have been arbitrarily chosen to group together approximately an equal number of farms. In this Information Circular a base map showing the Degree Square, a map (or maps) indicating the location of the diamond-producing farms (Figs. 2.1 - 9.2), and an alphabetical listing of these farms is presented. The farm listings (Tables II - IX) contain the total number of carats produced from these farms, over the period 1904 - 1984, as well as the total value, in Rands, realised for these diamonds. Pre-1961 Pound values have been converted to Rands using the conversion of £1 = R2. Inflation indices and the current fluctuation of the Rand-Pound exchange rates have not been accounted for.

Annual production figures (carats and Rand values) have been collected for each of the 346 listed farms. This information, because of its excessive length (200 pages), has not been reproduced in this Circular but will be made available, for a nominal charge, as an eight-part report obtainable from the Economic Geology Research Unit (University of the Witwatersrand, P.O. Wits 2050, Johannesburg, South Africa). Also available, upon request, are 1:250 000 scale maps showing the location of the diamond-producing farms (here reproduced on a reduced A4 scale).

The individual farm listings supply the name, number, and district of the farm, any previous number(s) or name that it might have had, and the location of the farm according to the Degree Square Index System. Other information, such as elevation range, surface geology, annual production, value of diamonds produced, and the name of the stream or run is also supplied, as per example shown in Table I which deals with the farm Ruigtelaagte 353 in the Lichtenburg District.

The production figures have been compiled mainly from the Transvaal Diamond Registers for 1904-1984 housed in the archives of the South African Minerals Bureau, and from the Gold and Diamond Division of the South African Police. These figures, being the official sales listings, are assumed to be a reasonably complete and accurate reflection of the actual production of diamonds from the alluvial fields. The diamond production, in the archives, is recorded as total carats, and Pound (pre-1961) or Rand values per month, per farm. No information concerning the size, value, or type of individual stones is recorded in the registers. The production figures recorded in the registers have been checked against previously published figures of alluvial diamond production and where there were discrepancies, the highest figures were taken.

In conclusion, the compiler would like to thank Mr. Phil Morris of the South African Minerals Bureau, whose assistance in searching through many dusty registers is greatly appreciated. Thanks also to Mrs. J. Holgreaves and Mr. N.A. de N.C. Gomes for their draughting and photographic assistance, and especially to Mrs. L. Tyler, who typed the diamond production lists.

TABLE I: Ruigtelaagte 353, as an example of the layout of the farm listings available in a separate report, available on application, from the Econ. Geol. Res. Unit.

<u>FARM:</u> Ruigtelaagte, 353	<u>FORMERLY:</u> 205
<u>LOCALITY:</u> 2526 Rustenburg JP,7C	<u>DISTRICT:</u> Lichtenburg
<u>STREAM OR RUN:</u> Elizabeth Run ?	<u>ELEVATION RANGE:</u> ± 1500m
<u>SURFACE GEOLOGY:</u> Transvaal Supergroup dolomite	
<u>TOTAL PRODUCTION (carats):</u>	<u>TOTAL VALUE (Rands):</u>
539 247,75	2 112 448

<u>YEAR</u>	<u>CARATS</u>	<u>VALUE (R)</u>	<u>YEAR</u>	<u>CARATS</u>	<u>VALUE (R)</u>
1926	61 663,50	389 700	1953	1 086,50	11 334
1927	104 592,75	452 546	1954	609,00	7 720
1928	94 605,00	312 606	1955	1 142,50	21 956
1929	102 432,25	341 286	1956	671,25	12 320
1930	81 328,00	114 300	1957	605,50	9 158
1931	28 024,50	55 412	1958	436,50	6 130
1932	15 525,25	23 684	1959	287,50	4 030
1933	10 270,25	25 896	1960	36,75	496
1934	7 277,25	18 842	1961	106,75	1 402
1935	8 218,00	23 704	1962	200,00	2 760
1936	4 469,50	12 922	1963	107,00	953
1937	2 510,25	7 468	1964	252,50	2 915
1938	1 396,00	3 328	1966	168,00	11 055
1939	2 042,50	7 342	1967	142,50	3 442
1940	1 098,00	3 438	1968	67,75	1 114
1941	719,50	3 526	1969	145,25	2 380
1942	624,00	1 612	1970	2,75	26
1943	373,00	2 286	1971	361,00	7 156
1944	299,50	1 090	1972	70,50	1 214
1945	196,00	1 038	1973	94,00	1 680
1946	200,00	3 168	1974	115,25	2 921
1947	144,50	1 018	1975	94,25	1 950
1948	117,50	1 178	1976	165,50	2 215
1949	650,25	7 708	1977	16,10	600
1950	598,25	11 054	1982	7,90	2 820
1951	980,75	15 054	1983	399,70	17 538
1952	1 414,00	18 372	1984	118,80	5 850

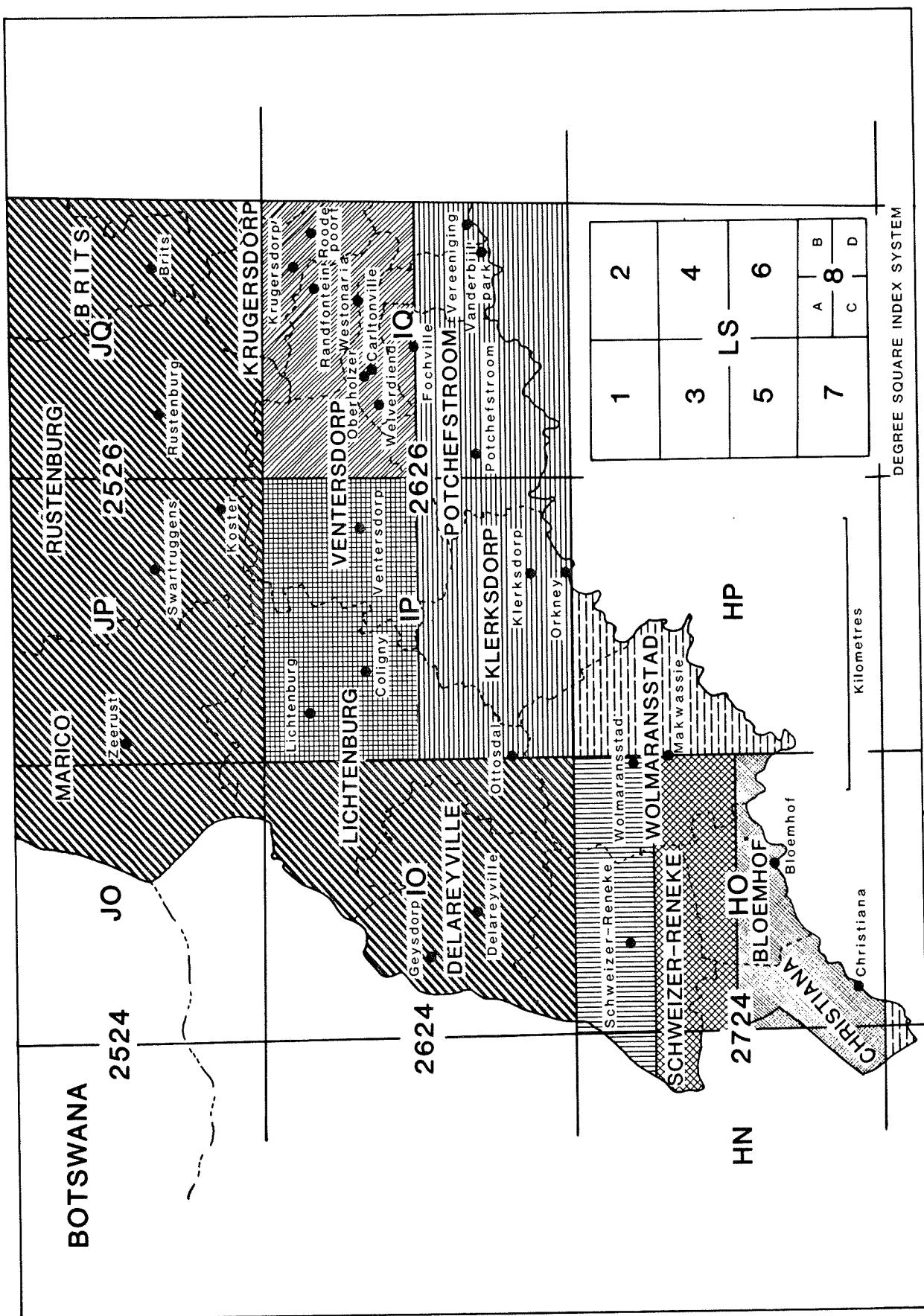


FIGURE 1. The eight subdivisions that cover the production data of the alluvial diamonds of the western and southwestern Transvaal.

TABLE 11: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2524 MAFIKENG (Figs. 2.1 - 2.2)		
Doornplaat 106	71,25	574
Tweefontein 58	242,49	3 466
2526 RUSTENBURG (Figs. 2.1 - 2.3)		
Doornkop 363	2,00	10
Elizabeth 357	111 650,95	700 267
Grasfontein 356	2 466 344,62	12 808 187
Honingklip 354	5 773,50	18 818
Kaffirskraal 306	205,50	2 070
Klipkuil 352	299 307,90	1 586 203
Nooitgedacht 381	2 066 307,90	8 777 498
Pypklip 362	18 927,75	574 977
Ruigtelaagte 353	539 247,75	2 112 448
Schoongezicht 218	10,50	86
Trekdrift 360	2 755,50	26 883
Uit gevonden 355	2 022 884,43	12 809 034
Vlakplaats 335	74 129,75	293 692
Welverdiend 361	1 577 957,37	5 723 319
Winkelhaak 403	27 593,50	79 511
Wonderfontein 336	224,80	2 162
Zwaarverdiend 234	0,25	2
2624 VRYBURG (Figs. 2.1 - 2.4)		
Biessieslaagte 397	320,25	16 032
Boskop 35	40,00	289
Brakpan 398	158,30	2 114
De Paarl 54	6,00	16
Doornbult 393	1,50	24
Goedgevonden 87	12,25	48
Klipdrift 335	18,75	106
Kliprif 376	17,25	176
Lareysstryd 53	66 697,25	357 688
Leeupan 279	4,36	100
Loslapdoorns 94	0,50	2
Lot 40 270	25,45	1 990
Nootgedacht 98	13,75	1 200
Oshoek 367	3,50	48
Rondepan 317	0,25	1
Tweebosch 318	1 965,49	473 420
Tweepannen 394	18,75	380
Vogelstruiskuil 400	1 638,55	225 226
Welgevonden 275	336,25	13 095
Zandvallei 301	32,20	336

2624 VRYBURG, 2526 RUSTENBURG, and 2524 MAFIKENG

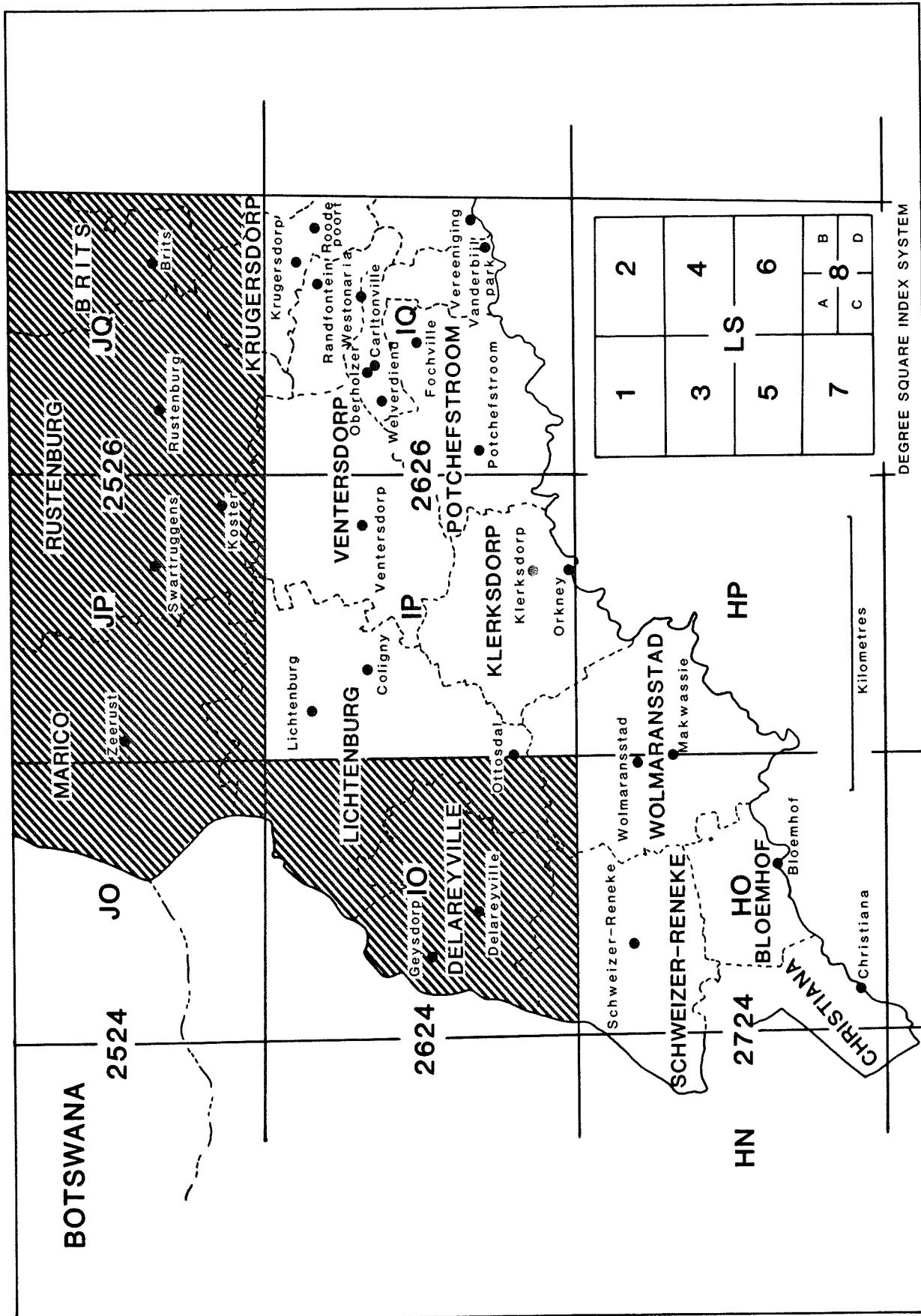


FIGURE 2.1 Locality map of 2524 Mafikeng, 2526 Rustenburg, and 2624 Vryburg.

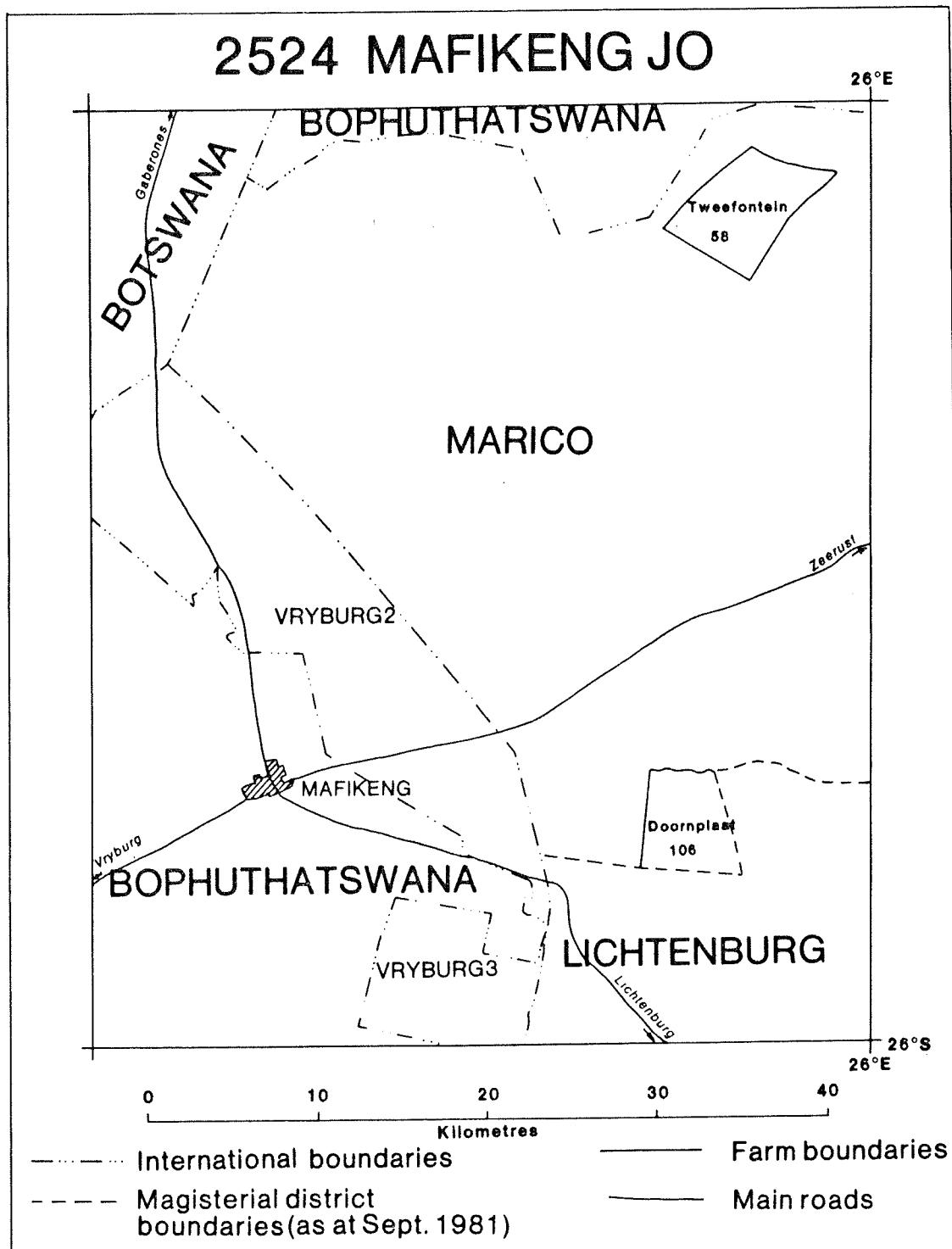
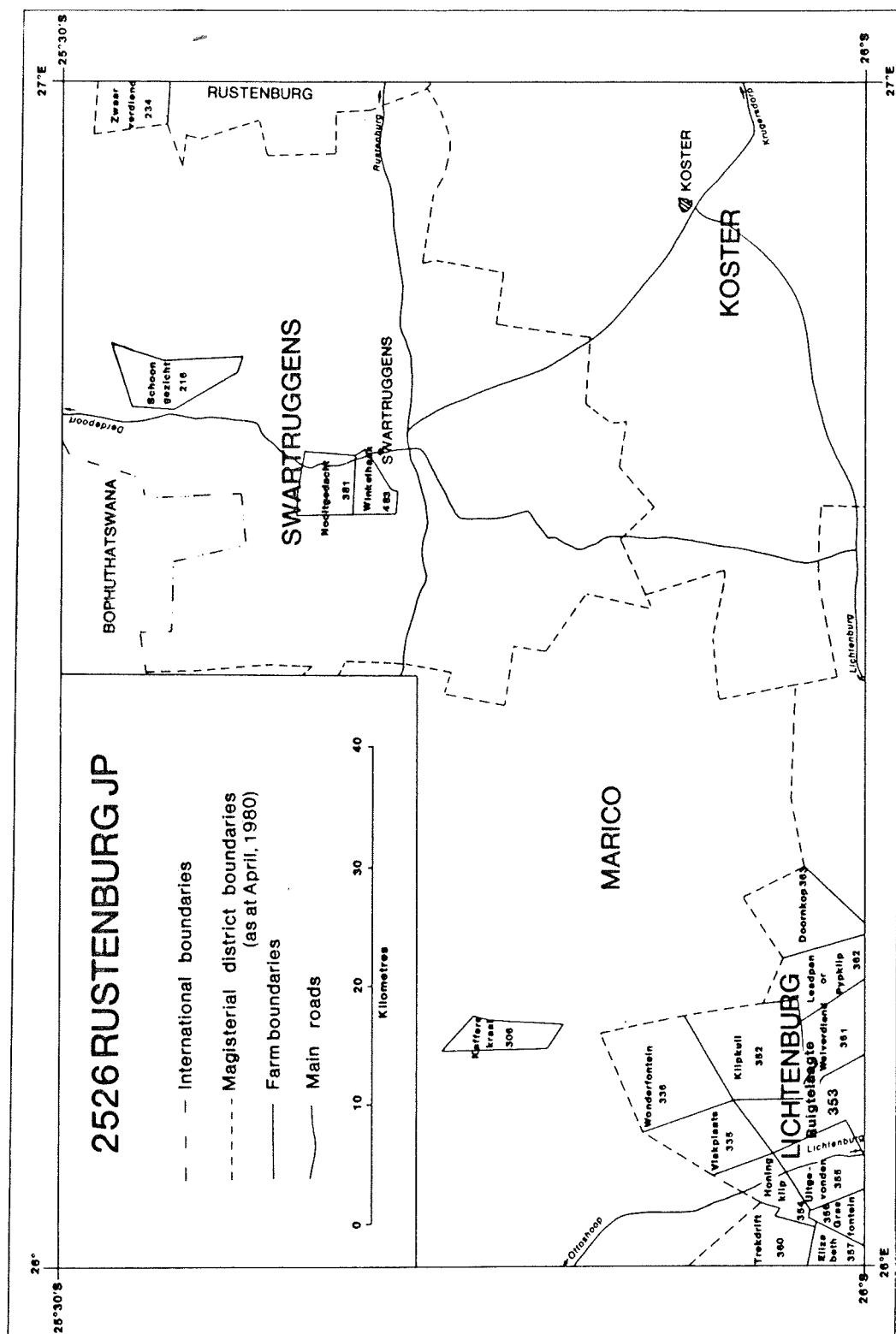


FIGURE 2.2 Diamond producing farms in the Lichtenburg - Marico districts.



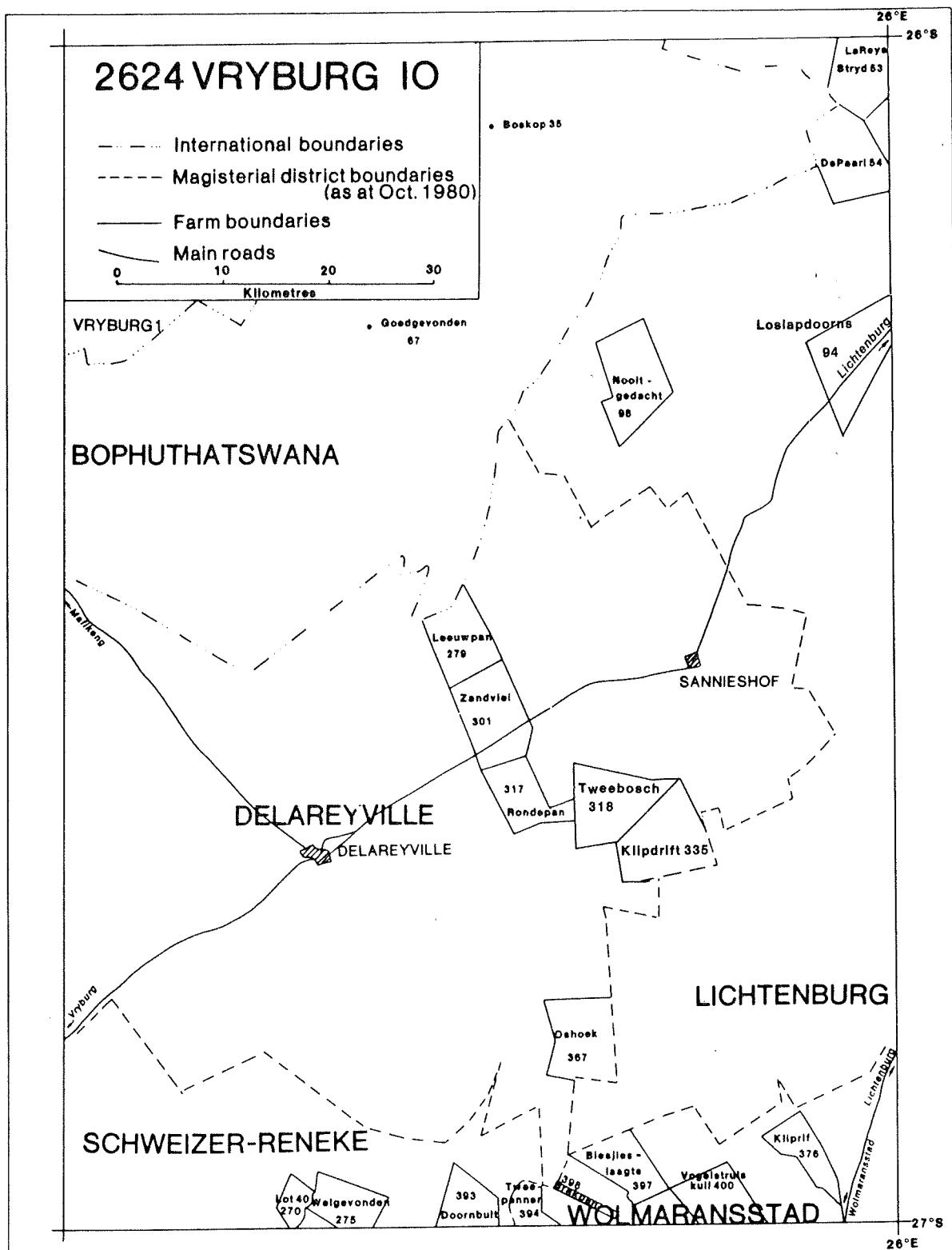


FIGURE 2.4 Diamond producing farms in the Delareyville - Schweizer-Reneke - Lichtenburg districts and Bophutatswana.

TABLE III: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2626 WES RAND IP (1A - 4D) (Figs. 3.1 - 3.2)		
Appeldraai 182	188,25	2 494
Boschkop 160	21,50	346
Bruidegomskraal 178	18 668,53	517 024
Buffelsvlei 222	65,75	1 632
Bultfontein 132	20,39	268
Cyferfontein 99	22,00	260
Droogpan 118	31 905,88	720 176
Elandskuil 208	14,95	86
Goedvooruitzicht 120	63 561,57	1 687 618
Graslaagte 37	15,00	232
Hartebeeslaagte 146	11 330,39	487 239
Hendriksdal 1	58 900,50	133 398
Holgat 63	29 210,33	416 048
Hollaagte 8	8,50	52
Houthaalbomen 31	12,25	196
Houthaaldoorns 2	6,37	39
Kalkfontein 48	0,75	4
Kaalfontein 212	3 101,00	42 689
Klipbankfontein 26	89 465,00	786 281
Klipfontein 109	30,75	338
Klipplaatdrift 214	295,73	3 492
Klippan 15	3 325,75	79 190
Leeuwkraal 181	9 821,51	169 618
Lichtenburg Townlands 27	34 897,46	189 031
Nooitgedacht 131	24 374,39	765 870
Omega 156	7 015,84	103 231
Oog van Schoonspruit 186	81,75	756
Palmietfontein 312	12,00	232
Polka 164	19,50	160
Putfontein 62	12 268,43	280 565
Rietfontein 219	52,00	120
Roodepan 180	49 557,91	691 302
Roodepoortjie 154	6 141,50	167 424
Schildpadsverdriet 10	1 145,00	10 327
Sterkfontein 155	8 761,89	143 328
Sterkstroom 216	130,25	2 143
Tweebuffelsgeschiet 42	2 020,09	40 084
Uitkyk 184	9 363,00	105 620
Vlakfontein 213	52,25	462
Vlakpan 21	236,50	1 628
Vogelstruispan 151	23,25	168
Welgevonden 167	175,25	1 244
Wildfontein 201	25 065,24	375 235
Witklip 6	139 891,18	1 403 415
Witkrans 130	465,50	3 674
Witstinkhoutboom 9	2 010,75	7 901
Wolwenfontein 47	11,75	284
Zwartplaats 176	60 128,89	1 781 589
Zwartrand 123	6 776,95	608 187
Zwartrand 145	1 039,25	6 462

2626 WES RAND IP (1A - 4D)

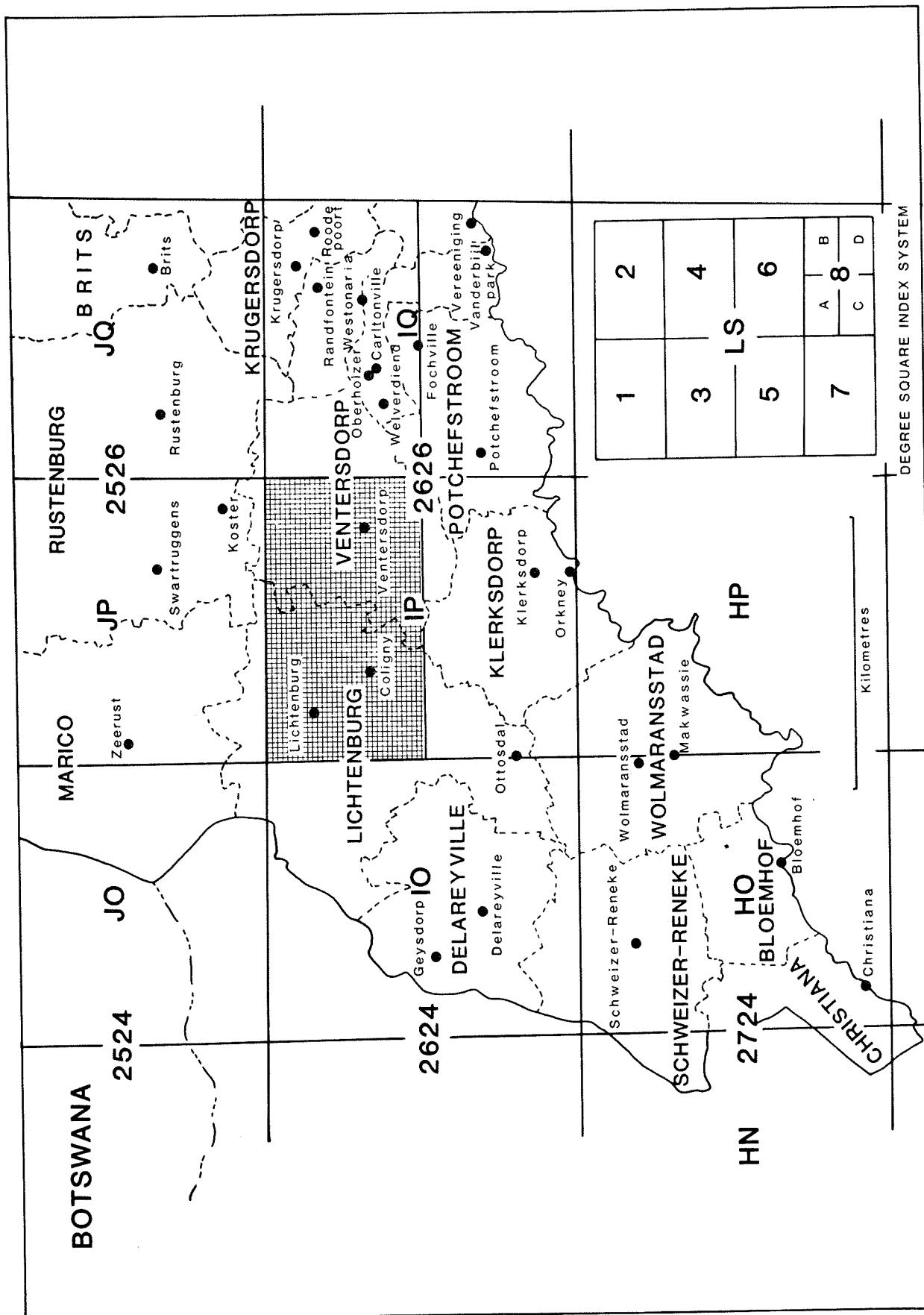


FIGURE 3.1 Locality map for 2626 Wes Rand IP (1A - 4D).

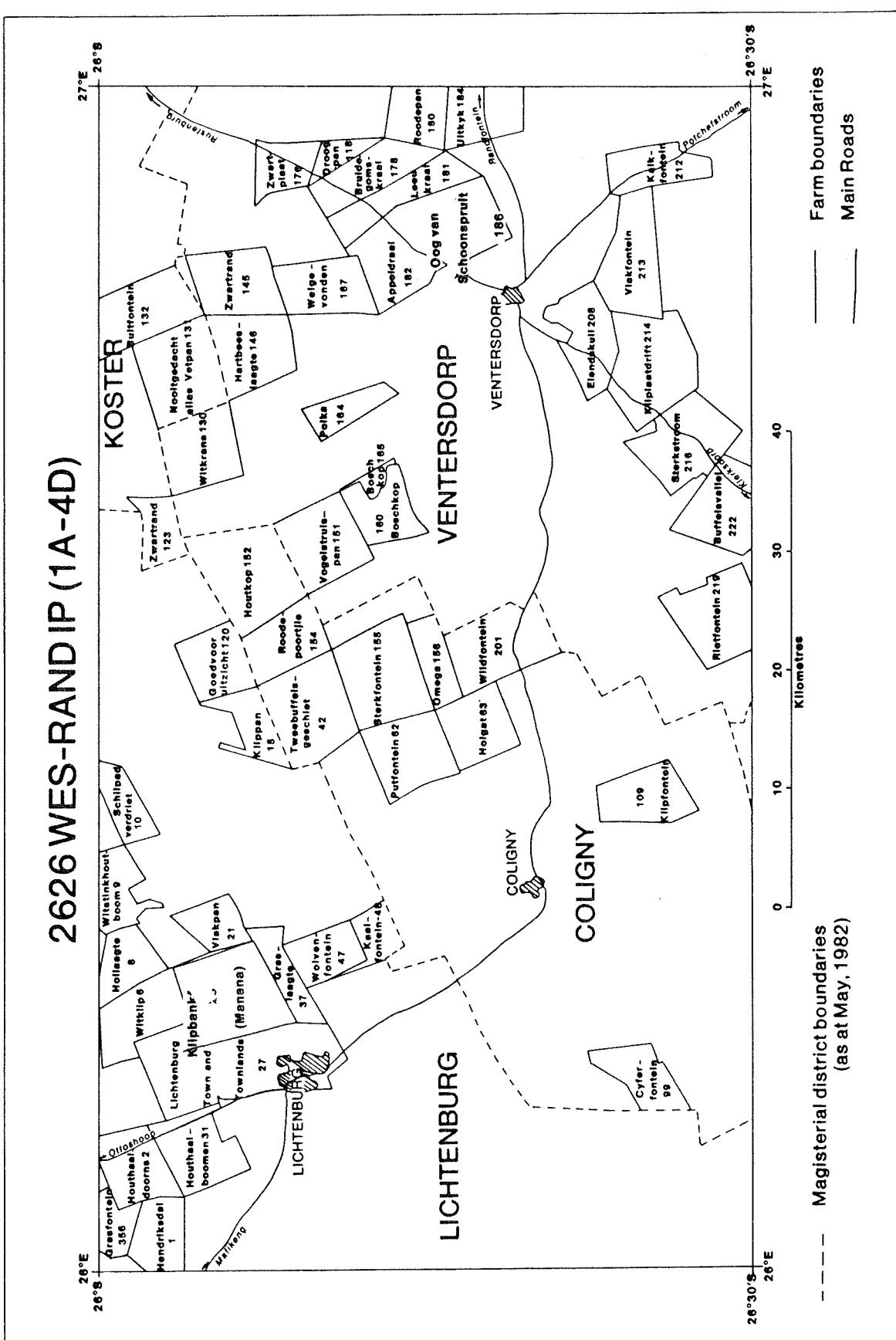


FIGURE 3.2 Diamond producing farms in the Venterdorp - Lichtenburg - Coligny districts.

TABLE IV: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2626 WES RAND IQ (1A - 4D) (Figs 4.1 - 4.2)		
Avondzon 7	154,50	2 006
Bovenste Oog 68	2 743,00	28 394
Buchansvale 61	6 148,50	46 804
Du Toits Spruit 137	6 704,75	57 370
Elandsfontein 21	14,75	124
Gerhardminnebron 139	177,75	1 978
Goedgedacht 27	58 932,48	1 711 047
Holfontein 49	38 632,50	552 458
Illmasdale 70	4 452,00	48 511
Katdoornbosch 138	10,25	112
Kiel 128	228,25	5 321
Klerkskraal 65	173,75	3 528
Klipgat 18	16 824,35	119 474
Leeuwpan 58	26,00	262
Morgenson 9	11 754,25	100 198
Muiskraal 127	10 137,25	331 357
Muiskraal 129	13 646,50	197 500
Oatlands 79	2 208,25	18 352
Reismiersbult 88	1 414,67	38 527
Rietvallei 130	15 228,57	272 312
Rooidraai 85	56 130,75	828 839
Rooipan 96	30,00	588
Rooiwal 92	16 593,50	331 235
Ryedale 75	2 112,51	33 837
Thyszyndoorns 131	36,50	654
Varkenskraal 93	3 649,28	57,037
Vlakplaats 160	2,44	22
Wildebeestlaagte 72	9,50	32
Witkoppie 87	2 275,95	307 379
Zamenkomst 89	38 531,75	1 772 345

2626 WES RAND IQ (1A - 4D)

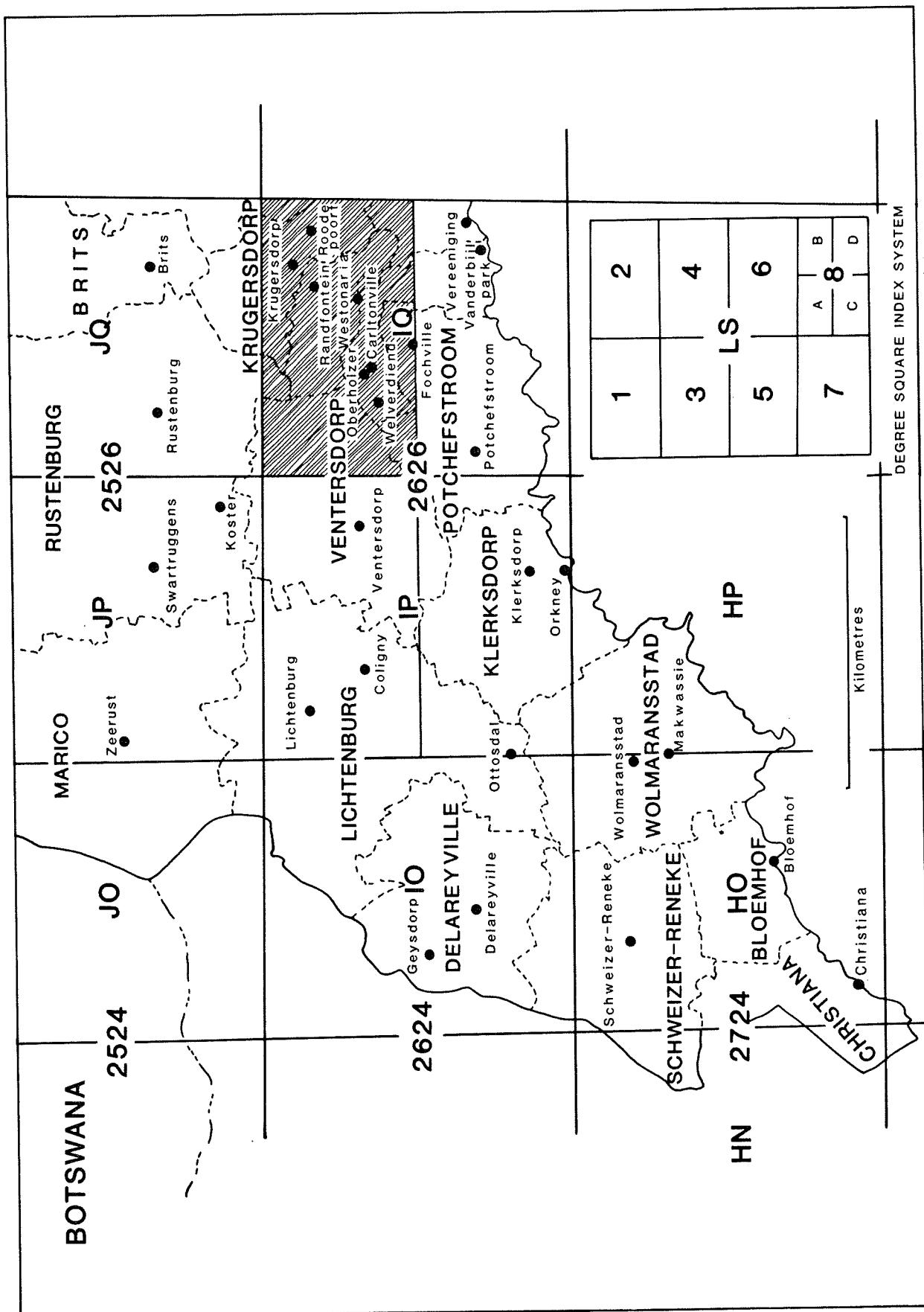


FIGURE 4.1 Locality map of 2626 Wes Rand IQ (1A - 4D).

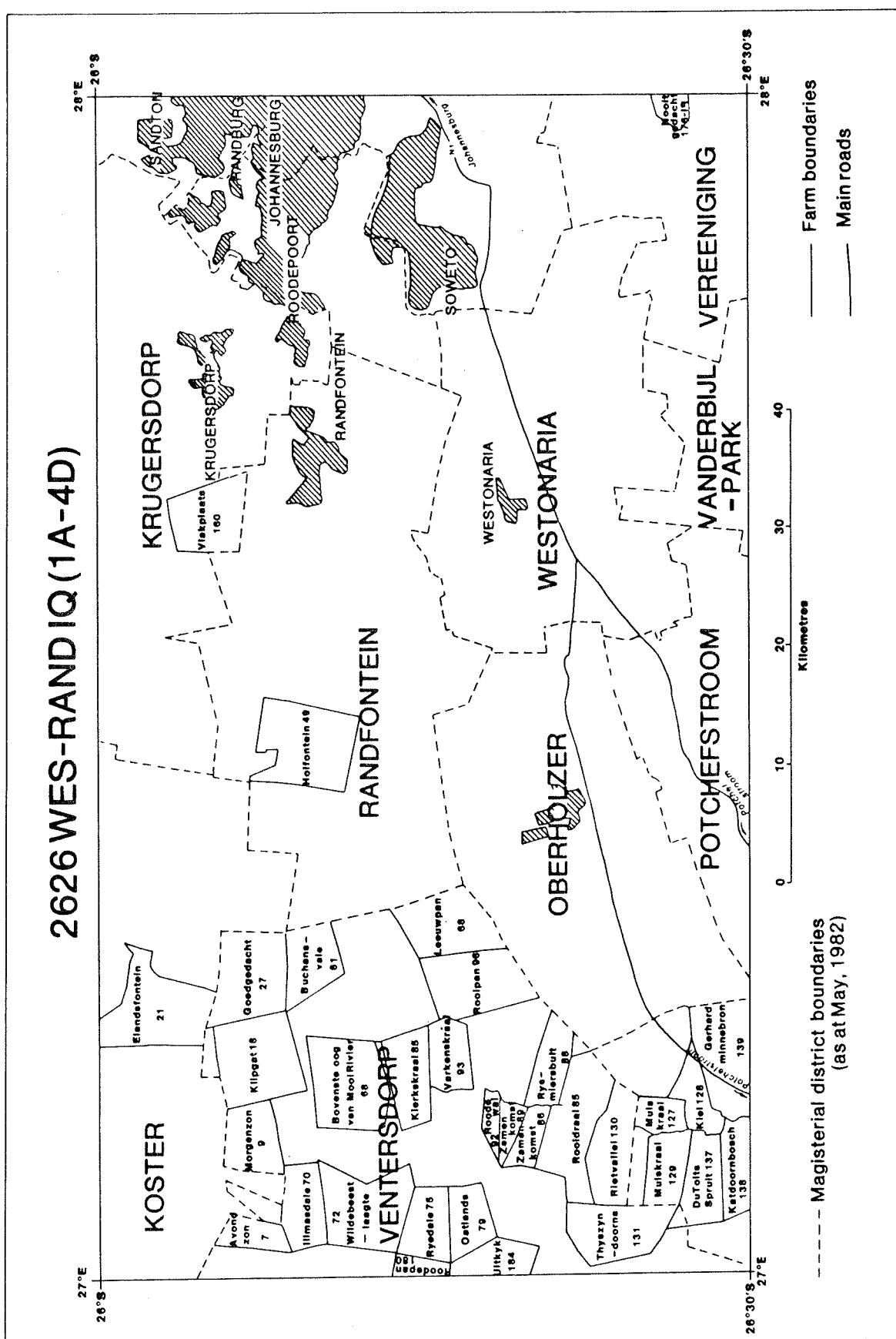


FIGURE 4.2 Diamond producing farms between Ventersdorp and Johannesburg.

TABLE V: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2626 WES RAND IP (5A - 8D) and IQ (5A - 8D) (Figs. 5.1 - 5.3)		
Beentjieskraal 399	19,25	388
Boschdraai 575	135,75	1 010
Boschpoort 253	1,54	14
Brakfontein 476	44,75	530
Bronkhorstfontein 566	266,45	17 632
Buffelskloof 511	11,50	440
Buffelsvlei 383	196,25	912
Dagbreek 259	42,50	690
Droogespruit 416	5,50	46
Eiland 514	2,75	100
Elandsheuwel 402	46,25	1 144
Elandsheuwel 436	2,00	40
Elbrinxen 493	11,00	194
Gemsbok 287	58,25	814
Goedgenoeg 433 (Eastleigh 62)	10 941,08	133 976
Goedgenoeg 433	5 926,21	83 779
Goedgevonden 356	132,75	692
Haaskraal 490	21,50	306
Holfontein 279	0,75	2
Island 502	6,50	76
Kaalplaats 577	11 147,89	175 410
Klerksdorp Townlands 44	28,50	212
Koedoeslaagte 516	14,75	520
Kopjeskraal 517	39,25	1 530
Nooitgedacht 434	291,75	1 157
Oudedorp 376	0,25	2
Potchefstroom Townlands 135	37,00	768
Rietkuil 309	9,75	304
Strydfontein 320	93,25	3 453
Witkop 475	220,00	2 952
Witkoppies 382	146,50	2 770
Witpoort 394	4,50	18
Zeekoeifontein 573	13 644,65	729 955
Zendelingsfontein 319	82,25	1 312
Zwartkoppies 431	17,50	54

2626 WES RAND IP (5A - 8D) and IQ (5A - 8D)

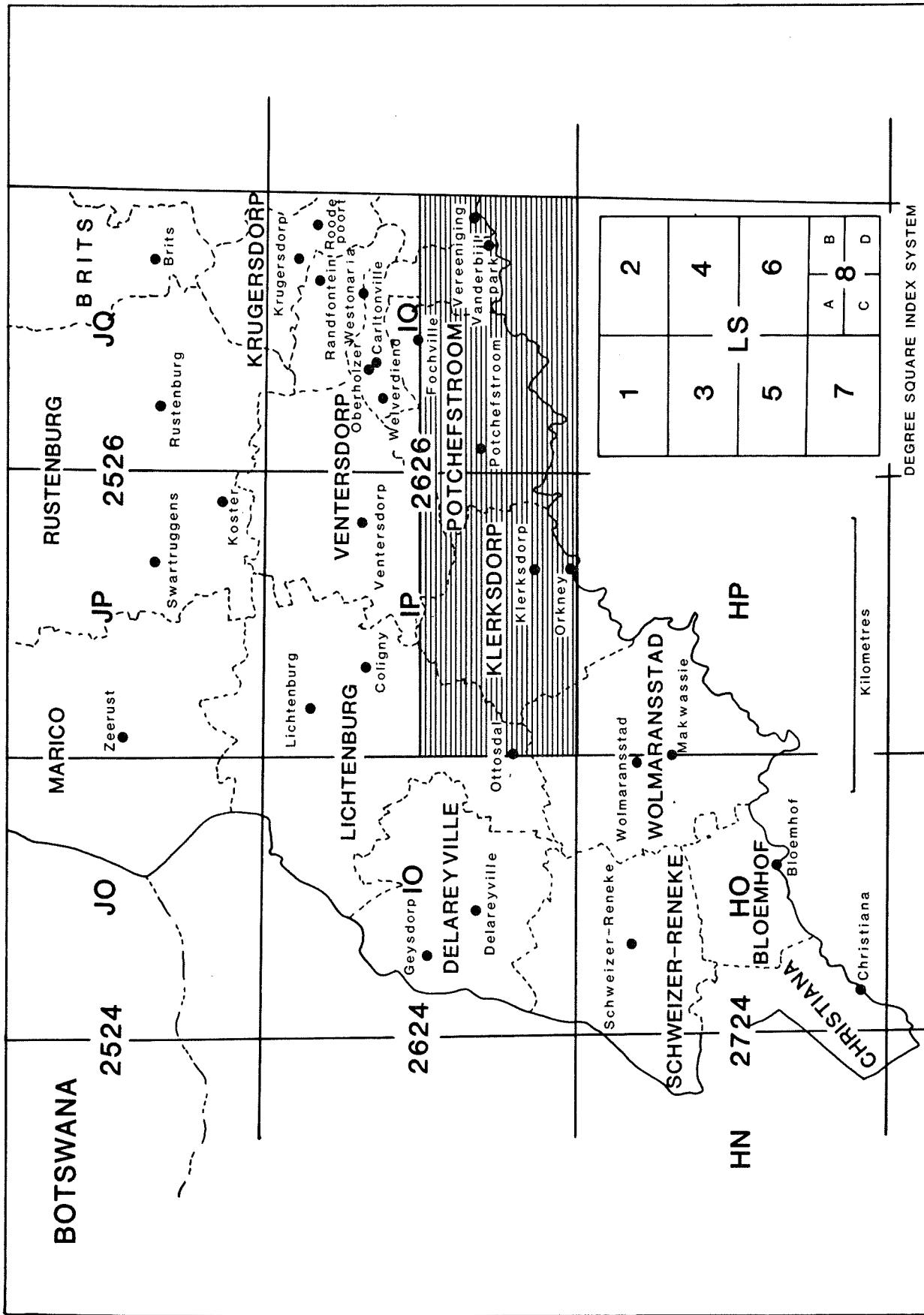


FIGURE 5.1 Locality map of 2626 Wes Rand IP (5A - 8D) and IQ (5A - 8D).

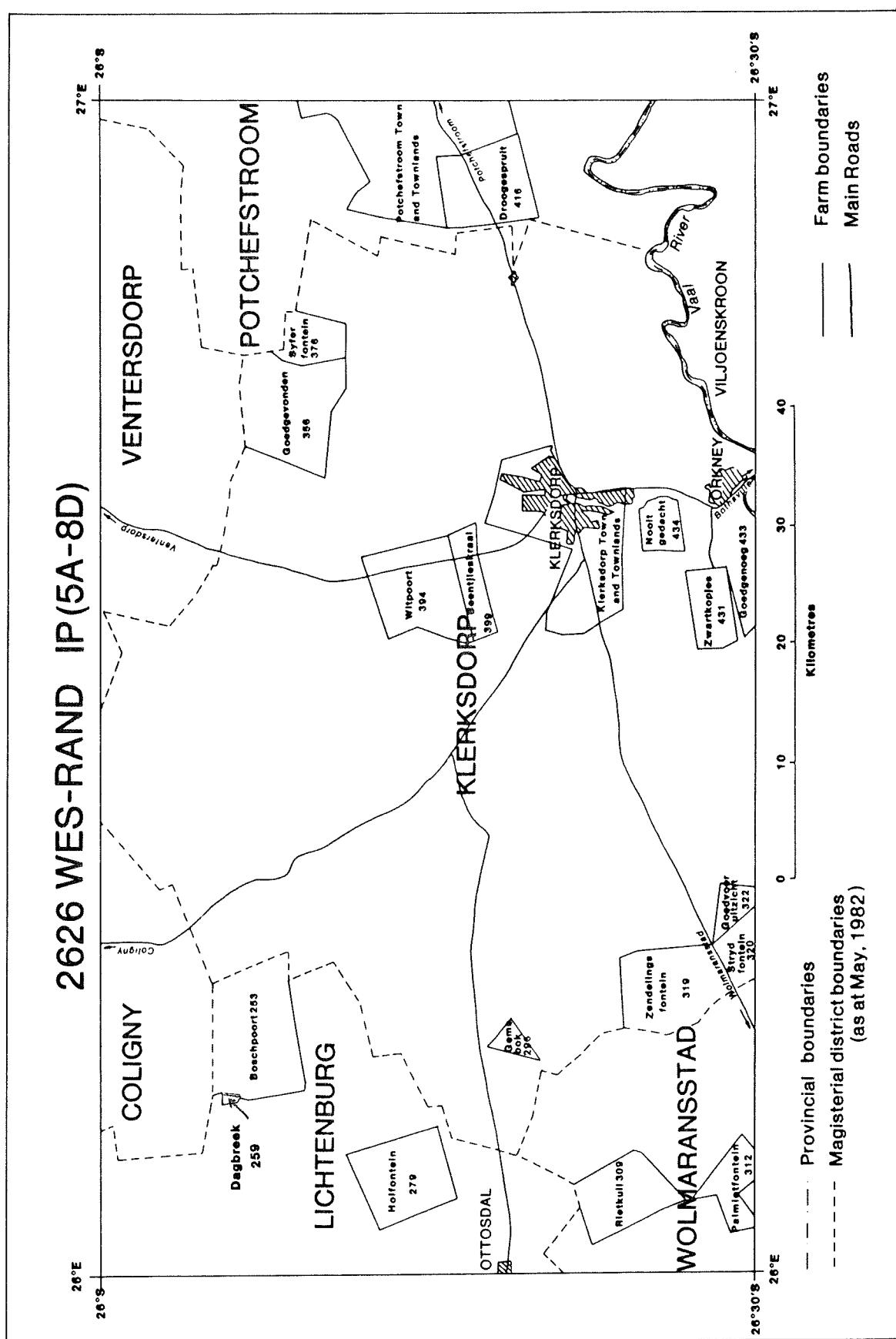


FIGURE 5.2 Diamond producing farms between Lichtenburg and Potchefstroom.

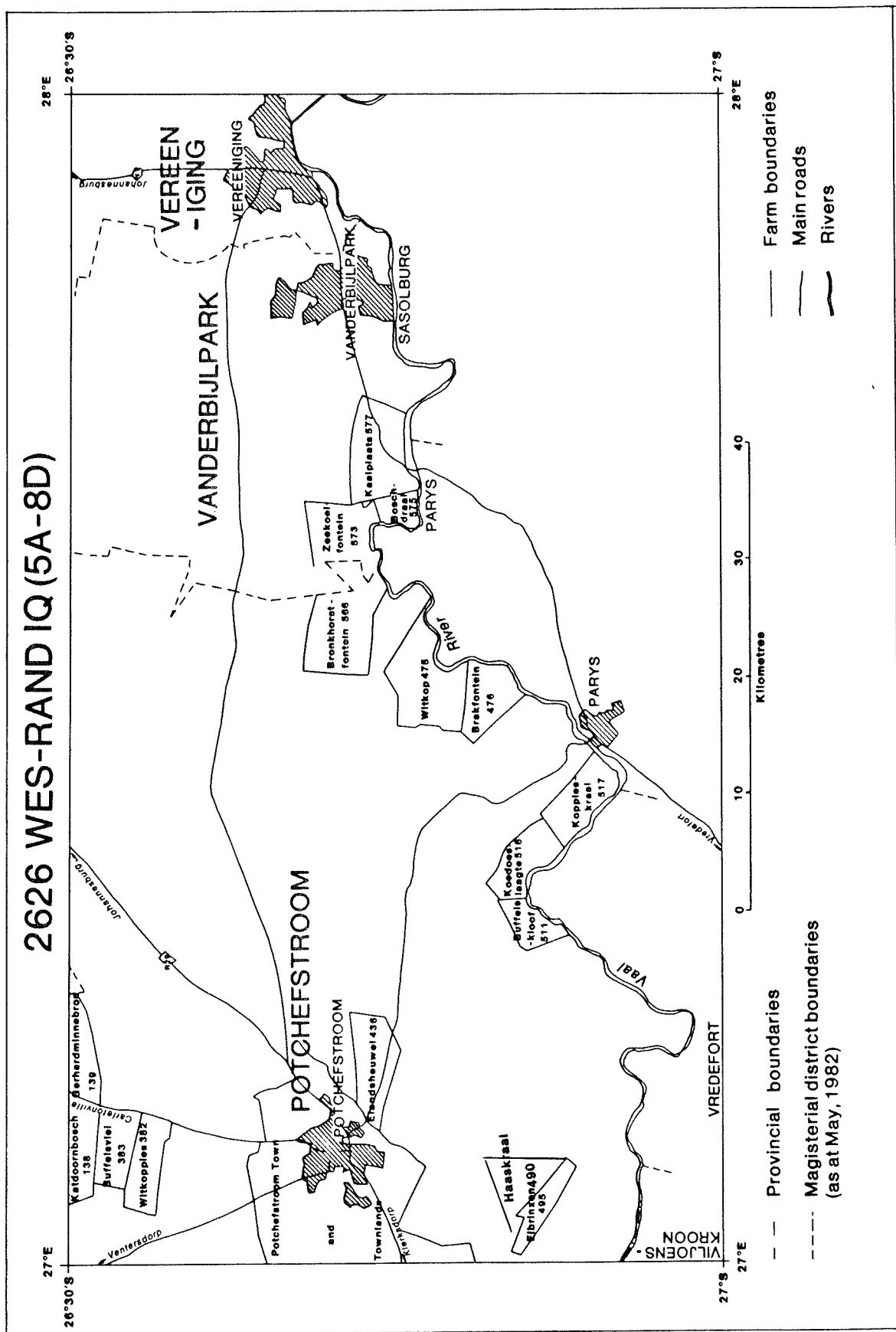


FIGURE 5.3 Diamond producing farms in the Potchefstroom - Vanderbijlpark - Vereeniging districts.

TABLE VI: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2724 CHRISTIANA HO (1A - 2D) (Figs. 6.1 - 6.2)		
Biesieslaagte 53	567,70	209 816
Blyvooruitzicht 51	5 910,53	84 857
Boschrand 158	22,25	545
Boschplaats 149	2 546,48	298 355
Bothma's Rust 76	15,50	176
Doornhoek 165	319,31	98 651
Diamantdoorns 169	5 532,67	74 120
Goedgedacht 197	14 162,23	391 511
Grootlaagte 190	588,71	66 134
Grootpoort 83	3 732,29	297 540
Hamburg 82	848,11	76 772
Holloways Rust 199	6 984,23	523 455
Jala-Jala 10	217,68	52 471
Kameelboom 150	3 829,95	1 028 824
Kameelpaan 148	3,25	40
Kareepan 177	87 550,42	4 039 092
Katboschfontein 164	144,00	683
Klippan 179	192,90	12 575
Koppiesfontein 52	89,81	3 202
Koppiesvlei 14	18 074,23	276 115
Koppiesvlei 14 (ptn Schaapbosches-draai)	392,00	4 520
Leeuwfontein 185	68 829,39	1 436 143
Lot 7 49	143,33	5 378
Lot 16 45	12,75	80
Lot 20 19	145,75	21 001
Lot 21 18	79,75	3 352
Lot 26 26	386,25	6 485
Lucaskraal 154	237,12	55 684
Makaauwskop 167	889,50	12 573
Maraetchesfontein 54	3 470,09	226 224
Maraetchesfontein 54 (ptn Boschkop)	422,13	9 060
Mietjiesdoorns 187	11 451,15	346 162
Mimosa 61	24 337,06	564 472
Palachoema 64	2 196,94	42 375
Rietkuil 186	87 655,17	6 129 510
Rietput 60	11 877,37	203 828
Roodepan 163	1 238,32	262 473
Rooibult 152	1 248,88	217 921
Schweizer-Reneke Townlands 62	23 175,48	826 766
Spioenkop 174	84 252,78	177 996
Springbok 191	245,25	12 788
Vaalboschbult 195	2,50	26
Vaalboschfontein 188	2 917,27	593 700
Vaalpoort 84	393,50	9 234
Vleeschkraal 145	1 591,36	391 345
Vliegenkraal 13	3 615,29	555 405
Webb 159	95,63	13 560
Weltevreden 176	7 259,57	691 643
Welverdiend 151	851,17	74,461
Wolmaransstad Townlands 184	518,75	6,835
Zitland 171	2,25	18
Zoetfontein 168	151,00	23 144

2724 CHRISTIANA HO (1A - 2D)

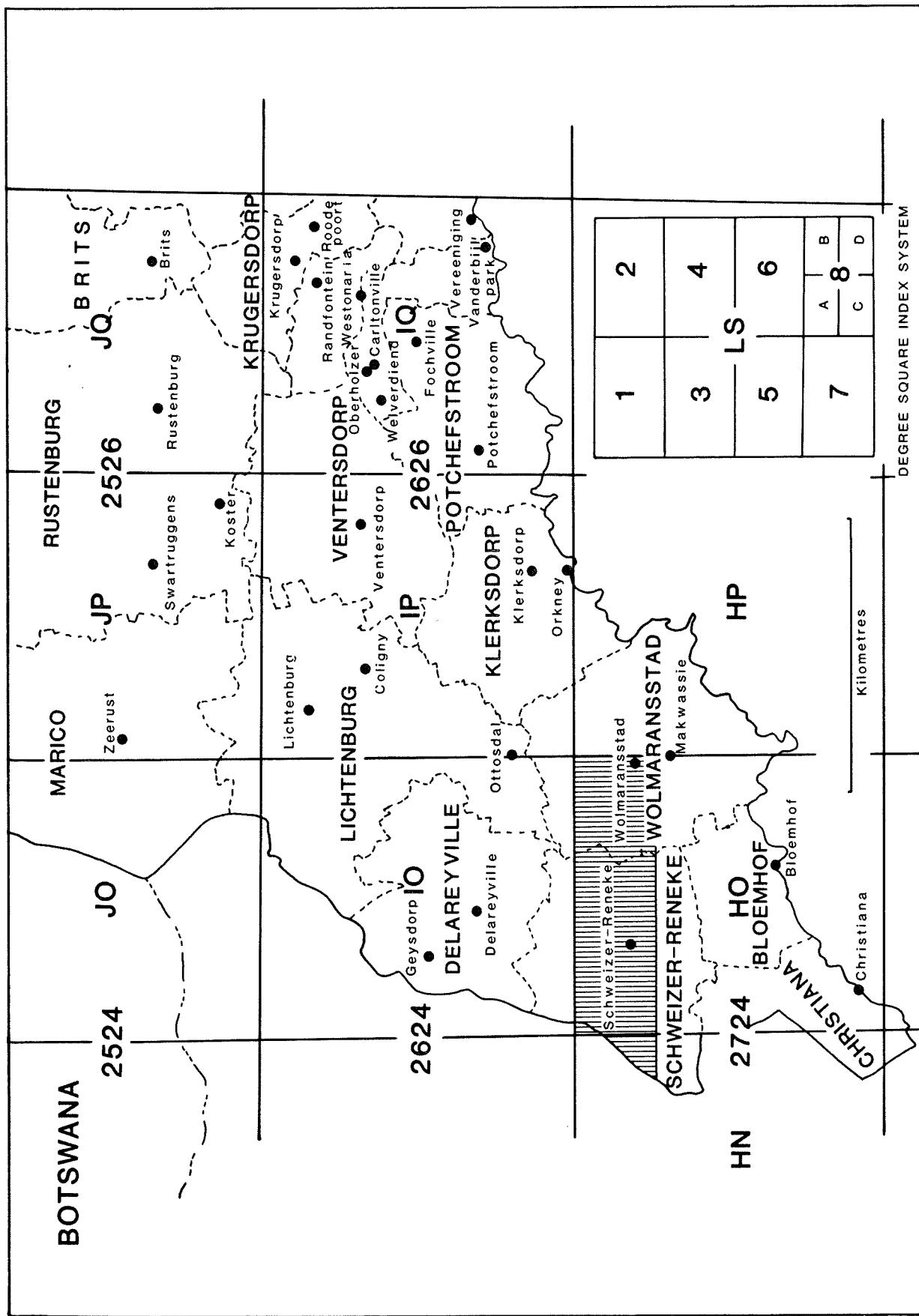


FIGURE 6.1 Locality map of 2724 Christiana HO (1A - 2D).

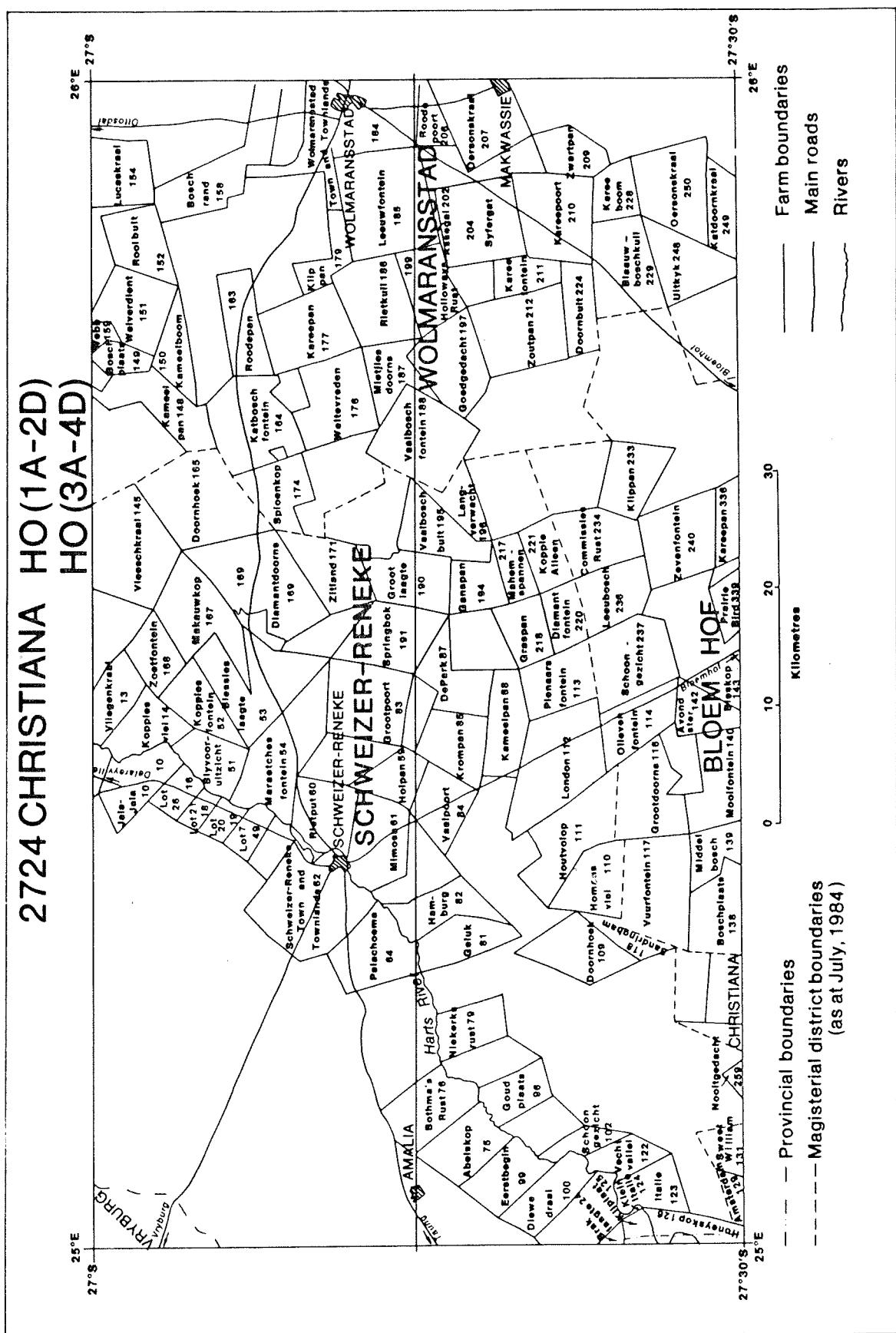


FIGURE 6.2 Diamond producing farms in the Schweizer-Reneke - Bloemhof - Wolmaransstad districts.

TABLE V11: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2724 CHRISTIANA HO (3A - 4D) (Figs. 7.1 - 7.2)		
Abelskop 75	312,50	6 646
Amsterdam 129	28,50	168
Assegai 202	4 395,86	140 220
Avondster 142	27 513,60	502 676
Blaauwboschkuil 229	31 314,25	550 992
Blaauwboschkuil 229 (Ptn Boschkuil)	6 619,70	555 123
Blesbok 143	123 242,53	798 782
Boschplaats 138	585,98	109 763
Braklaagte 24	0,75	10
Commissies Rust 234	2 939,25	47 286
De Park 87	15,75	152
Diamantfontein 220	1 355,33	29 433
Diewedraai 100	30 144,39	787 908
Doornbult 224	8 371,13	148 776
Doornhoek 109	58,51	716
Eerstbegin 99	12 684,37	277 979
Ganspan 194	1 032,05	85 802
Geluk 81	278,00	6 330
Goudplaats 96	5 409,97	115 869
Graspan 218	7 316,84	8 618
Grootdoorns 116	41 777,02	774 727
Homansvlei 110	2 989,67	156 888
Honeyskop 126	49,75	513
Houtvolop 111	9 680,15	186 487
Italië 123	31 110,08	436 078
Kameelkuil 88	82 461,01	1 837 682
Kareeboom 228	80 412,47	5 795 297
Kareefontein 211	2 274,44	9 499
Kareepan 336	6 157,73	156 860
Kareepoort 210	38 843,76	834 504
Katdoornkraal 249	8 714,69	1 496 255
Klein Italië 124	4 369,23	63 126
Klippan 233	46,50	432
Koppie Alleen 221	228,80	4 206
Krompan 85	960,67	85 162
Langverwacht 196	1,50	16
Leeuwbosch 236	10 384,88	201 415
London 112	93 372,02	1 927 450
Mahemspannen 217	453,95	150 122
Middelbosch 139	813,71	50 589
Mooifontein 140	46 884,44	594 744
Mooifontein 140 (ptn Koksrust)	1 299,25	14 148
Mooilaagte 91	150,83	2 028
Niekerksrust 79	273,00	3 236
Nooitgedacht 259	21,25	368
Oersonskraal 207	9 212,79	163 484
Oersonskraal 250	97 346,97	10 296 148
Olievienfontein 114	12 519,66	244 192
Pienaarsfontein 113	23,00	1 103
Prairie Bird 334	419,75	5 714
Roodepoort 206	117,75	3 847

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
<u>2724 CHRISTIANA HO (3A - 4D) (Figs 7.1 - 7.2) (contd)</u>		
Sandringham 118	5 381,56	86 286
Schoongezicht 102	154,41	48 866
Schoonzicht 237	767,91	200 170
Sweet William 131	7,00	160
Syfergat 204	83 162,97	1 390 328
Uitkyk 248	772,05	44 901
Vechtvallei 122	2 220,56	77 078
Vechtvallei 122 (ptn Naauwpoort)	752,25	20 254
Vuurfontein 117	9 252,54	456 386
Zevenfontein 240	19 991,06	293 375
Zoutpan 212	17 072 70	93 300
Zwartpan 209	1,00	12

2724 CHRISTIANA HO (3A - 4D)

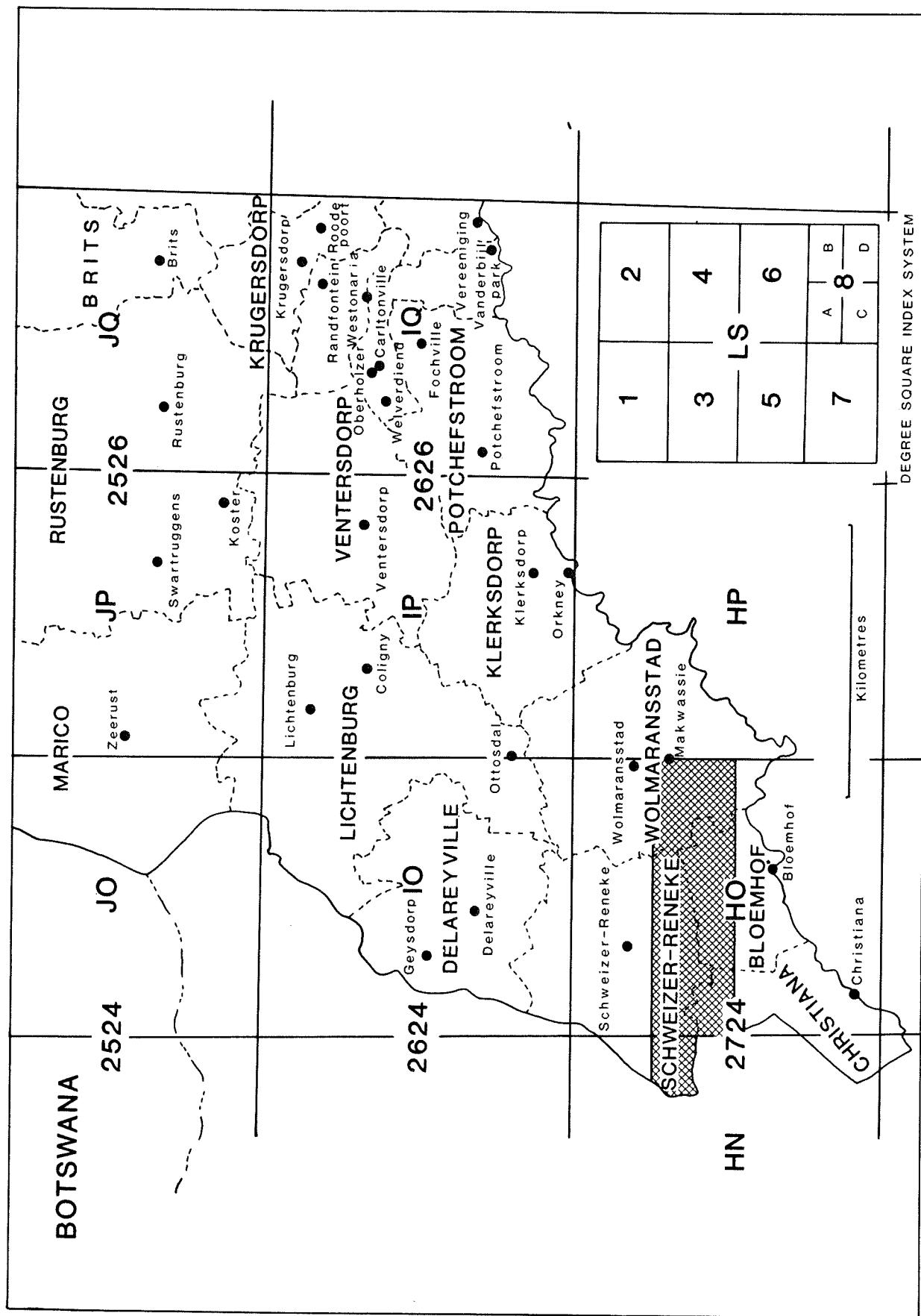


FIGURE 7.1 Locality map of 2724 Christiana HO (3A - 4D).

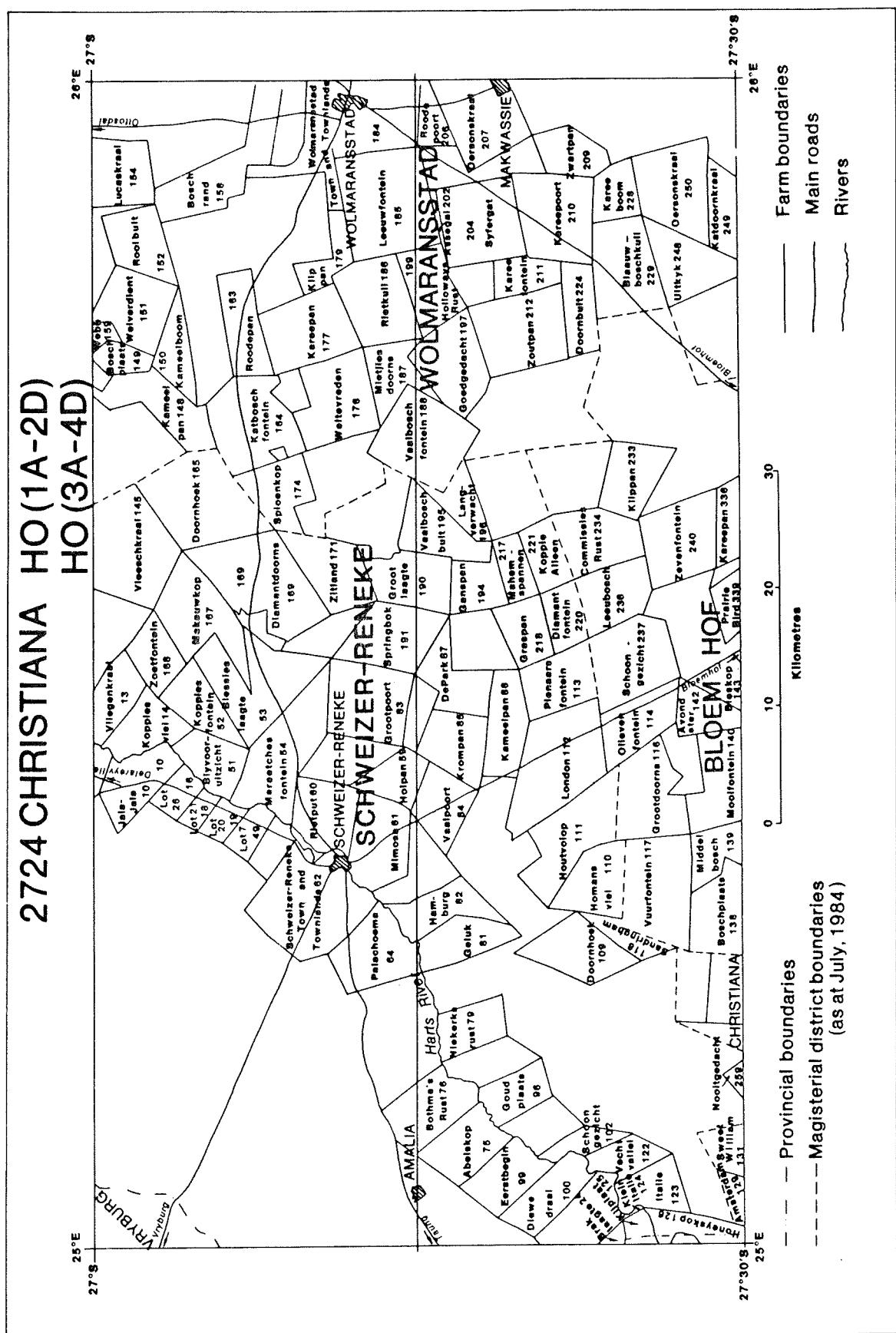


FIGURE 7.2 Diamond producing farms in the Schweizer-Reneke - Bloemhof - Wolmaransstad districts.

TABLE VIII: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
2724 CHRISTIANA HO (5A-8D) (Figs. 8.1 - 8.2)		
Bessieslaagte 328	2 240,81	68 811
Boschpan 339	672,29	6 822
Bosmansfontein 333	16 764,35	371 863
Bloemheuwel 327	5 064,52	153 259
Bloemheuwel 327 (ptn Kingston)	2,50	24
Cawoods Hope 324	8 812,35	131 647
Christiana Townlands 325	47 176,94	615 437
De Hoop 305	1,00	12
Eerstegeeluk 266	68,00	3 654
Gansvlei 338	451,39	57 358
Gezicht 265	1 186,45	19 902
Goedehoop 331	9 186,73	158 602
Holfontein 267	148,70	6 022
Kaalpan 337	15 811,09	325 209
Kaffersdrift (in River Bed)	6,00	62
Kafferspan 273	3 417,46	75 628
Kalkfontein 346	346,50	6 952
Kalkfontein 346 (ptn Langkuil)	98,75	1 480
Kameelpan 276	3,00	12
Kareefontein 340	2 881,34	38 670
Kareepan 300	2 108,85	18,907
Klipfontein 344	137 709,24	1 846 955
Klipfontein 344 (ptn Vaalbosch)	19,75	264
Kromellemboog 320	11 790,75	230 913
Matlabanestad 299	425,25	7,350
Palmietfontein 295	702,80	15 739
Panfontein 270	75 915,48	721 813
Panfontein 270 (ptn Kuilfontein)	1 550,50	14 408
Rietfontein 348	173,75	3 372
Uitkyk 342	2 045,67	86 289
Uitspanning 318	525,60	19 338
Vaal River Bed	2 578,00	27 866
Vaalbank 355	27 831,26	3 354 516
Van Zyls Drift 154	1 256,25	18 392
Verlatenskraal 352	401,06	12 660
Vlakkraal 353	43,45	1 625
Weltevreden 268	17 673,10	226 501
Wildehondeskraal 296	293,75	7 514
Witgatboom 317	347,35	11 752
Zendelingsfontein 294	665,82	10 253
Zoutpan 301	343,50	3 524
Zoutpan 349	346,50	3 158
Zwartlaagte 345	43 964,72	856 369

2724 CHRISTIANA HO (5A - 8D)

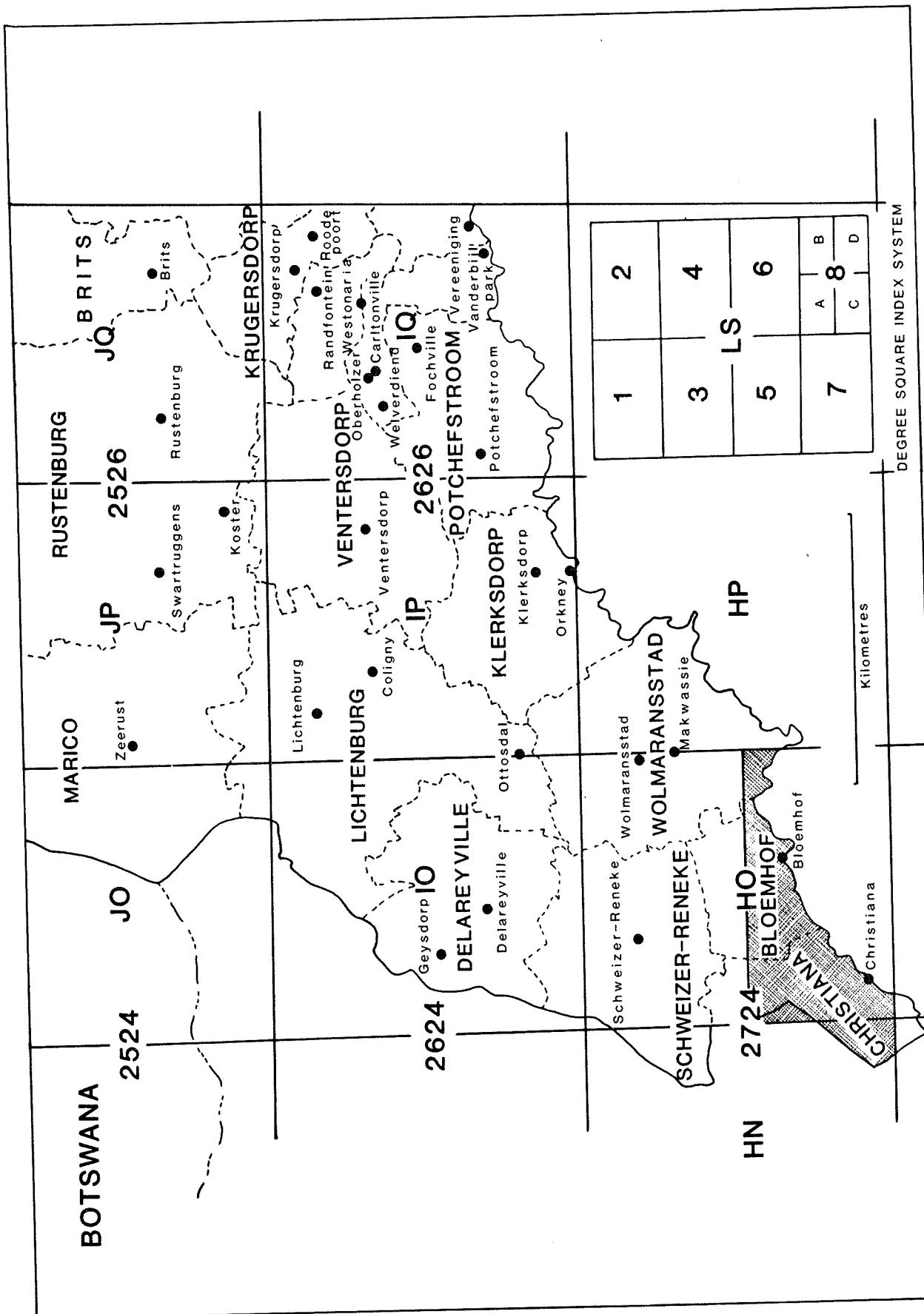


FIGURE 8.1 Locality map of 2724 Christiana HO (5A - 8D).

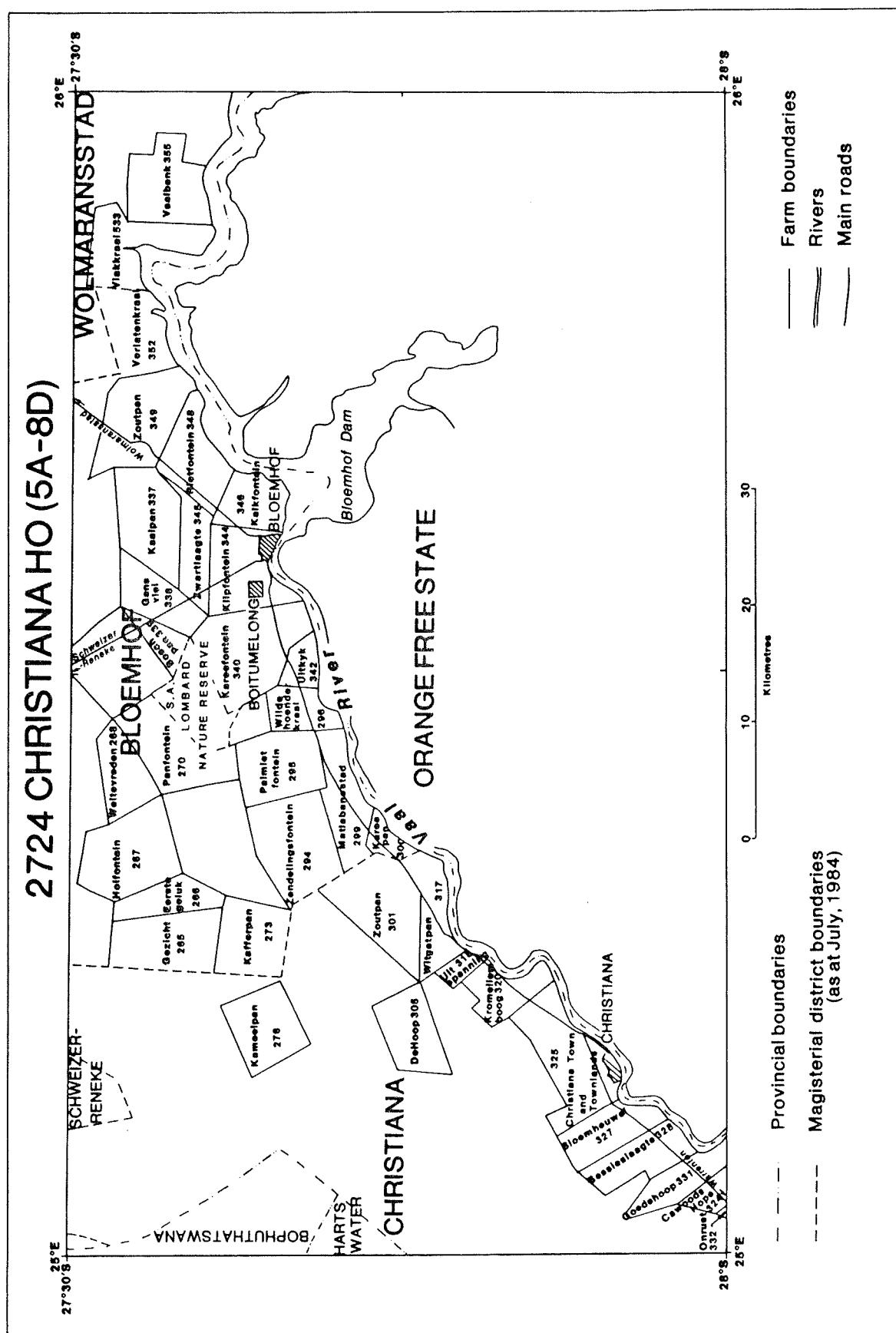


FIGURE 8.2 Diamond producing farms in the Christiana-Bloemhof-Wolmaransstad districts.

TABLE IX: Alphabetical listing of farms and their total diamond production values.

<u>FARM</u>	<u>TOTAL CARATS</u>	<u>TOTAL VALUE (R)</u>
<u>2726 KROONSTAD HP (Figs. 9.1 - 9.2)</u>		
Baviaanskrans 80	153,00	3 716
Blinkklip 40	74,00	1 623
Brandewynskuil 102	5 700,71	585 692
Brandhoek 78	253,45	10 404
Commando Drift 110	47,50	1 230
Doornbult 123	6 271,23	92 665
Doornpan 122	19,25	116
Kareeboschkuil 10	10,00	450
Klipfontein 100	5,00	34
Klipkuil 65	20 633,77	1 646 405
Klipplaatdrift 82	78,50	948
Klipspruit 89	460,63	6 098
Koedoesdraai 49	1,00	10
Modderkraal 51	7 227,91	190 147
Palmietfontein 8	2 081 00	26 488
Rondevlei 126	862,21	18 272
Rooipoort 32	110,00	1 500
Rosendal 7	292,15	75,360
Rustkraal 129	188,00	7 592
Syferfontein 2	42 235,24	1 334 008
Uitval 6	169,24	3 662
Uitvalgrond 3	3 304,67	281,037
Vlakfontein 37	651,73	40 701
Vliegekraal 106	515,55	4 030
Voetpadsdrift 98	2,00	14
Wildebeestkantoor 54	4,25	64
Wolwespruit 93	96,50	1 704
Wolwehuis 114	523,76	6 859
Yzerspruit 15	55,50	737
<u>2824 KIMBERLEY GN (Figs. 9.1 - 9.2)</u>		
Onrust 332	130,75	1 426
<u>2724 CHRISTIANA HN (Figs. 9.1 - 9.2)</u>		
Geluk	313,00	3 990

2726 KROONSTAD HP, 2824 KIMBERLEY GN, and 2724 CHRISTIANA HN

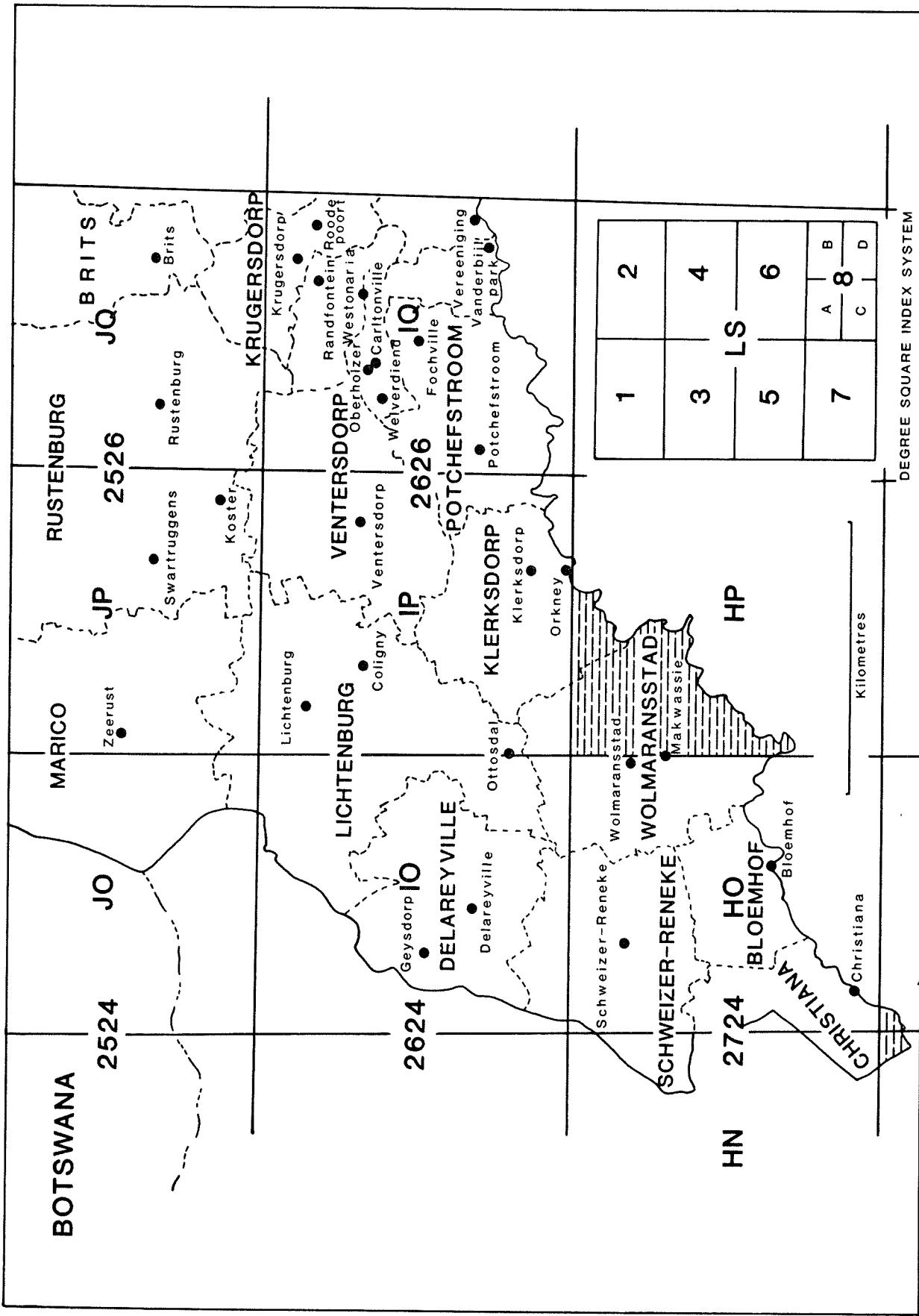


FIGURE 9.1 Locality map of 2726 Kroonstad HP, 2824 Kimberley GN, and 2724 Christiana HN.

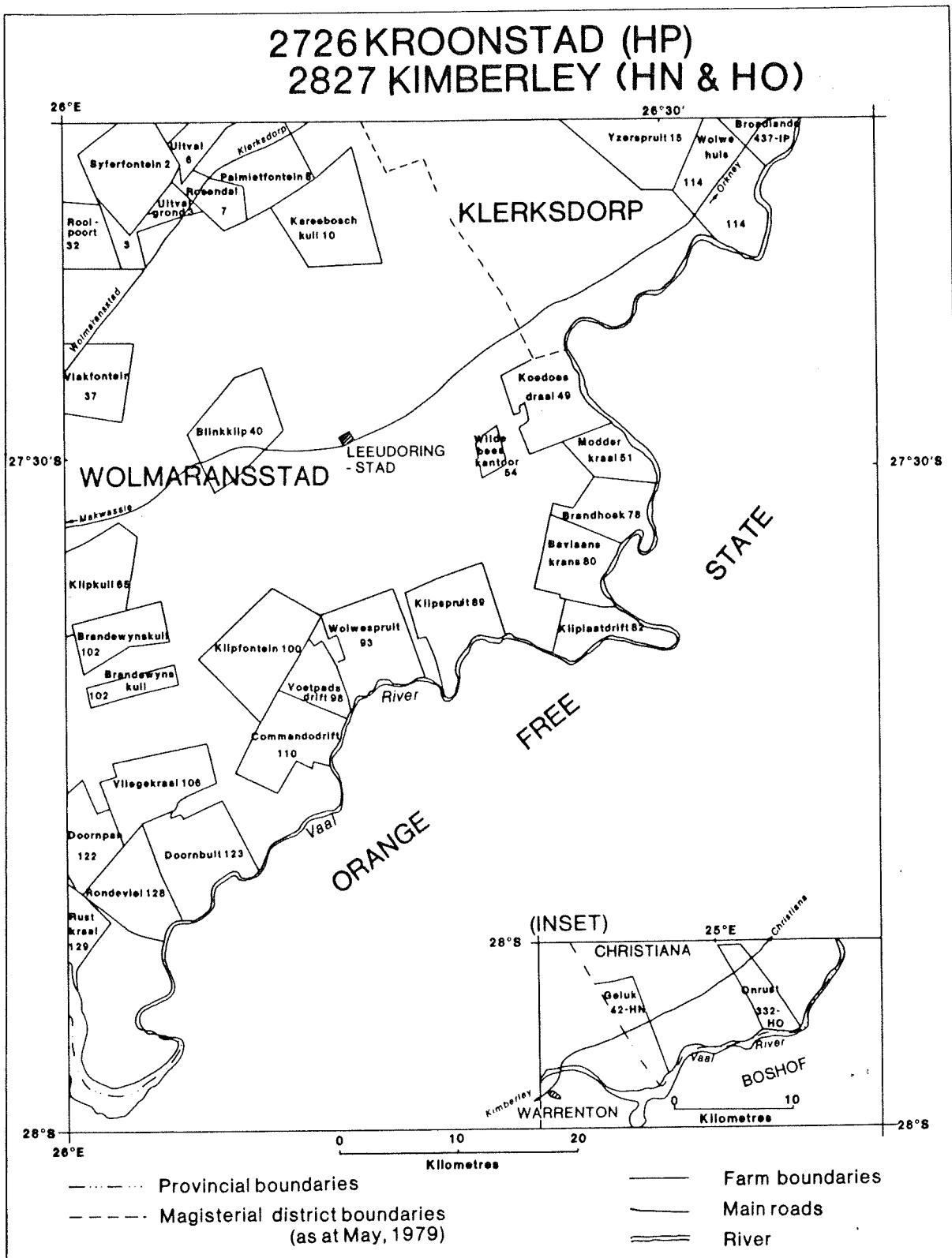


FIGURE 9.2 Diamond producing farms in the Wolmaransstad-Klerksdorp districts.

PRELIMINARY OBSERVATIONS

Consideration of the diamond production data shows distinct differences within the diamondiferous alluvial gravels of the western and southwestern Transvaal (Fig. 10). The diamonds emanating from the Lichtenburg - Bakerville Field, although constituting almost 68 per cent of all the alluvial diamond production, have a low average value of R5,34 per carat. In the Ventersdorp - Potchefstroom - Klerksdorp districts the average value is R8,54 per carat. The Christiana - Schweizer-Reneke - Wolmaransstad Field has only produced 14 per cent of the alluvial diamonds, but with an average value of R33,96 per carat, has realized over R66,6 million.

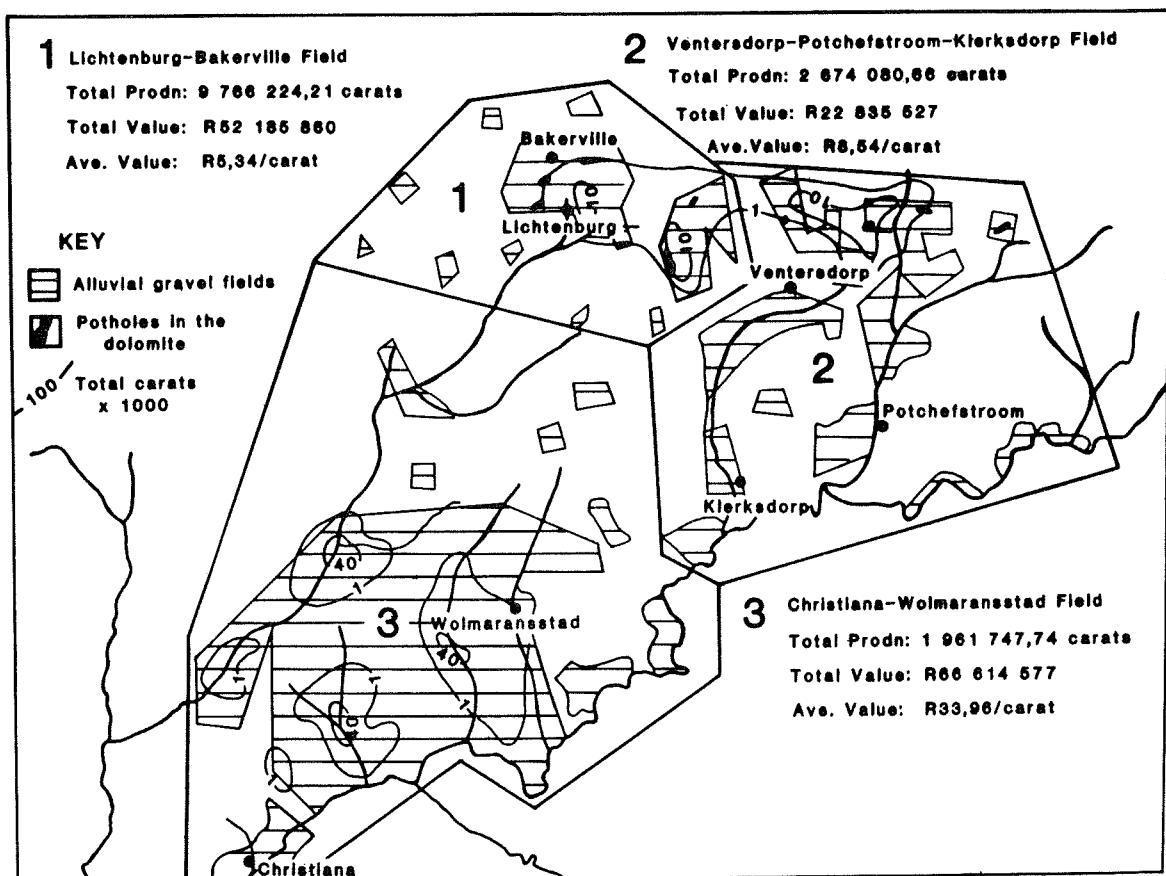


FIGURE 10 Production figures for the diamond producing farms of the western and southwestern Transvaal indicating variations in the average value per carat of the diamonds found in the three principle alluvial diamond fields.

In order to see more clearly the differences within the alluvial diamonds of the various deposits of the western and southwestern Transvaal the normalized value per carat data has been plotted on figure 11. Ruigtelaagte 353, with an average value of R3,90 per carat has been assigned a value of 1 to which all the other values have been normalised

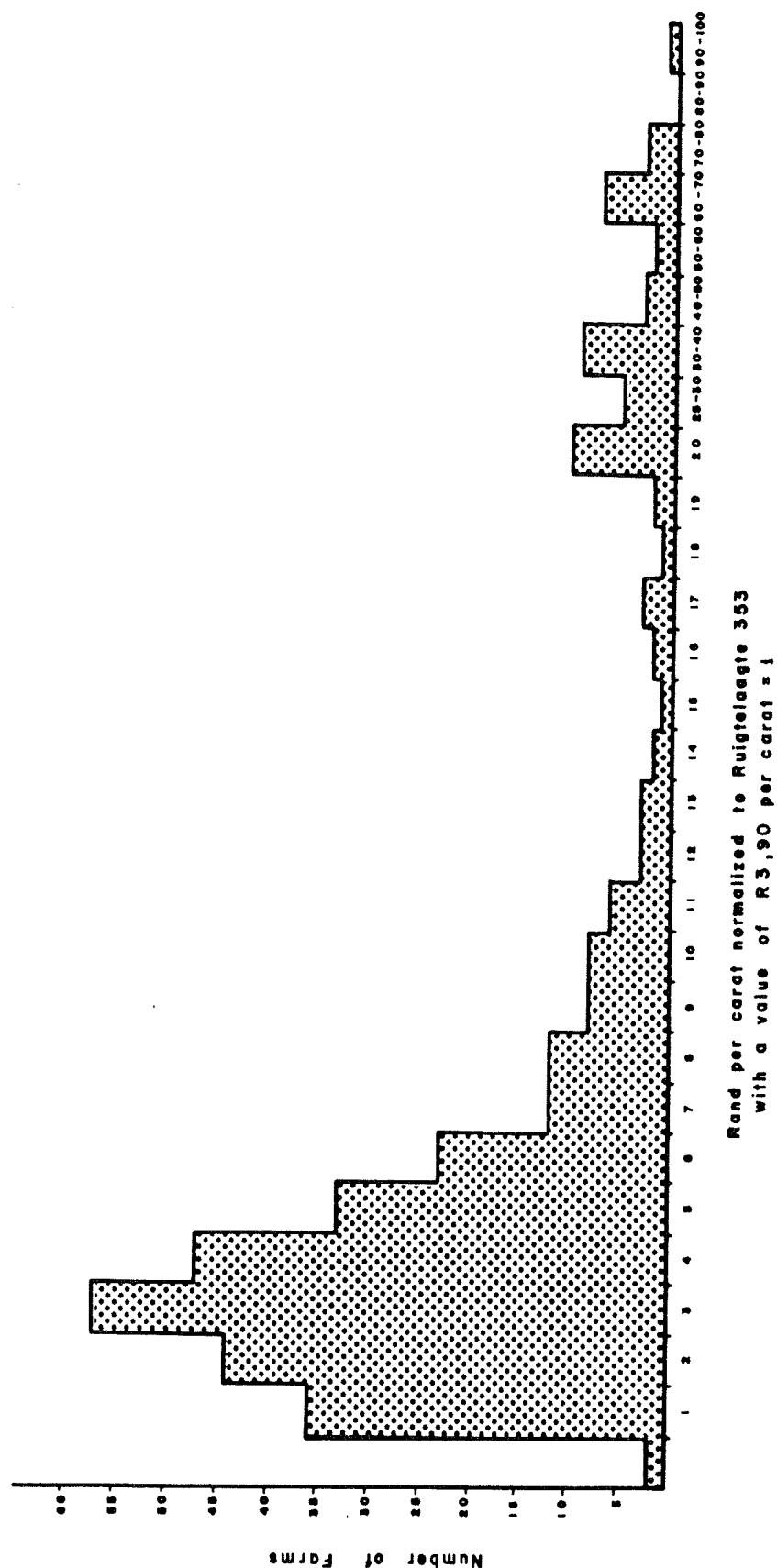


FIGURE 11. Average Rand per carat values of the total western Transvaal diamond production indicate two diamond populations, possibly as a result of two different sources or two different depositional processes.

Therefore a deposit with a value of 10 will have an average value per carat of 10 times the value of Ruigtelage 353, or R39,00 per carat.

The graph indicates that there are two populations of diamond values, one with a peak at R11,70 per carat (3 times the normalized value of R3,90 per carat) and the other peak between R78 per carat and R253,50 per carat (20 - 70 times the normalized value of R3,90 per carat). These different populations may represent different sources for the diamonds, different concentration or reworking processes of the gravel deposits, or a combination of the two. Plotting the normalized data separately for the Christiana - Bloemhof - Wolmaransstad - Schweizer-Reneke districts and the Lichtenburg - Ventersdorp districts reveals that the two populations are restricted in terms of their distribution (Figs. 12a and 12b).

Statistical analysis of the diamond values indicate fundamental differences between the populations of the two areas (Table X).

TABLE X: Statistical values for the alluvial diamond fields of the western and southwestern Transvaal.

	Lichtenburg-Ventersdorp Field	Christiana-Schweizer-Reneke -Wolmaransstad Field
Number of data points (n)	157	189
Arithmetic mean (\bar{x})	4,928	12,50
Population std. deviation (σ^n)	6,823	17,663
Sample std. deviation (σ^{n-1})	6,845	17,710
Variance (σ^2)	70,836	468,233

Further, a Kolmogorov-Smirnov test for non-parametric data indicates that the diamonds of the two fields do not belong to the same population:

$$\chi^2 = \frac{4D^2 (n_1 \cdot n_2)}{(n_1 + n_2)}$$

where $D = \max\{F_1(x_i) - F_2(x_i)\}$

and $D = 0,287$ (in the class 3,5-4,5 normalized Rand per carat value)

$$\chi^2 = 28,130 \text{ with 2 degrees of freedom.}$$

Now, $\chi^2(0,05; 2) = 5,99$, therefore H_0 is rejected at the 5 per cent level and the alternative, that the diamonds of the two fields are not of the same population, must be concluded.

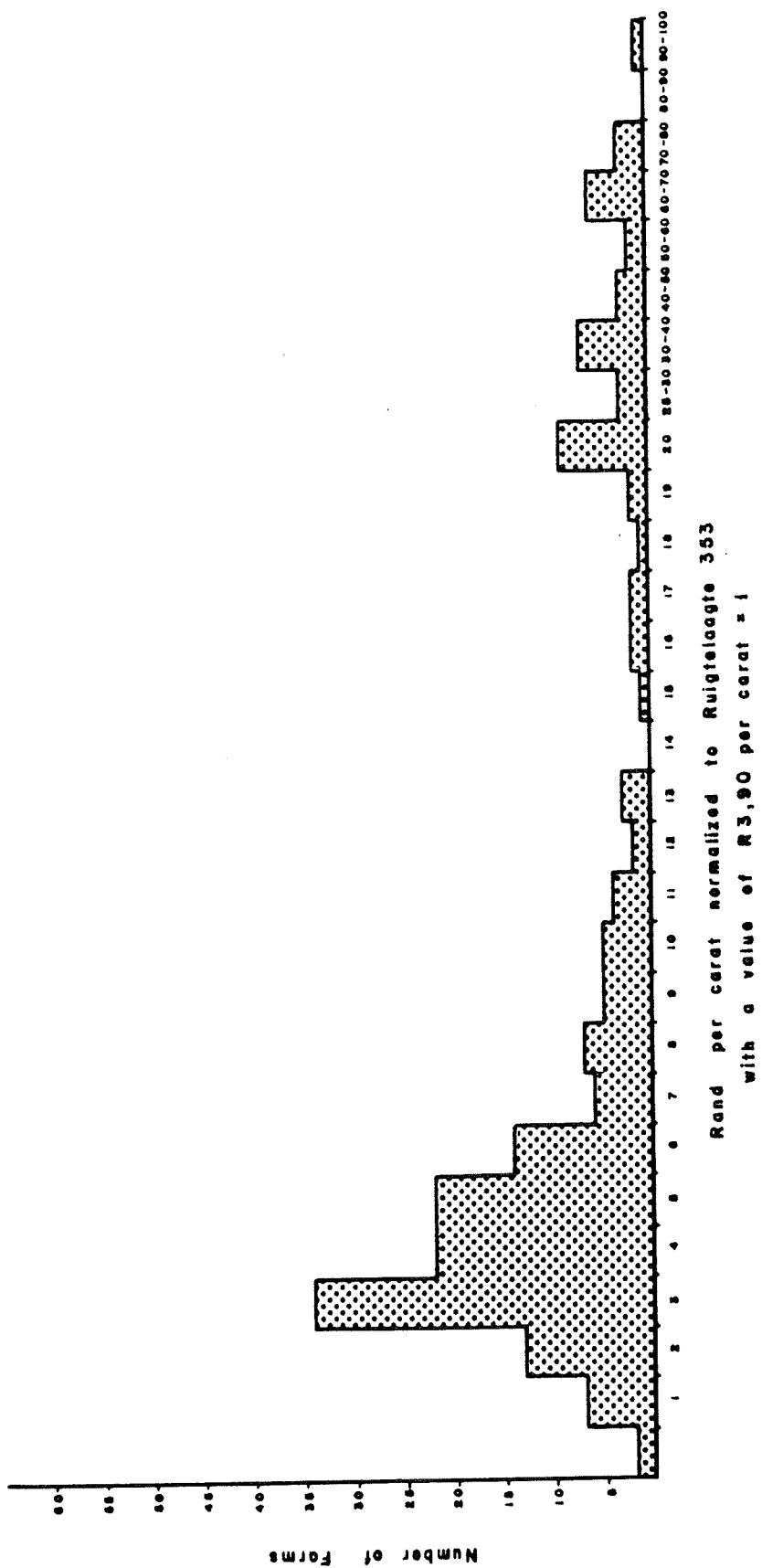


FIGURE 12a. The normalized Rand per carat values of the diamonds from the Christiana-Wolmaransstad-Schaeizer-Reneke field indicates two diamond populations.

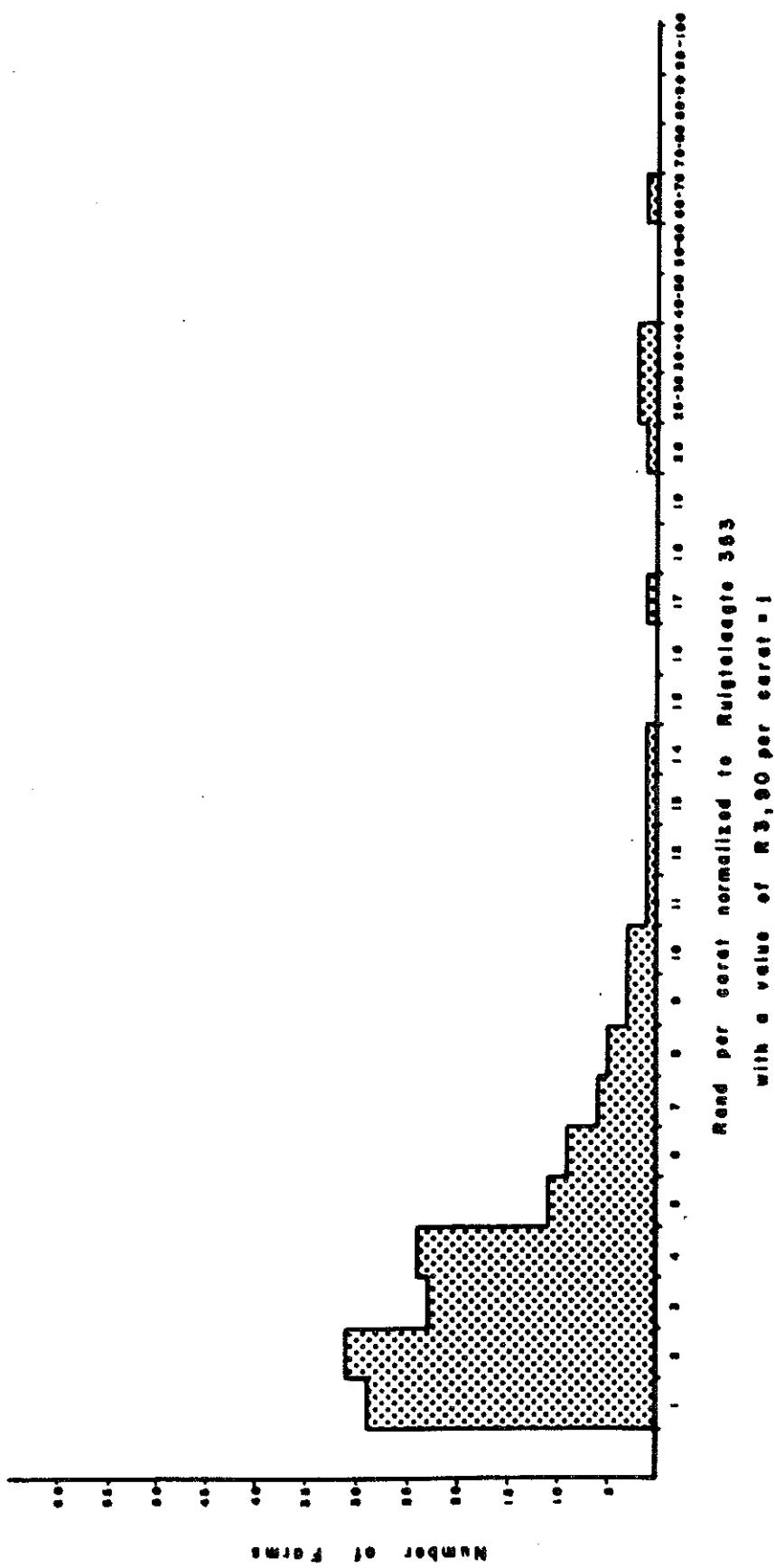


FIGURE 12b. The normalized Rand per carat values of the diamonds from the Lichtenburg-Ventersdorp field indicate that the diamonds emanate from one population. There are fewer high quality stones in this field than in the Christians area.

In summary, it can be seen that there are inequalities in both the distribution patterns and the qualities of the alluvial diamonds of the western and southwestern Transvaal. These inequalities may be due to different depositional or reworking processes or to more than one source for the diamonds. Further statistical analyses of the production data presented in this Information Circular may highlight additional differences between and within the diamond fields of the western and southwestern Transvaal.

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NOTE: The complete listings of all the diamond producing farms for the period 1904 - 1984 can be obtained on application to:

The Secretary,
Economic Geology Research Unit,
University of the Witwatersrand,
WITS 2050,
South Africa.