QUINTETTE COAL LIMITED

MARCH, 1976

SUMMARY REPORT

GEOLOGY AND RESERVES

APPENDIX A

1975 EXPLORATION DATA

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1.0 Windy Pit

1.1 Introduction

Exploration of the Windy Pit during 1975 involved detailed geological mapping, 12 diamond drill holes and 20 rotary drill holes. Drill holes were located to confirm the location of coal seams and to define the extent of oxidation in the area. Full core was obtained from diamond drill holes and only coal seams were cored in rotary drill holes. All holes were geophysically logged and all coal core was analysed. A summary of drill holes interesting each of the seams in the pit area is as follows:

D Seam - QBD 7510, QBD 7511, QBR 7540, QBR 7541, QBR 7560, QBR 7561, QBD 7102 and QBD 7205

E Seam - QBD 7510, QBD 7511, QBR 7535, QBR 7536, QBR 7537, QBR 7540, QBR 7541, QBR 7560, QBR 7561, QBR 7562, QBR 7563, QBR 7564, QBR 7565, QBD 7102, QBR 7107, QBD 7205

F Seam - QBD 7510, QBD 7511, QBD 7512, QBR 7534, QBR 7535, QBR 7536, QBR 7537, QBR 7541, QBR 7562, QBR 7563, QBR 7564, QBR 7565, QBR 7566, QBD 7102, QBR 7107, QBD 7205

G Seam - QBD 7510, QBD 7511, QBD 7512, QBR 7534, QBR 7535, QBR 7536, QBR 7537, QBR 7562, QBR 7563, QBR 7564, QBR 7565, QBR 7566, QBD 7102, QBR 7107, QBD 7205

J Seam - QBD 7501, QBD 7502, QBD 7503, QBD 7504, QBD 7505, QBD 7506, QBD 7507, QBD 7508, QBD 7509, QBD 7510, QBD 7511, QBD 7512, QBR 7532, QBR 7533, QBR 7534, QBR 7542, QBR 7566, QBR 7567, QBR 7568, QBD 7102, QBR 7107, QBR 7108, QBR 7109, QBD 7205

K Seam - QBD 7503, QBD 7504, QBD 7505, QBD 7506, QBD 7507, QBD 7508, QBD 7509, QBD 7510, QBD 7511, QBD 7512, QBR 7532, QBR 7533, QBR 7534, QBR 7542, QBR 7567, QBR 7568, QBD 7102,

In addition 13 adits were driven during 1971 and 1972 in the Windy area.

Coal thickness and seam dilution thickness were measured from the cored intersections of each seam or in the case of poor recovery (some rotary drill holes) they were measured from the detailed density geophysical logs. This information is summarized on the following pages and actual descriptions of drill logs are included in the back of this report.

Geological cross-sections were used to construct structure contour maps of the base of each seam. These maps were then divided into reserve blocks and the average structural dip was estimated for each block. From a study of F.S.I. results from core analysis, all coal with an F.S.I. of 4 1/2 or lower was considered oxidized and an oxidation boundary was placed on the structure contour maps. The oxidation boundary and reserve block boundaries were then transferred to isopach maps of coal thickness and seam dilution thickness for each seam. Planimeter measurements were then made at .3 metres isopach contour intervals of both oxidized and unoxidized portions and corrected for the structural dip assigned to the reserve block. These area calculations were carried out separately on both coal and dilution isopach maps.

A geological factor was applied to coal thickness by subtracting 30 centimetres to allow for any variation in seam thickness. After the geological factor was applied the coal thickness was then multiplied by the corrected area to obtain coal volume and converted to "geologically factored" coal reserve by using a specific gravity of 1.4. No deductions were made to dilution thickness and it was converted to tons by using a 1.9 specific gravity.

A 10% pit loss factor was applied to the "geologically factored" coal reserve to obtain "estimated mineable" coal reserve. All data from the above procedures are presented on the enclosed detailed reserve tables, the structure contour maps and coal seam isopach maps are found in the main text and dilution isopachs are located in the back of this appendix box.

A total pit volume calculation was made to provide data for strip ratio calculations which are discussed in the summary text. The volume calculation was made by averaging the area of consecutive 20 metre contours from the floor of the pit (base of K seam) to the highwall of the pit. These calculations have been included in this text and are further illustrated on the Windy pit map in the summary report (Windy Area Pit Contours BBCK 76-0654-R01).

Quality data for each of the coal seams has been included and further demonstrated on separate seam maps (1:10,000) of F.S.I., d.m.m.f. Vol., and sulphur at the end of this pit section.

WINDY PIT RESERVE CALCULATIONS

SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
D 7501	J_U	3.41	11.18	0.66	2.18	1547.8	
D 7502	J	3.30	10.83	0.79	2.58	1550.4	- GRN log shows a 0.6 foot greater section than drill report GRN used.
D 7503	J	3.39	11.12	1.27	4.17	1552.3	- GRN intervals do not match sample intervals.
	K	2.17	7.13	0.57	1,86	1535.6	
D 7504	J	3.70	12.13	0.38	1.25	1538.8	
	K	2.03	6.66	0.65	2.13	1524.0	
D 7505	J	4.28	14.04	1.40	4.58	1526.9	
	K	2.40	7.88	0.34	1.11	1511.7	
D 7506	J	4.23	13.87	1.29	4.23	1534.3	
	K	2.52	8.27	0.58	1.91	1520.8	- Possibly one foot thicker.
D 7507	J	3.72	12.20	0.73	2.40	1540.7	- Seams elevations between GRN log and drill report differ by 8 feet. (Driller's record is faulty.)
	K	2.44	8.00	0.60	1.96	1528.8	- K has a lower foot of dirty material excluded.
D 7508	J	4.49	14.73	1.87	6.12	1524.7	
	K	2.73	8.97	0.51	1.68	1512.5	

WINDY PIT RESERVE CALCULATIONS
SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
D 7509	J	4.32	14.18	1.38	4.52	1517.7	
	K	2.21	7.25	0.72	2.35	1503.5	
D 7510	D	2.38	7.8	0.24	0.8	1600.4	
	E	1.79	5.88	0.97	3.17	1581.4	
	F	2.09	6.85	0.27	0.9	1568.4	
	G	2.07	6.80	0.11	0.35	1561.0	
	J	4.31	14.14	0.70	2.31	1492.5	
	K	2.07	6.80	0.78	2.55	1479.2	
D 7511	D	2.04	6.70	0.11	0.35	1696.9	
	E	2.86	9.37	0.49	1.60	1681.7	
	F	2.53	8.30	0.00	0.00	1670.0	
	G	1.36	4.45	0.20	0.66	1647.2	
	J	4.81	15.78	1.04	3.40	1549.5	- with minor partings included.
	K	1.94	6.35	1.36	4.45	1544.5	
D 7512	F	2.57	8.42	0.50	1.63	1647.8	
	G	1.31	4.30	0.12	0.40	1632.6	
	J	3.79	12.79	0.52	1.72	1566.3	
	K	2.05	6.74	0.89	2.92	1561.7	
R 7532	J	3.87	12.70	0.85	2.78	1542.8	- Mitsui section shows J 10 feet thicker than GRN log. GRN log used.
	K	1.49	4.88	0.46	1.51	1528.8	

WINDY PIT RESERVE CALCULATIONS

SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
R 7533	J	3.96	12.99	0.55	1.80	1538.9	
	K	2.26	7.41	0.40	1.31	1526.2	- Mitsui sections show K 6 feet thicker. GRN used.
R 7534	F	2.13	7.0	0.61	2.0	1589.9	
	G	1.43	4.69	0.12	0.39	1581.5	
	J_U	4.14	13.58	1.15	3.77	1525.6	
	J_L	2.26	7.41	0.18	0.59	1517.3	
	K	2.13	6.99	0.67	2.20	1501.4	
R 7535	E	1.80	5.9	0.82	2.7	1588.9	
	F	1.92	4.5	0.49	1.0	1577.0	
	G	1.37	4.49	0.30	0.98	1567.8	
R 7536	E	2.16	7.1	1.07	3.5	1588.5	
	F	2.32	7.6	0.24	0.8	1578.7	
	G	1.13	3.71	0.15	0.49	1570.1	
R 7537	E	2.19	7.2	0.73	2.4	1576.6	
	F	1.89	6.2	0.00	0.00	1566.5	
	G	1.83	6.00	0.30	0.98	1557.7	
R 7538	D	2.80	9.2	0.37	1.2	1597.9	
R 7539	D	2.40	7.9	0.46	2.5	1602.2	

WINDY PIT RESERVE CALCULATIONS
SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
R 7540	D	2.53	8.3	0.46	1.5	1601.5	
	E	2.29	7.5	1.04	3.4	1581.5	
R 7541	D	2.50	8.2	0.49	1.6	1605.8	
	E	1.98	6.5	0.61	2.0	1585.6	
	F	2.65	8.7	0.43	1.4	1575.3	
R 7542	J	3.87	12.7	0.30	0.98	1518.7	
	K	1.95	6.40	0.61	2.00	1506.0	
R 7560	D	3.26	10.7	0.03	0.1	1678.6	
	E	2.35	7.7	0.61	2.0	1666.6	
R 7561	D	2.65	8.7	0.03	0.1	1674.1	
	E	2.41	7.9	0.64	2.1	1659.3	
R 7562	E	2.56	8.4	0.49	1.6	1702.4	
	F	2.01	6.6	0.46	1.5	1689.5	
	G	----- FAULT ZONE - NO POSITIVE THICKNESS -----					
R 7563	E	2.16	7.1	0.52	1.7	1703.4	
	F	2.01	6.6	0.00	0.00	1691.8	
	G	2.74	9.0	0.00	0.00	1666.6	

WINDY PIT RESERVE CALCULATIONS

SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
R 7564	D	2.87	9.4	0.00	0.00	1677.4	
	E	2.10	6.9	0.46	1.6	1664.4	
	F	2.04	6.69	0.00	0.00	1647.0	
	G	1.13	3.71	0.00	0.00	1634.0	
R 7565	E	1.95	6.4	0.70	2.3	1651.2	
	F	2.04	6.69	0.00	0.00	1636.9	
	G	1.13	3.71	0.00	0.00	1623.4	
F 7566	F	2.4	7.87	0.00	0.00	1630.6	
	G	1.28	4.20	0.00	0.00	1611.0	
	J	3.84	12.60	0.43	1.41	1558.5	
R 7567	J	3.99	13.09	0.43	1.41	1569.0	
	K	1.77	5.81	1.07	3.51	1563.6	
R 7568	J	3.72	12.20	0.30	0.98	1566.4	
	K	1.83	6.00	1.10	3.61	1561.3	
D 7102	D	2.65	8.69	0.30	0.98	1585.3	
	E	2.07	6.79	0.97	3.18	1568.0	
	F	2.59	8.50	0.30	0.98	1555.9	
	G	2.10	6.90	0.15	0.5	1547.9	
	J	3.35	11.00	0.67	2.2	1479.6	
	K	2.19	7.18	0.49	1.6	1467.3	

WINDY PIT RESERVE CALCULATIONS

SEAM THICKNESS AND DEPTH

D.H. No.	Seam	Coal Thickness Metric	Coal Thickness British	Dilution Thickness Metric	Dilution Thickness British	Base of Seam	Remarks
D 7107	E	2.07	6.79	0.76	2.5	1539.2	
	F	2.68	8.8	0.76	2.5	1523.4	
	G	2.22	7.28	0.70	2.3	1508.9	
	J	4.2	13.8	0.30	0.98	1443.5	
	K	2.19	7.18	0.56	1.83	1437.9	
D 7108	J	3.5	11.5	0.76	2.5	1538.8	
	K	2.35	7.70	0.73	2.4	1517.4	
D 7109	J	3.7	12.14	0.46	1.50	1520.0	
	K	1.83	6.00	0.61	2.00	1506.1	
D 7205	D_U	1.95	6.40	0.12	0.39	1705.4	
	D_L	2.50	8.20	0.30	0.98	1659.2	
	E_U	2.80	9.19	0.21	0.7	1686.6	
	E_L	2.19	7.18	0.49	1.61	1647.3	
	F	1.89	6.20	0.42	1.40	1633.2	
	G	1.28	4.20	0.00	0.00	1618.6	
	J	4.3	14.11	0.67	2.20	1553.3	
	K	1.71	5.6	1.28	4.20	1547.2	

METRIC

SEAM 9 Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL						DILUTION PLANIMETER AREA	
	B. B. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Pit Loss	Est. Mineable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Dilution Volume cu. m.	Dilution m.t.	Unoxidized	Oxidized
A			7.0	1.0076	2.40	0.20	17180	0622	0.0365	0.0766	0.1073	0.9	0.0965	0.0095	0.0180	0042	0.0025	0.0052	0.0072	0.0000	0.0000	0.0808	0.0000
			7.0	1.0076	2.55	0.40	17180	1171	0.0687	0.1545	0.2163	0.9	0.1947	0.0407	0.0772	0298	0.0175	0.0393	0.0551	0.0152	0.0288	0.1733	0.0646
			7.0	1.0076	2.70		17180	0265	0.0155	0.0373	0.0522	0.9	0.0470			0027	0.0016	0.0038	0.0053				
			7.0	1.0076	2.55		17180	0327	0.0192	0.0432	0.0604	0.9	0.0543			0115	0.0067	0.0152	0.0212				
			7.0	1.0076	2.25		17180	0177	0.0104	0.0202	0.0283	0.9	0.0255			0124	0.0073	0.0142	0.0199				
			7.0	1.0076	2.00		17180	0000	0.0000	0.0000	0.0000	0.9	0.0000			0022	0.0013	0.0023	0.0032				
B			9.2	1.0130	2.25	0.20	17180	0252	0.0149	0.0290	0.0406	0.9	0.0365	0.0052	0.0098	0000	0.0000	0.0000	0.0000	0.0066	0.0125	0.0439	0.0556
			9.2	1.0130	2.00	0.30	17180	1752	0.1033	0.1756	0.2459	0.9	0.2213	0.0123	0.0234	0605	0.0357	0.0606	0.0849	0.0030	0.0057	0.0696	0.0171
			9.2	1.0130	2.25		17180	0115	0.0068	0.0132	0.0185	0.9	0.0167			0078	0.0046	0.0090	0.0126				
			9.2	1.0130	2.55		17180	0010	0.0006	0.0013	0.0019	0.9	0.0017			0028	0.0017	0.0037	0.0052				
			9.2	1.0130	2.70		17180	0000	0.0000	0.0000	0.0000	0.9	0.0000			0030	0.0018	0.0042	0.0059				
C			7.4	1.0083	3.10	0.00	17180	0096	0.0056	0.0158	0.0221	0.9	0.0199	0.0000	0.0000	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
			7.4	1.0083	2.85		17180	0544	0.0319	0.0814	0.1140	0.9	0.1026			0141	0.0083	0.0211	0.0295				
			7.4	1.0083	2.55		17180	0237	0.0139	0.0313	0.0438	0.9	0.0394			0110	0.0065	0.0145	0.0203				
			7.4	1.0083	2.70		17180	0104	0.0061	0.0146	0.0205	0.9	0.0185			0030	0.0018	0.0042	0.0059				
			7.4	1.0083	2.25		17180	0225	0.0132	0.0258	0.0361	0.9	0.0324			0093	0.0055	0.0106	0.0149				
			7.4	1.0083	2.00		17180	0058	0.0034	0.0058	0.0081	0.9	0.0073			0074	0.0043	0.0074	0.0103				
									TOTALS:	0.7256	1 0160		0.9143	0.0677	0.1284			0.2153	0.3014	0.0248	0.0470		

METRIC

SEAM E Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION N. D. m.	V. D. m.	Dip°	Sec.	Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	[illegible] Coal Reserve [illegible] m.t.	Pit [illegible]	[illegible] Mineable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	OXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	[illegible] Coal Reserve [illegible] m.t.	Dilution Volume cu. m.	Dilution m.t.	DILUTION PLANIMETER AREA Unoxidized	Oxidized
A			6.2	1.0060	2.20	0.80	17180	0470	0.0275	0.0523	0.0732	0.9	0.0659	0.0019	0.0036	0215	0.0126	0.0239	0.0335	0.0059	0.0113	0.0040	0.0127
			6.2	1.0060	1.95	1.00	17180	[illegible]	0.2080	0.3300	0.4621	0.9	0.4159	0.0218	0.0414	0385	0.0225	0.0372	0.0521	0.0129	0.0245	0.0372	0.0220
			6.2	1.0060	1.80	0.75	17180	0418	0.0246	0.0367	0.0514	0.9	0.0463	0.1439	0.2758	0076	0.0044	0.0067	0.0093	0.0135	0.0257	0.3305	0.0308
			6.2	1.0060		0.90	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0299	0.0568	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0567	0.0000
B			11.6	1.0207	2.00	0.65	17180	0736	0.0437	0.0743	0.1041	0.9	0.0937	0.0348	0.0662	0156	0.0093	0.0158	0.0220	0.0110	0.0210	0.0902	0.0286
			11.6	1.0207	2.25	0.60	17180	0276	[illegible]	0.0319	0.0448	0.9	0.0403	0.0036	0.0068	[illegible]	0.0201	0.0393	0.0550	0.0000	0.0000	0.0100	0.0000
			11.6	1.0207	2.55	0.50	17180	[illegible]	0.0364	0.0797	0.1115	0.9	0.1004	0.0200	0.0379	0630	0.0367	0.0826	0.1156	0.0261	0.0496	0.0672	0.0878
			11.6	1.0207	2.80	0.60	17180	0296	0.0175	0.0438	0.0613	0.9	0.0552	0.0038	0.0073	0000	0.0026	0.0065	0.0091	0.0008	0.0010	0.0108	0.0015
C			11.0	1.0108	2.55	0.60	17180	0550	0.0324	0.0728	0.1019	0.9	0.0917	0.0081	0.0155	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0231	0.0000
			11.0	1.0108	2.25	0.50	17180	0814	0.0479	0.0934	0.1307	0.9	0.1177	0.0339	0.0645	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1154	0.0000
			11.0	1.0108	2.00	0.70	17180	0160	0.0094	0.0160	0.0224	0.9	0.0202	0.0066	0.0125	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0160	0.0000
D			11.7	1.0238	2.15	0.70	17180	0227	0.0135	[illegible]	0.0350	0.9	0.0314	0.0084	0.0160	0000	0.0000	0.0000	0.0000	0.0050	0.0095	0.0202	0.0120
			11.7	1.0213	2.00	0.50	17180	0654	0.0389	0.0661	0.0925	0.9	0.0833	0.0197	0.0374	0288	0.0136	0.0230	0.0322	0.0031	0.0059	0.0662	0.0108
									[illegible]:	[illegible]	1.2909		1.1620	0.3376	0.6417			0.2350	0.3288	0.0780	0.1485		

METRIC

SEAM F Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL						DILUTION PLANIMETER AREA	
	N. S. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Pit Loss	Rec. Mineable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Dilution Volume cu. m.	Dilution m.t.	Unoxidized	Oxidized
A			5.8	1.0052	2.25	0.05	17180	1024	0.0599	0.1168	0.1636	0.9	0.1472	0.0000	0.0000	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0042
			5.8	1.0052	2.55	0.40	17180	0484	0.0283	0.0637	0.0892	0.9	0.0803	0.0308	0.0586	0000	0.0000	0.0000	0.0000	0.0052	0.0098	0.1317	0.0420
			5.8	1.0052	2.00	0.35	17180	1113	0.0651	0.1107	0.1550	0.9	0.1395	0.0172	0.0327	0604	0.0353	0.0601	0.0841	0.0000	0.0000	0.0840	0.0025
			5.8	1.0052		0.25	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0064	0.0122	0000	0.0000	0.0000	0.0000	0.0001	0.0003	0.0439	0.0100
B			8.4	1.0109	2.00	0.25	17180	0952	0.0560	0.0952	0.1333	0.9	0.1200	0.0153	0.0291	0166	0.0098	0.0166	0.0232	0.0094	0.0178	0.1042	0.0638
			8.4	1.0109	2.15	0.40	17180	0941	0.0554	0.1024	0.1434	0.9	0.1291	0.0000	0.0000	0319	0.0188	0.0347	0.0486	0.0012	0.0023	0.0000	0.0052
			8.4	1.0109	2.55	0.55	17180	1446	0.0851	0.1914	0.2680	0.9	0.2412	0.0669	0.1271	0411	0.0242	0.0544	0.0762	0.0145	0.0275	0.2067	0.0447
			8.4	1.0109	2.25	0.70	17180	0127	0.0075	0.0146	0.0204	0.9	0.0184	0.0077	0.0146	0445	0.0262	0.0512	0.0715	0.0119	0.0227	0.0186	0.0290
			8.4	1.0109	2.05	0.05	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0000	0.0000	0220	0.0129	0.0227	0.0317	0.0004	0.0008	0.0214	0.0143
C			8.7	1.0115	2.40	0.40	17180	0092	0.0054	0.0114	0.0159	0.9	0.0143	0.0000	0.0000	0000	0.0000	0.0000	0.0000	0.0002	0.0004	0.0000	0.0082
			8.7	1.0115	2.25	0.25	17180	0604	0.0356	0.0693	0.0971	0.9	0.0874	0.0159	0.0301	0486	0.0292	0.0569	0.0797	0.0091	0.0173	0.1078	0.0620
			8.7	1.0115	1.95	0.05	17180	1065	0.0627	0.1035	0.1448	0.9	0.1304	0.0002	0.0004	0423	0.0249	0.0411	0.0575	0.0006	0.0012	0.0695	0.0208
D			11.3	1.0198	2.40	0.05	17180	0064	0.0038	0.0080	0.0112	0.9	0.0101	0.0000	0.0000	0078	0.0046	0.0097	0.0136	0.0002	0.0004	0.0052	0.0065
									TOTALS:	0.8870	1.2419		1.1179	0.1604	0.3048			0.3474	0.4861	0.0528	0.1005		

METRIC

SEAM 6 Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL							OXIDIZED COAL						DILUTION PLANIMETER AREA	
	N. D. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Pit Loss	Est. Minable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Dilution Volume cu. m.	Dilution m.t.	Unoxidized	Oxidized
A			7.8	1.0092	1.80	0.05	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0018	0.0034	0150	0.0088	0.0132	0.0185	0.0002	0.0003	0.0605	0.0062
			7.8	1.0092	1.65	0.25	17180	0589	0.0346	0.0467	0.0654	0.9	0.0589	0.0259	0.0492	0325	0.0191	0.0258	0.0361	0.0129	0.0245	0.1762	0.0879
			7.8	1.0092	1.35	0.40	17180	0611	0.0359	0.0377	0.0528	0.9	0.0475	0.0003	0.0005	0543	0.0319	0.0335	0.0469	0.0010	0.0020	0.0011	0.0044
			7.8	1.0092	1.90		17180	1103	0.0648	0.1037	0.1451	0.9	0.1306			0029	0.0017	0.0027	0.0038				
B			9.4	1.0138	1.70	0.30	17180	0356	0.0210	0.0294	0.0411	0.9	0.0368	0.0198	0.0376	0213	0.0219	0.0307	0.0429	0.0000	0.0000	0.1118	0.0000
			9.4	1.0138	1.95	0.45	17180	1478	0.0872	0.1439	0.2015	0.9	0.1813	0.0451	0.0858	0575	0.0339	0.0560	0.0784	0.0071	0.0135	0.1700	0.0268
			9.4	1.0138	2.20	0.25	17180	.723	0.1017	0.1932	0.2705	0.9	0.2434	0.0347	0.0660	0360	0.0212	0.0404	0.0565	0.0224	0.0426	0.2355	0.1521
			9.4	1.0138	1.75	0.05	17180	0490	0.0289	0.0419	0.0587	0.9	0.0528	0.0012	0.0023	0020	0.0012	0.0029	0.0041	0.0008	0.0016	0.0416	0.0283
			9.4	1.0138	2.55		17180	0096	0.0057	0.0127	0.0178	0.9	0.0161			0015	0.0009	0.0020	0.0028				
			9.4	1.0138	1.40		17180	0370	0.0218	0.0240	0.0336	0.9	0.0303			0000	0.0000	0.0000	0.0000				
C			11.4	1.0200	1.20	0.15	17180	0345	0.0205	0.0184	0.0258	0.9	0.0232	0.0031	0.0058	0348	0.0207	0.0186	0.0260	0.0002	0.0004	0.0343	0.0022
			11.4	1.0200	1.35	0.05	17180	0847	0.0503	0.0528	0.0739	0.9	0.0665	0.0058	0.0111	0683	0.0406	0.0426	0.0596	0.0032	0.0060	0.1960	0.1069
			11.4	1.0200	1.65		17180	0428	0.0254	0.0343	0.0480	0.9	0.0432			0077	0.0046	0.0062	C.0086				
			11.4	1.0200	1.95		17180	0336	0.0199	0.0329	0.0461	0.9	0.0415			0000	0.0000	0.0000	0.0000				
			11.4	1.0200	2.25		17180	0222	0.0132	0.0257	0.0360	0.9	0.0324			0000	0.0000	0.0000	0.0000				
			11.4	1.0200	2.55		17180	0111	0.0066	0.0148	0.0208	0.9	0.0187			0000	0.0000	0.0000	0.0000				
D			14.0	1.0308	1.30		17180	0277	0.0166	0.0166	0.0233	0.9	0.0209	0.0000	0.0000	0127	0.0076	0.0076	0.0107	0.0000	0.0000		
									TOTALS:	0.8287	1.1602		1.0441	0.1377	0.2617			0.2822	0.3949	0.0478	0.0909		

METRIC

SEAM J Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL							OXICIZED COAL						DILUTION PLANIMETER AREA	
	N. D. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Pit Loss	Ext. Minable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored / Coal Reserve (-30cm) m.t.	Dilution Volume cu. m.	Dilution m.t.	Unoxidized	Oxidized
A			8.6	1.0114	3.40	0.50	17180	0674	0.0397	0.1230	0.1722	0.9	0.1550	0.0042	0.0078	0613	0.0361	0.1119	0.1566	0.0153	0.0291	0.0143	0.0521
			8.6	1.0114	3.55	0.65	17180	0508	0.0299	0.0972	0.1361	0.9	0.1225	0.0637	0.1211	0179	0.0105	0.0342	0.0479	0.0194	0.0368	0.1665	0.0506
			8.6	1.0114	3.85	0.95	17180	4560	0.2685	0.9530	1.3340	0.9	1.2006	0.0940	0.1786	0466	0.0274	0.0974	0.1363	0.0119	0.0225	0.1681	0.0212
			8.6	1.0114	4.05	0.45	17180	0131	0.0077	0.0289	0.0405	0.9	0.0364	0.0015	0.0028	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0056	0.0000
			8.6	1.0114	3.65	1.25	17180	0702	0.0413	0.1384	0.1938	0.9	0.1744	0.0677	0.1286	0020	0.0018	0.0039	0.0055	0.0056	0.0106	0.0920	0.0076
			8.6	1.0114		0.95	17180							0.0197	0.0375					0.0030	0.0056	0.0353	0.0053
			8.6	1.0114	4.15	1.55	17180	0242	0.0142	0.0548	0.0768	0.9	0.0691	0.1101	0.2091	0000	0.0000	0.0000	0.0000	0.0115	0.0220	0.1207	0.0127
			8.6	1.0114	3.70	1.75	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0120	0.0227	0056	0.0033	0.0112	0.0157	0.0064	0.0121	0.0116	0.0062
			8.6	1.0114		1.25	17180							0.0258	0.0491					0.0031	0.0059	0.0351	0.0042
B			9.9	1.0157	4.30	0.65	17180	0119	0.0074	0.0281	0.0394	0.9	0.0255	0.0093	0.0177	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0243	0.0000
			9.9	1.0157	4.15	0.38	17180	2046	0.1210	0.4657	0.6520	0.9	0.5868	0.0080	0.0152	0095	0.0056	0.0216	0.0303	0.0036	0.0068	0.0386	0.0172
			9.9	1.0157	3.85	0.20	17180	1572	0.0929	0.3299	0.4619	0.9	0.4157	0.0022	0.0042	0406	0.0240	0.0852	0.1193	0.0011	0.0022	0.0186	0.0096
			9.9	1.0157		0.85	17180							0.0155	0.0295					0.0000	0.0000	0.0309	0.0000
			9.9	1.0157		0.35	17180							0.0388	0.0738					0.0030	0.0057	0.1877	0.0145
C			3.6	1.0020	4.30	0.90	17180	0075	0.0044	0.0175	0.0245	0.9	0.0220	0.0323	0.0614	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0616	0.0000
			3.6	1.0020	4.15	0.65	17180	1066	0.0622	0.2394	0.3351	0.9	0.3016	0.1040	0.1975	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2743	0.0000
			3.6	1.0020	3.90	0.40	17180	2423	0.1413	0.5087	0.7122	0.9	0.6410	0.0045	0.0086	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0194	0.0000
D			12.0	1.0225	3.90	0.50	17180	1480	0.0881	0.3171	0.4439	0.9	0.3951	0.0445	0.0846	0219	0.0130	0.0469	0.0656	0.0069	0.0132	0.1495	0.0232
									TOTALS:	3.3017	4.6224		4.1602	0.6578	1.2498			0.4123	0.5772	0.0908	0.1725		

METRIC

SEAM K Strip Reserves

Property: Quintette
Area: Babcock
Pit: Windy

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL							OXIDIZED COAL						DILUTION PLANIMETER AREA	
	M. D. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Pit Loss	Est. Mineable Coal m.t.	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm) m.t.	Dilution Volume cu. m.	Dilution m.t.	Unoxidized	Oxidized
A			4.6	1.0033	1.90	0.30	17180	0894	0.0522	0.0835	0.1169	0.9	0.1052	0.0000	0.0000	0602	0.0352	0.0562	0.0788	0.0023	0.0044	0.0000	0.0133
			4.6	1.0033	2.05	0.45	17180	0256	0.0149	0.0262	0.0366	0.9	0.0330	0.0172	0.0326	0000	0.0000	0.0000	0.0000	0.0129	0.0246	0.0654	0.0492
			4.6	1.0033		0.70	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0210	0.0399	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0514	0.0000
B			7.7	1.0090	1.90	0.70	17180	0110	0.0065	0.0103	0.0145	0.9	0.0130	0.1106	0.2101	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3960	0.0000
			7.7	1.0090	2.05	0.55	17180	3833	0.2251	0.3940	0.5515	0.9	0.4964	0.0931	0.1768	0000	0.0000	0.0000	0.0000	0.0114	0.0217	0.2881	0.0354
			7.7	1.0090	2.35		17180	2398	0.1408	0.2887	0.4042	0.9	0.3638	0.0000	0.0000	0096	0.0056	0.0115	0.0161	0.0000	0.0000	0.0000	0.0000
			7.7	1.0090	2.65		17180	0460	0.0270	0.0635	0.0889	0.9	0.0800	0.0000	0.0000	0265	0.0156	0.0366	0.0512	0.0000	0.0000	0.0000	0.0000
C			8.7	1.0016	2.05	1.05	17180	2288	0.1334	0.2334	0.3268	0.9	0.2941	0.0578	0.1099	0302	0.0176	0.0308	0.0431	0.0089	0.0169	0.0945	0.0145
			8.7	1.0016	2.35	1.30	17180	0250	0.0146	0.0299	0.0418	0.9	0.0376	0.0000	0.0000	0170	0.0099	0.0203	0.0284	0.0000	0.0000	0.0000	0.0000
			8.7	1.0016	1.85	0.75	17180	0232	0.0135	0.0210	0.0294	0.9	0.0264	0.0302	0.0573	0128	0.0075	0.0116	0.0162	0.0064	0.0121	0.0690	0.0146
			8.7	1.0016		0.56	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0693	0.1317	0000	0.0000	0.0000	0.0000	0.0075	0.0142	0.2162	0.0233
			8.7	1.0016		0.40	17180	0000	0.0000	0.0000	0.0009	0.9	0.0000	0.0018	0.0035	0000	0.0000	0.0000	0.0000	0.0044	0.0094	0.0035	0.0084
D			4.3	1.0028	1.85	1.05	17180	0304	0.0177	0.0275	0.0385	0.9	0.0347	0.0673	0.1279	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1098	0.0000
			4.3	1.0028	2.00	1.30	17180	3245	0.1894	0.3220	0.4508	0.9	0.4057	0.1859	0.3532	0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2450	0.0000
E			12.3	1.0234	1.85	0.90	17180	0355	0.0211	0.0328	0.0459	0.9	0.0413	0.0087	0.0166	0461	0.0275	0.0426	0.0596	0.0038	0.0071	0.0163	0.0070
			12.3	1.0234	2.00	1.05	17180	0947	0.0564	0.0959	0.1343	0.9	0.1208	0.0694	0.1319	0000	0.0000	0.0000	0.0000	0.0238	0.0453	0.1110	0.0380
			12.3	1.0234		1.20	17180	0000	0.0000	0.0000	0.0000	0.9	0.0000	0.0023	0.0043	0000	0.0000	0.0000	0.0000	0.0026	0.0049	0.0032	0.0036
									TOTALS:	1.6287	2.2801		2.0520	0.7346	1.3957			0.2096	0.2934	0.0840	0.1596		

QUINTETTE - WINDY PIT TOTAL PIT VOLUME

Elevation	Area 1	Area 2	Area 3	Total	$\frac{A + B'}{2}$
					0,012
1470 m.	0,023	-	-	0,023	
					0,850
1490 m.	1,598	0,080	-	1,678	
					3,691
1510 m.	4,704	1,000	-	5,704	
					7,105
1530 m.	5,386	2,520	0,599	8,505	
					9,297
1550 m.	5,272	3,104	1,712	10,086	
					11,233
1570 m.	5,541	3,704	3,132	12,377	
					11,762
1590 m.	3,929	3,549	3,670	11,148	
					10,672
1610 m.	2,502	2,935	9,759	10,196	
					9,262
1630 m.	1,684	2,236	4,408	8,328	
					7,466
1650 m.	1,247	1,572	3,784	6,603	
					5,718
1670 m.	0,852	1,156	2,824	4,832	
					4,136
1690 m.	0,486	0,590	2,365	3,441	
					2,349
1710 m.	0,074	0,169	1,014	1,257	
					0,726
1730 m.	-	-	0,196	0,196	
					0,098
	33,298	22,615	28,462	84,376	84,377

PLANIMETER FUNCTION

$17,180 = 1 \times 10^6 \text{ m}^2$

TOTAL PIT VOLUME

$= \frac{84,377}{17,180} \times 20$

$= 98.23 \times 10^6 \text{ m}^3$

PIT PRODUCT COAL QUALITY - WINDY PIT

Proximate Analysis of Product (Theoretical Clean Coal)

Seam/ Drill Hole	Ash %	Vol %	d.m.m.f. Vol %	R.M. %	S. %	F.S.I.	Theor'l Yield	Sp. Gr.	Depth to Base of Seam	Core Recovery %
D (1975):										
QBD 7510	7.69	26.37	28.18	0.88	0.67	6.5	72.45	1.55	178 ft.	93.0
QBD 7511	6.85	26.59	28.05	0.50	0.82	6.5	74.26	1.80	33 ft.	78.7
QBR 7538	7.06	22.29	23.53	0.68	0.53	7.0	65.80	1.54	80 ft.	87.7
QBR 7540	7.65	24.53	26.10	0.61	0.52	5.5	66.70	1.60	40 ft.	98.6
QBR 7541	7.12	25.41	26.93	0.56	0.49	5.5	64.62	1.52	39 ft.	94.6
QBR 7560	7.30	24.95	26.51	0.68	0.49	5.0	71.75	1.57	80 ft.	83.0
QBR 7561	7.07	27.12	28.68	0.51	0.86	5.0	85.67	1.70	117 ft.	95.4
QBR 7564	7.10	25.40	26.92	0.58	0.50	6.0	83.26	1.65	27 ft.	95.7
Avg.	7.23	25.33	26.86	0.63	0.61	5.0 - 7.0	73.06	1.62		90.84
E (1975):										
QBD 7510	7.54	24.14	25.77	0.96	0.41	7.5	47.69	1.55	239 ft.	96.7
QBD 7511	7.95	25.23	26.94	0.53	0.43	7.5	55.44	1.49	83 ft.	76.6
QBR 7535	7.80	25.79	27.44	0.31	0.48	7.5	49.04	1.51	39 ft.	87.3
QBR 7536	7.97	24.19	25.78	0.53	0.48	8.0	45.60	1.50	61 ft.	90.5
QBR 7537	8.02	23.93	25.55	0.66	0.43	8.0	50.17	1.53	63 ft.	97.3
QBR 7540	8.50	22.85	24.41	0.60	0.54	8.0	47.44	1.53	110 ft.	97.0
QBR 7541	7.65	25.07	26.66	0.46	0.47	8.0	53.27	1.53	107 ft.	90.1
QBR 7560	8.46	24.88	26.72	0.66	0.38	7.5	53.04	1.52	119 ft.	83.6
QBR 7561	7.65	26.13	27.86	0.50	0.41	7.0	58.38	1.58	170 ft.	93.3
QBR 7564	7.49	25.15	26.73	0.48	0.43	7.0	60.49	1.56	69 ft.	97.3
QBR 7565	7.38	24.60	26.08	0.42	0.44	7.0	59.22	1.55	35 ft.	83.7
Avg.	7.86	24.72	26.36	0.56	0.45	7.0 - 8.0	52.70	1.53		90.30

PIT PRODUCT COAL QUALITY - WINDY PIT

Proximate Analysis of Product (Theoretical Clean Coal)

Seam/ Drill Hole	Ash %	Vol %	d.m.m.f. Vol %	R.M. %	S. %	F.S.I.	Theor'l Yield	Sp. Gr.	Depth to Base of Seam	Core Recovery %
F (1975):										
QBD 7510	8.10	24.55	26.20	0.43	0.40	7.0	56.23	1.80	282 ft.	99.0
QBD 7511	6.12	25.08	26.36	0.63	0.53	6.5	100.00	-	121 ft.	69.4
QBD 7512	6.86	23.09	24.33	0.42	0.41	7.5	76.82	1.80	94 ft.	79.0
QBR 7534	6.99	24.32	25.69	0.44	0.45	7.0	75.06	1.80	25 ft.	93.9
QBR 7535	7.05	24.05	25.40	0.38	0.42	6.5	64.56	1.88	79 ft.	74.6
QBR 7536	7.02	23.74	25.11	0.55	0.42	7.0	60.05	1.70	93 ft.	83.8
QBR 7537	7.06	23.85	25.24	0.49	0.33	7.0	75.47	1.71	95 ft.	97.0
QBR 7541	7.12	24.46	25.91	0.48	0.35	7.0	75.97	1.75	141 ft.	94.3
QBR 7564	4.69	25.12	26.11	0.55	0.38	7.5	100.00	-	126 ft.	87.0
QBR 7566	5.98	26.75	28.11	0.41	0.36	7.5	97.82	-	33 ft.	77.6
Avg.	6.70	24.50	25.85	0.48	0.41	6.5 - 7.5	78.20	1.77		85.56
G (1975):										
QBD 7510	7.84	23.58	25.06	0.51	0.52	7.5	61.98	1.43	307 ft.	89.0
QBR 7534	7.05	23.88	25.18	0.30	0.47	7.0	65.98	1.46	50 ft.	76.3
QBR 7537	7.49	22.80	24.14	0.49	0.46	8.0	59.88	1.44	127 ft.	89.6
Avg.	7.46	23.42	24.79	0.43	0.48	7.0 - 8.0	62.61	1.44		84.97
J (1975):										
QBD 7504	7.43	22.33	23.64	0.39	0.29	6.0	67.21	1.48	143 ft.	94.4
QBD 7508	7.26	21.13	22.39	0.87	0.39	7.0	63.48	1.50	100 ft.	94.7
QBD 7509	7.30	21.68	23.00	0.81	0.33	6.5	78.16	1.53	211 ft.	99.5
QBD 7511	7.07	22.03	23.26	0.42	0.26	6.5	73.94	1.53	518 ft.	90.8
QBD 7512	7.03	22.90	24.18	0.35	0.27	6.5	70.81	1.50	362 ft.	90.6
QBR 7542	7.32	19.92	21.02	0.60	0.33	7.0	59.33	1.50	192 ft.	98.1
QBR 7567	7.59	21.96	23.30	0.55	0.32	7.0	65.72	1.58	87 ft.	92.6
Avg.	7.29	21.71	22.97	0.57	0.31	6.0 - 7.0	68.38	1.51		94.39

PIT PRODUCT COAL QUALITY - WINDY PIT

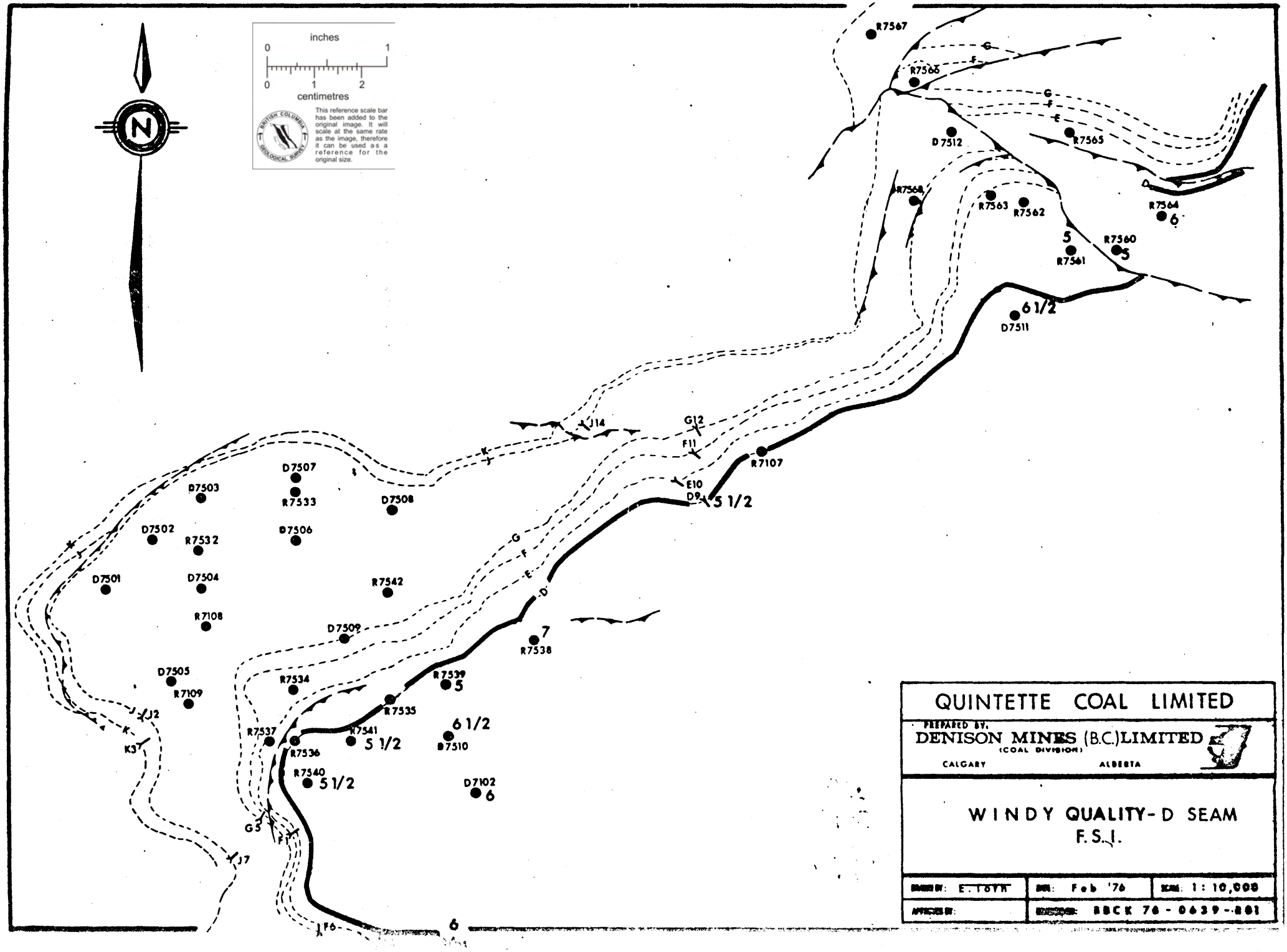
Proximate Analysis of Product (Theoretical Clean Coal)

Seam/ Drill Hole	Ash %	Vol %	d.m.m.f. Vol %	R.M. %	S. %	F.S.I.	Theor'l Yield	Sp. Gr.	Depth to Base of Seam	Core Recovery %
K (1975):										
QBD 7504	7.45	21.46	22.74	0.73	0.42	6.0	81.09	1.80	191 ft.	80.5
QBD 7506	7.13	19.85	20.85	0.61	0.54	6.0	80.96	1.60	174 ft.	91.8
QBD 7507	7.25	20.93	22.06	0.59	0.52	5.0	74.11	1.60	146 ft.	99.5
QBD 7508	7.06	19.68	20.76	1.03	0.51	6.5	91.21	1.60	140 ft.	91.6
QBD 7509	7.20	21.09	22.28	0.75	0.46	8.0	83.87	1.80	259 ft.	91.5
QBD 7510	6.77	22.04	23.16	0.49	0.52	7.5	88.49	1.60	577 ft.	92.0
QBD 7511	7.17	22.26	23.47	0.41	0.46	8.5	73.39	1.45	534 ft.	85.2
QBD 7512	7.17	22.43	23.65	0.36	0.44	8.0	75.85	1.54	377 ft.	86.6
QBR 7533	7.44	21.72	22.89	0.31	0.51	8.0	63.23	1.60	163 ft.	94.6
QBR 7542	7.51	22.36	23.65	0.41	0.43	7.5	74.67	1.65	233 ft.	94.6
Avg.	7.22	21.38	22.55	0.57	0.48	5.0 - 8.5	78.69	1.62		90.79
D (Pre-1975):										
QBD 7102	7.40	25.07	26.59	0.45	0.52	6.0	68.00	1.55	368 ft.	
QBD 7205 C										
(a)	6.94	26.56	27.96	0.84	1.51	7.0	83.80	1.70	232 ft.	
(b)	8.27	26.36	28.12	0.83	1.31	5.5	68.00	1.56	377 ft.	
Adit D-4	7.47	25.59	27.24	0.64	0.48	6.0	84.75	1.60	-	
Adit D-9	6.13	25.54	26.70	0.92	1.43	5.5	79.71	1.60	-	
Avg.	7.24	25.82	27.32	0.74	1.05	5.5 - 7.0	76.85	1.60		
E (Pre-1975):										
QBD 7102	7.91	23.89	25.49	0.45	0.22	7.5	57.00	1.53	425 ft.	
QBD 7205 C	7.15	24.31	26.00	1.27	0.29	7.0	74.00	1.80	412 ft.	
Adit E-10	7.63	23.90	25.47	0.90	0.55	6.5	56.05	1.60	-	
Avg.	7.56	24.03	25.65	0.87	0.35	6.5 - 7.5	62.35	1.64		

PIT PRODUCT COAL QUALITY - WINDY PIT

Proximate Analysis of Product (Theoretical Clean Coal)

Seam/ Drill Hole	Ash %	Vol %	d.m.m.f. Vol %	R.M. %	S. %	F.S.I.	Theor'l Yield	Sp. Gr.	Depth to Base of Seam	Core Recovery %
F (Pre-1975):										
QBD 7102	7.30	23.87	25.31	0.41	0.27	8.5	67.50	1.73	463 ft.	
QBR 7107	7.00	24.00	25.47	0.70	0.28	8.5	88.00	2.06	105 ft.	
QDD 7204 C	6.83	24.12	25.73	1.26	0.22	7.0	73.50	1.91	462 ft.	
Adit F-1	5.42	23.83	24.93	0.71	0.37	7.0	82.16	1.60	-	
Adit F-6	5.34	23.79	24.90	0.86	0.41	8.0	68.98	1.60	-	
Adit F-11	5.04	23.52	24.59	1.12	0.53	8.0	77.55	1.60	-	
Avg.	6.12	23.86	25.16	0.84	0.35	7.0 - 8.5	76.28	1.75		
G (Pre-1975):										
QBD 7102	8.19	23.72	25.32	0.45	0.36	8.0	6.300	1.44	491 ft.	
QBD 7205 C	9.83	24.39	26.65	1.27	0.45	7.5	42.00	1.43	510 ft.	
Adit G-5	9.11	22.76	24.47	0.75	0.57	5.0	85.35	1.60	-	
Adit G-12	11.68	20.52	22.43	0.87	0.63	6.0	78.87	1.60	-	
Avg.	9.70	22.85	24.72	0.84	0.50	5.0 - 8.0	67.31	1.51		
J (pre-1975):										
QBD 7102	9.40	23.46	25.33	0.41	0.22	8.5	61.00	1.43	714 ft.	
QBR 7107	7.00	22.78	24.19	0.82	0.20	8.5	71.00	1.54	366 ft.	
QBR 7108	7.00	22.00	23.27	0.62	0.25	6.0	50.00	1.46	143 ft.	
QBD 7205 C	7.86	21.98	23.58	1.20	0.19	6.0	62.00	1.52	724 ft.	
Adit J-14	7.43	21.66	23.04	1.01	0.38	8.0	89.65	1.60	-	
Avg.	7.74	22.38	23.88	0.81	0.25	6.0 - 8.5	66.73	1.51		



QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

WINDY QUALITY - D SEAM
F.S.I.

DRAWN BY: E. TOTH	DATE: Feb '76	SCALE: 1 : 10,000
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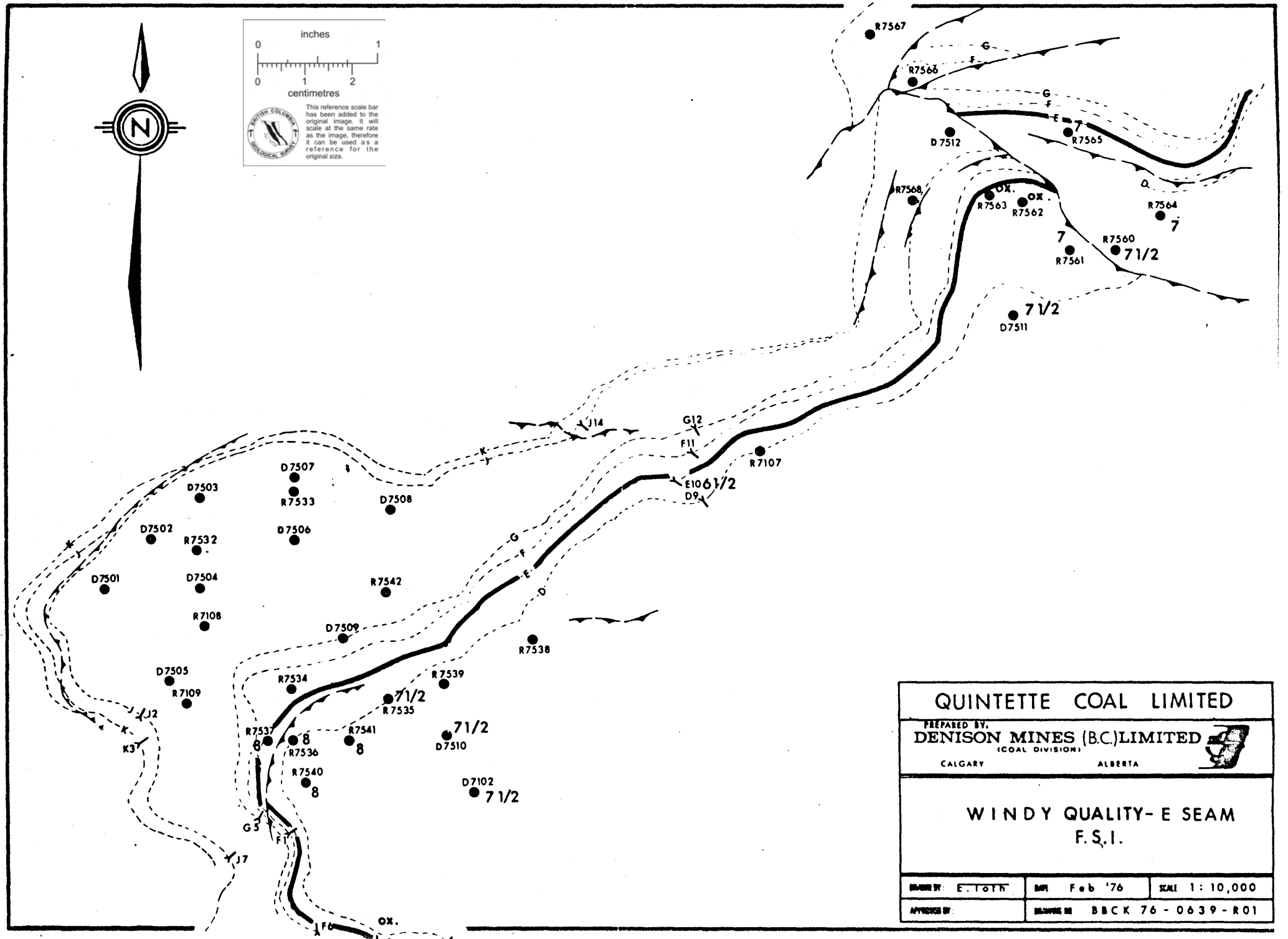
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QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY- E SEAM
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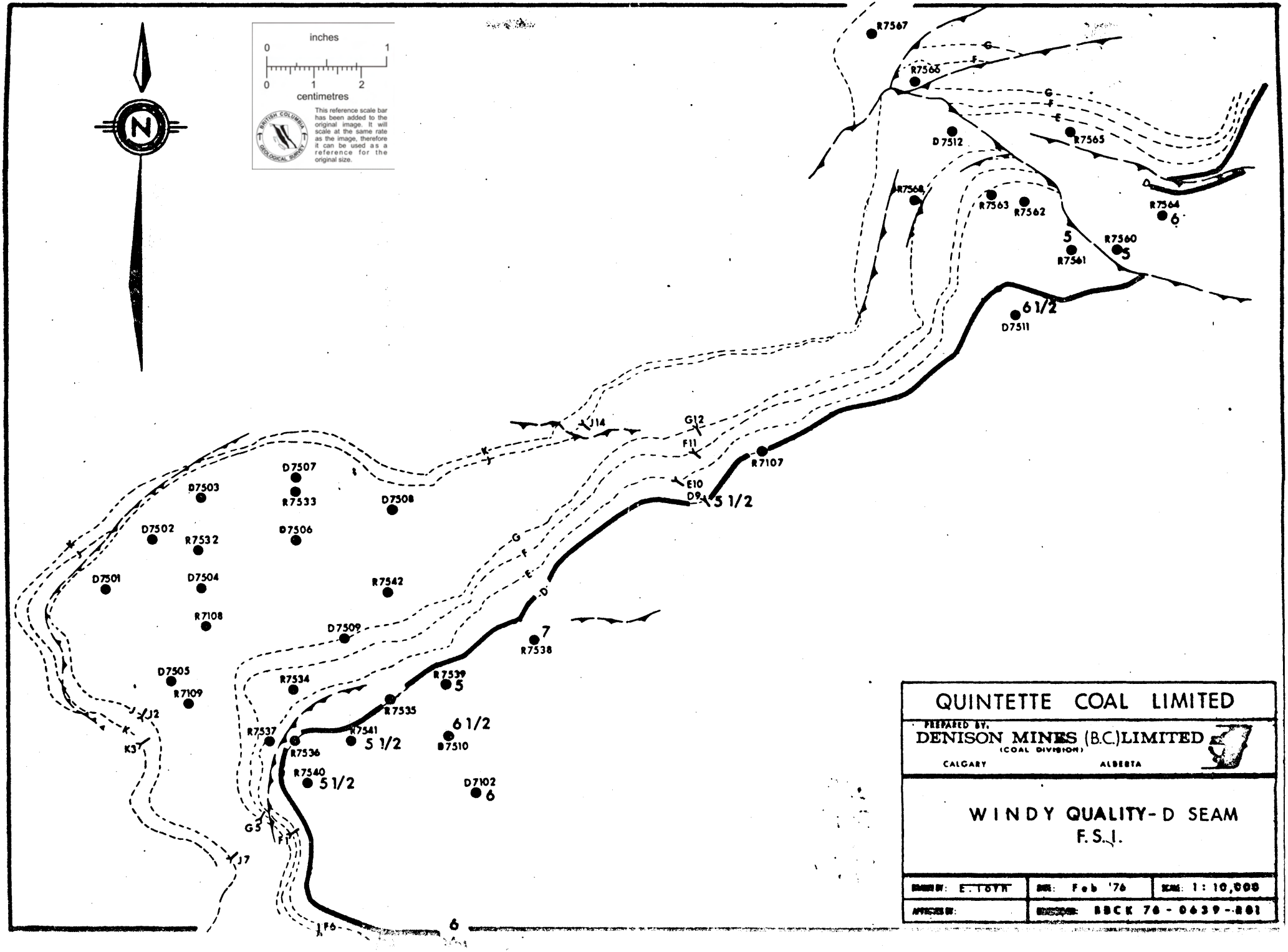
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QUINTETTE COAL LIMITED
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(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY - D SEAM
F.S.I.
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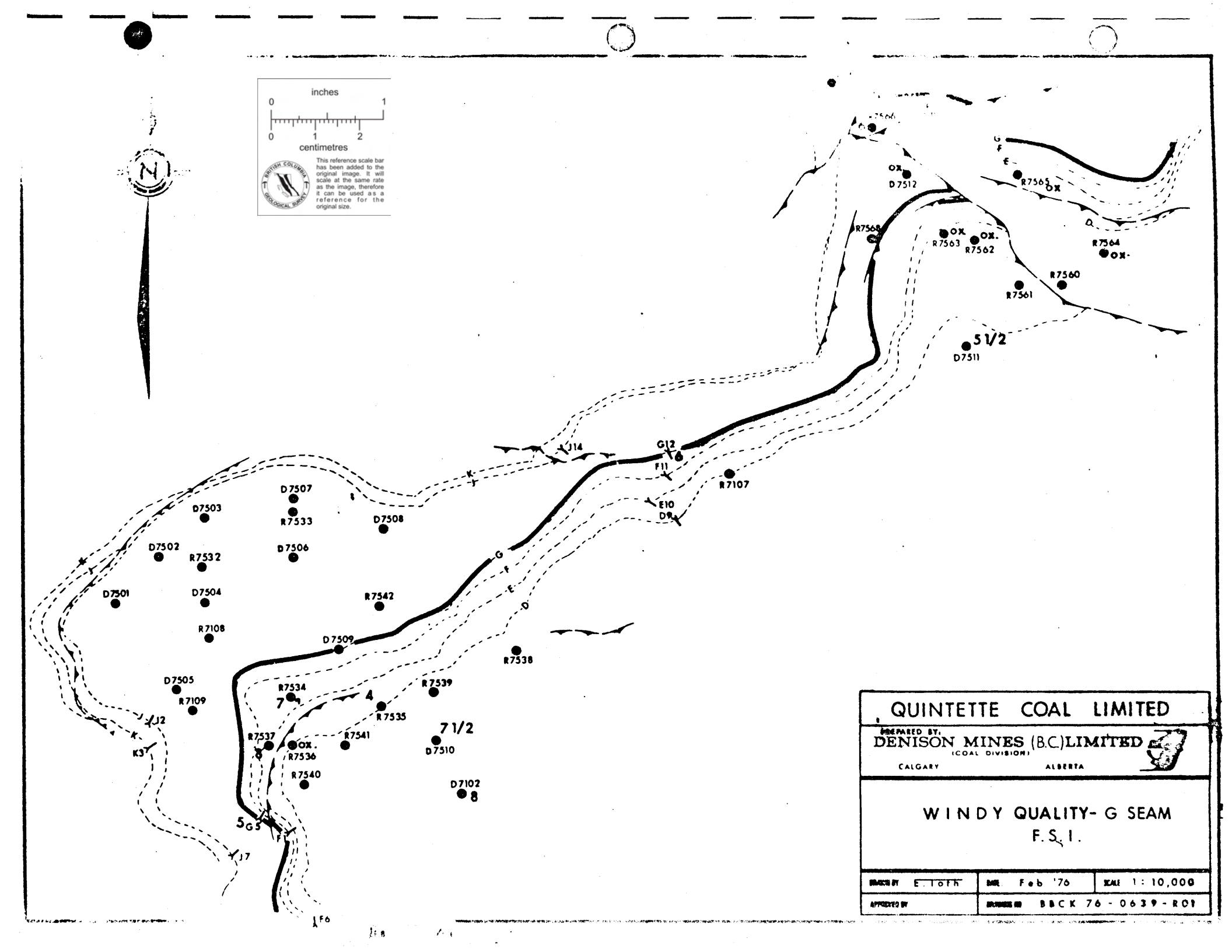

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F.S.I.

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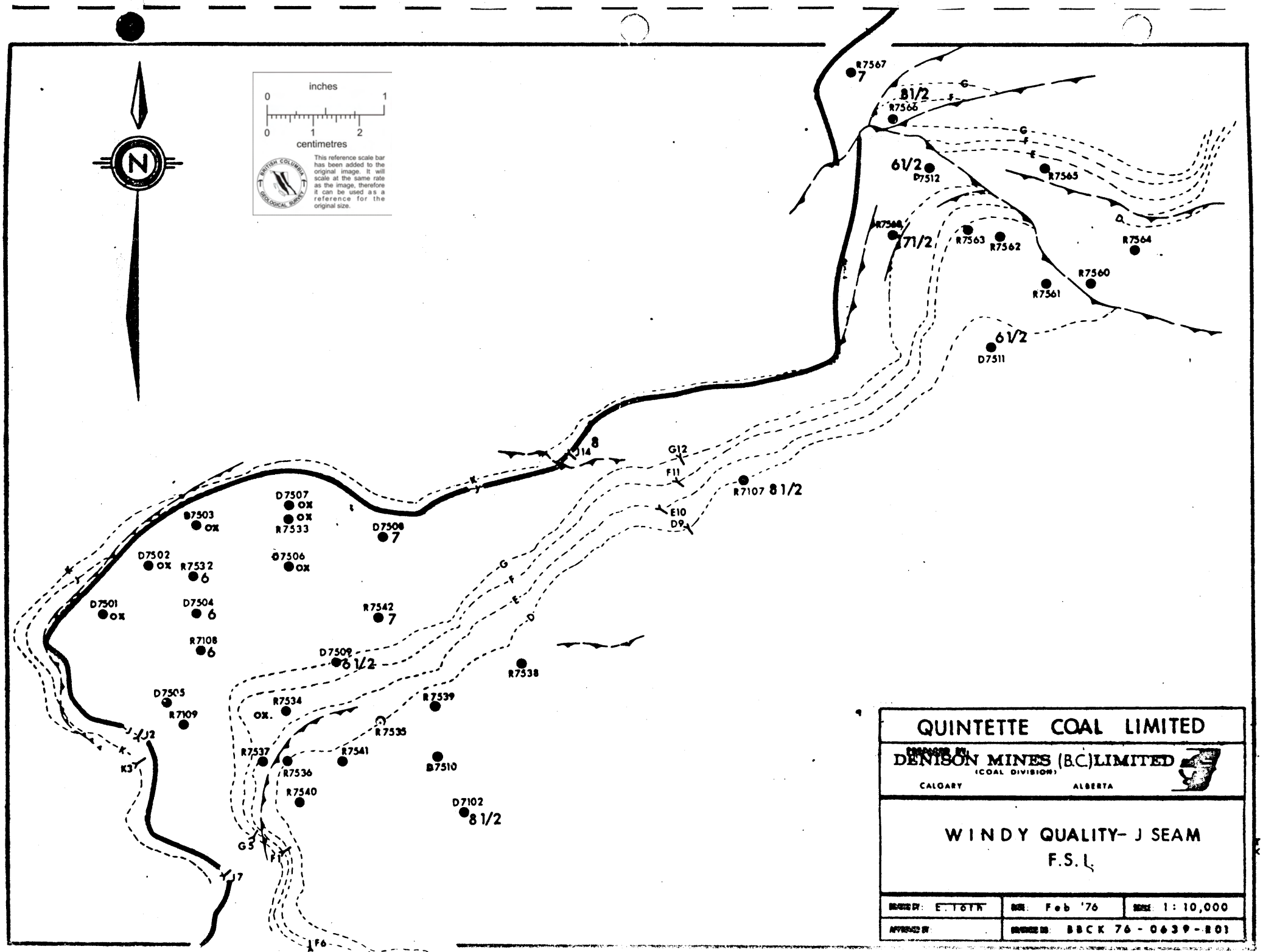
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QUINTETTE COAL LIMITED
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(COAL DIVISION)
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ALBERTA
WINDY QUALITY- J SEAM
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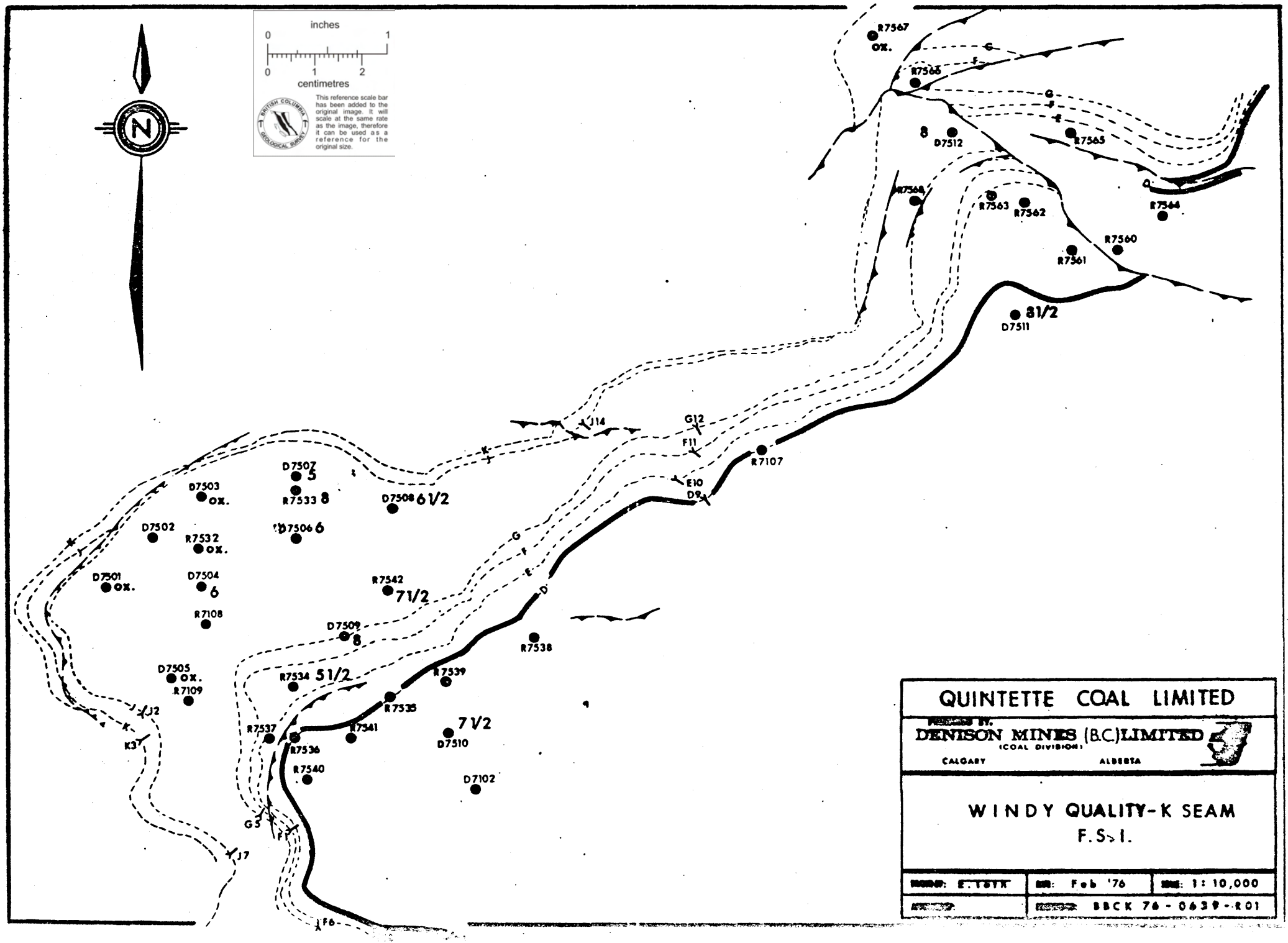
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QUINTETTE COAL LIMITED
PREPARED BY:
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(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY-K SEAM
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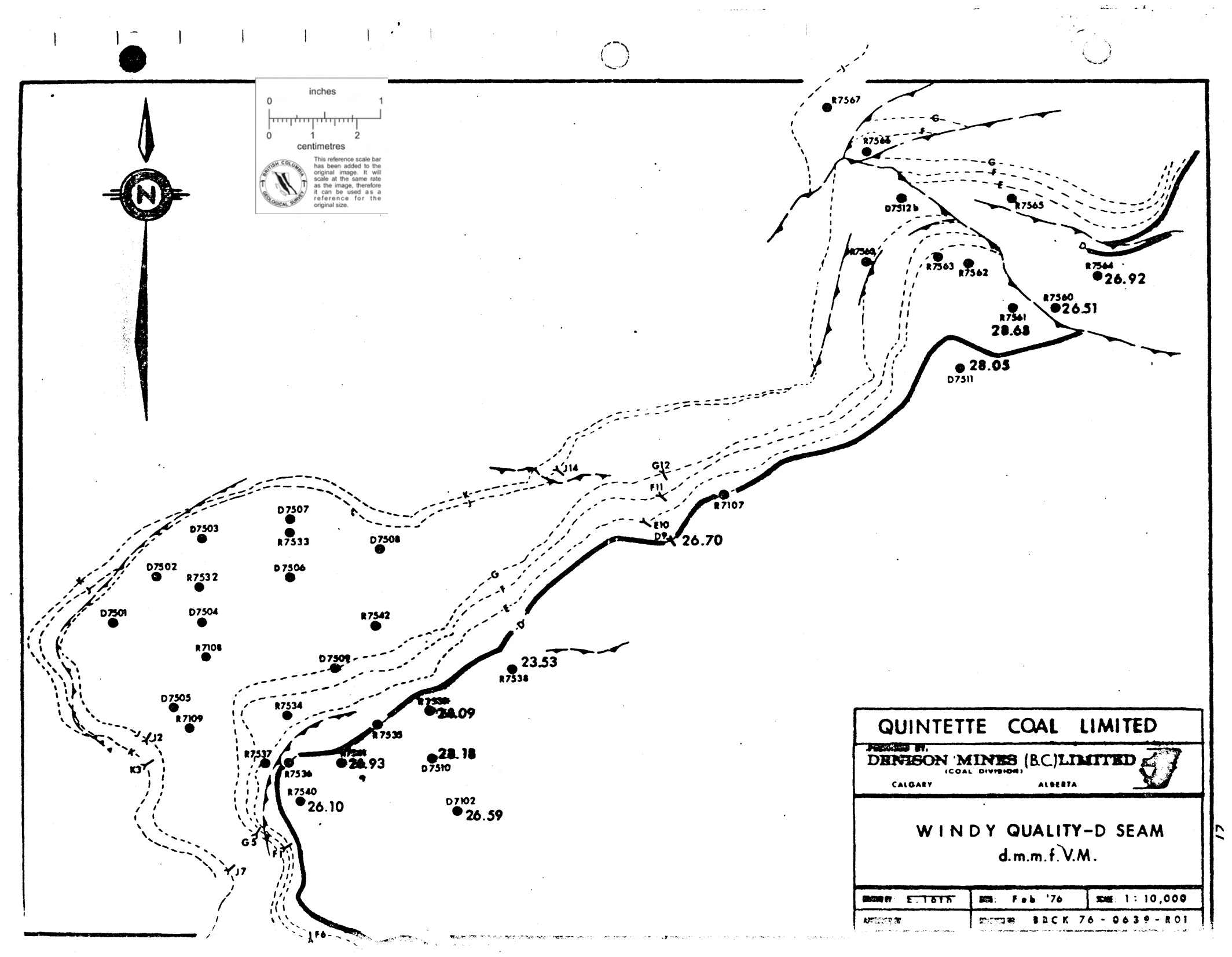
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QUINTETTE COAL LIMITED
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
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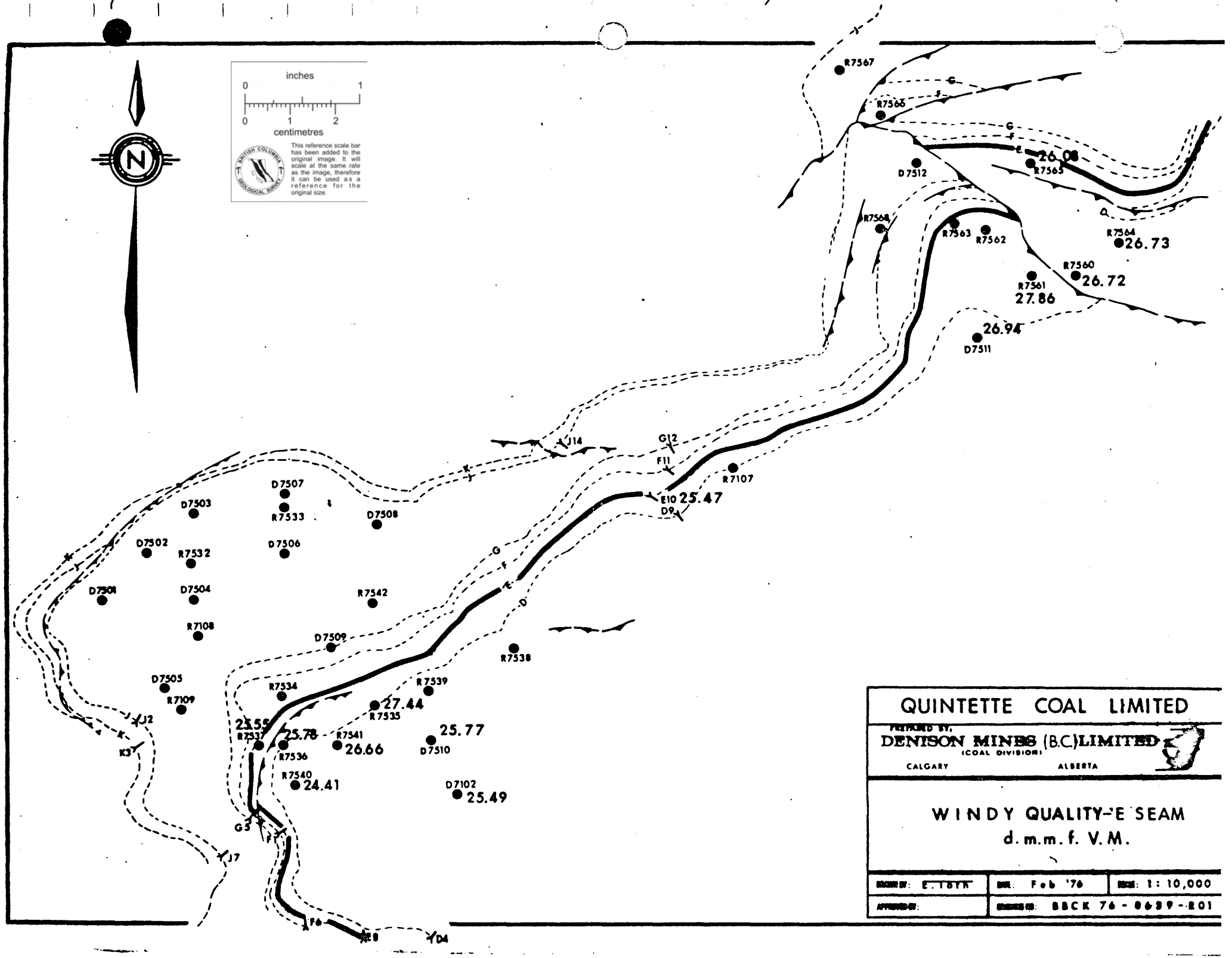
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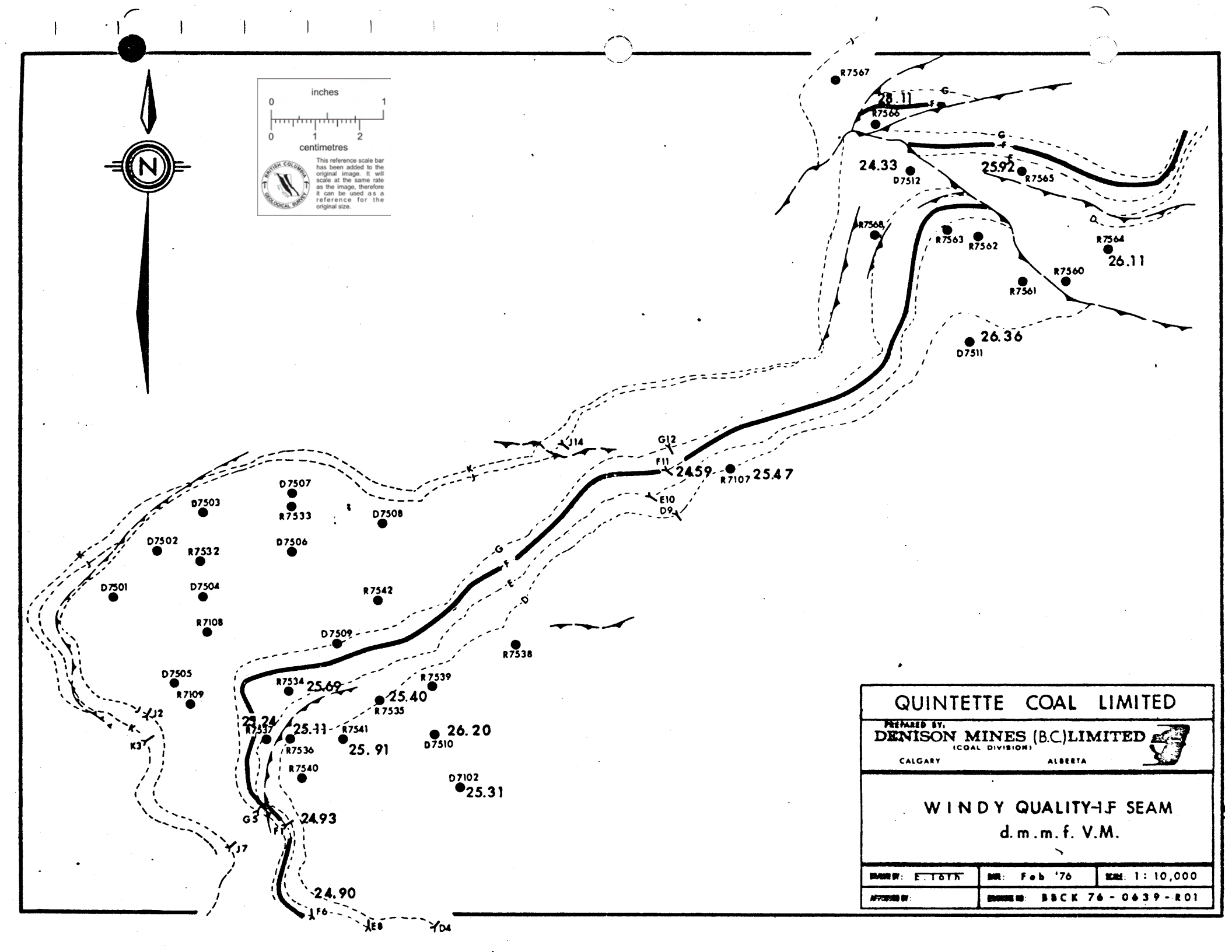
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY-'E' SEAM
d.m.m.f. V.M.
DRAWN BY: E. TSYK
DATE: Feb '76
SCALE: 1:10,000
APPROVED:
DRAWING NO: BBCK 76-0639-E01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D7510
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R7540
D7102
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F7
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J7
24.90
F6
E8
D4
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY-LF SEAM
d.m.m.f. V.M.
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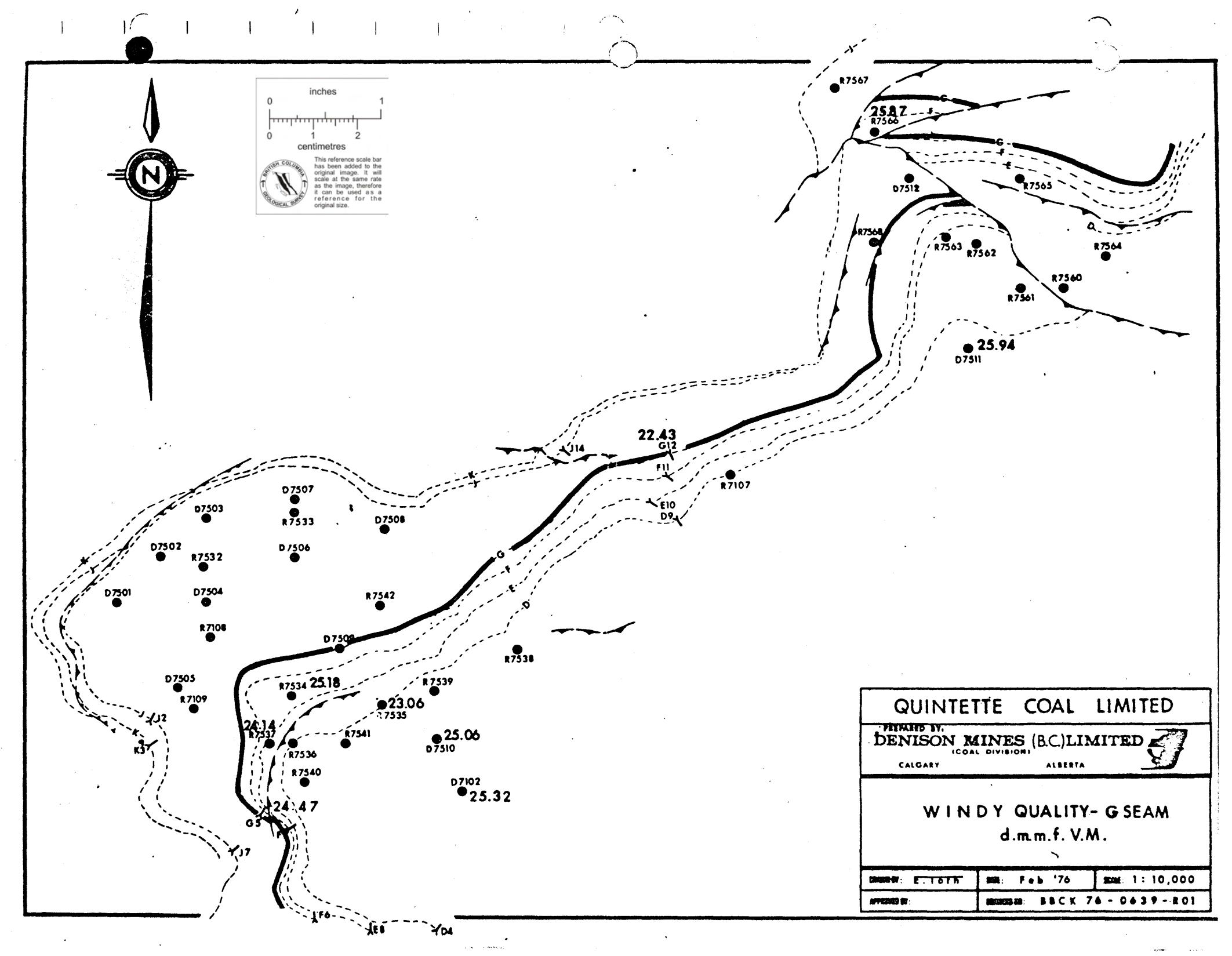
DATE: Feb '76
SCALE: 1:10,000
APPROVED BY:
DRAWING NO: BBCK 76-0639-R01

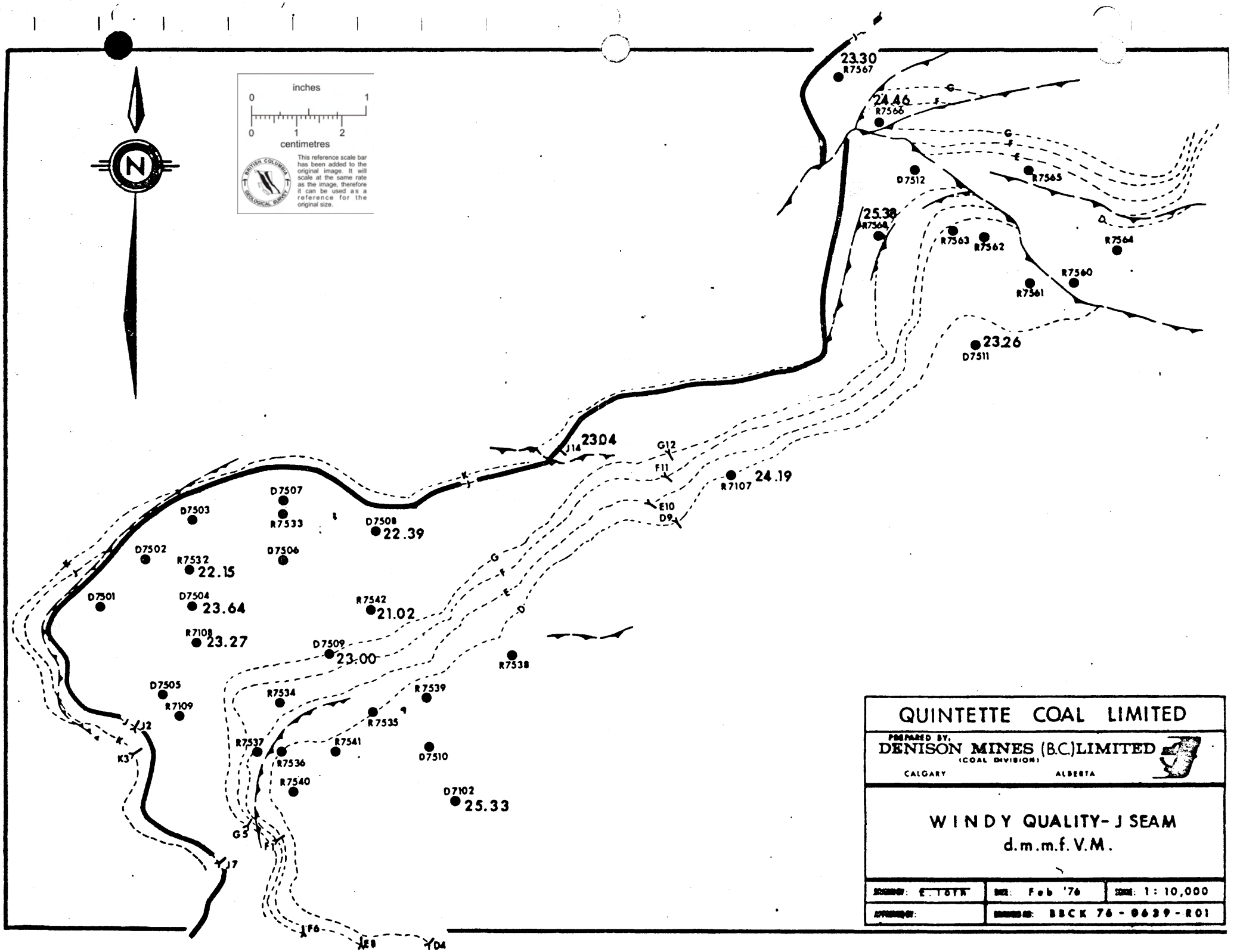


QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

WINDY QUALITY- G SEAM
d.m.m.f. V.M.

DRAWN BY: E. 16TH	DATE: Feb '76	SCALE: 1 : 10,000
APPROVED BY:	DRAWING NO: BBCK 76 - 0639 - R01	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R7540
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J7
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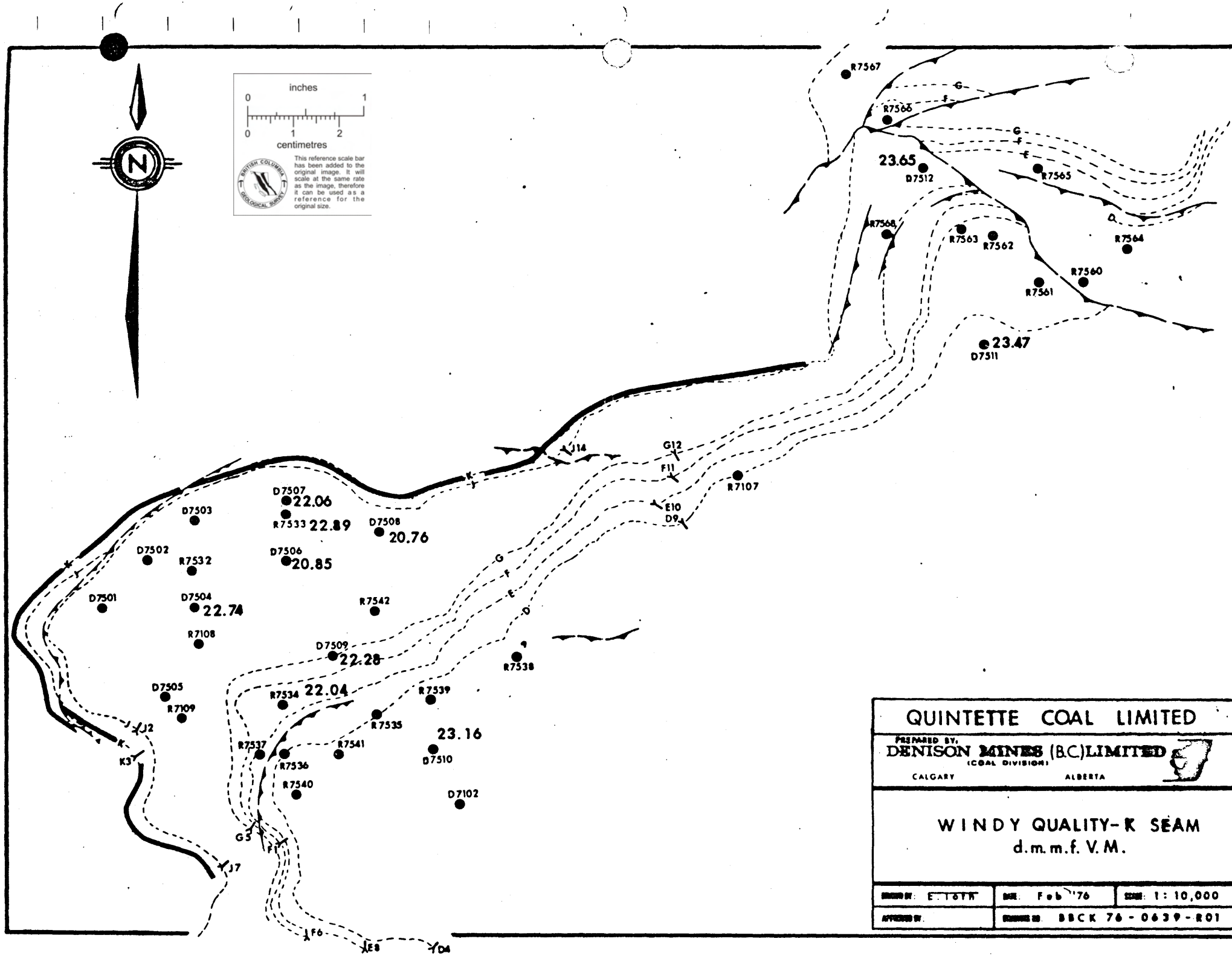
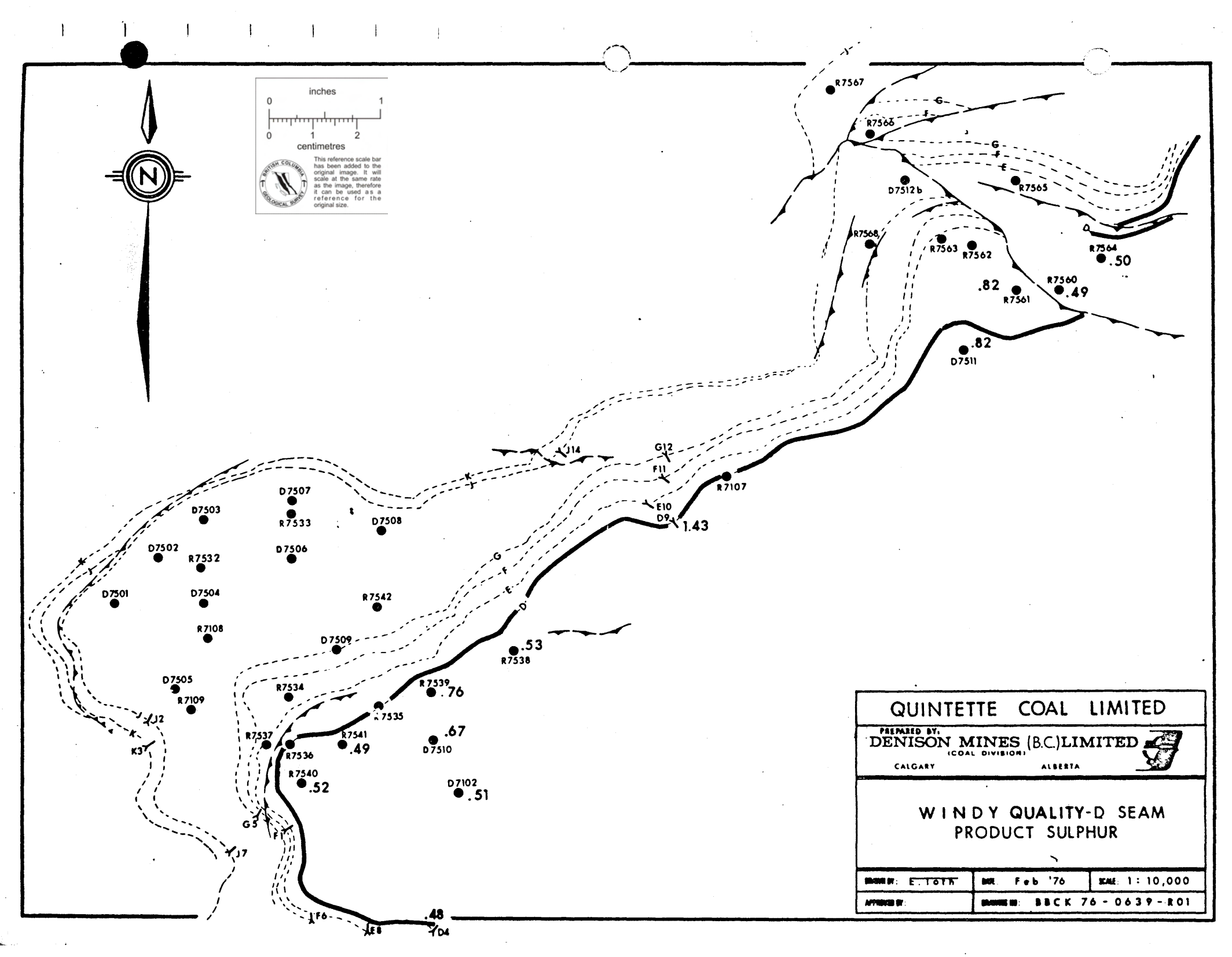
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY - J SEAM
d.m.m.f.V.M.
DRAWN: E. TOTH
DATE: Feb '76
SCALE: 1:10,000
APPROVED:
DRAWING NO: BBCK 76-0639-R01



QUINTETTE COAL LIMITED		
PREPARED BY, DENISON MINES (B.C.) LIMITED (COAL DIVISION) CALGARY ALBERTA		
WINDY QUALITY - K SEAM d.m.m.f. V.M.		
DRAWN BY: E. LOTH	DATE: Feb '76	SCALE: 1 : 10,000
APPROVED BY:	DRAWING NO. BBCK 76 - 0639 - R01	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G5
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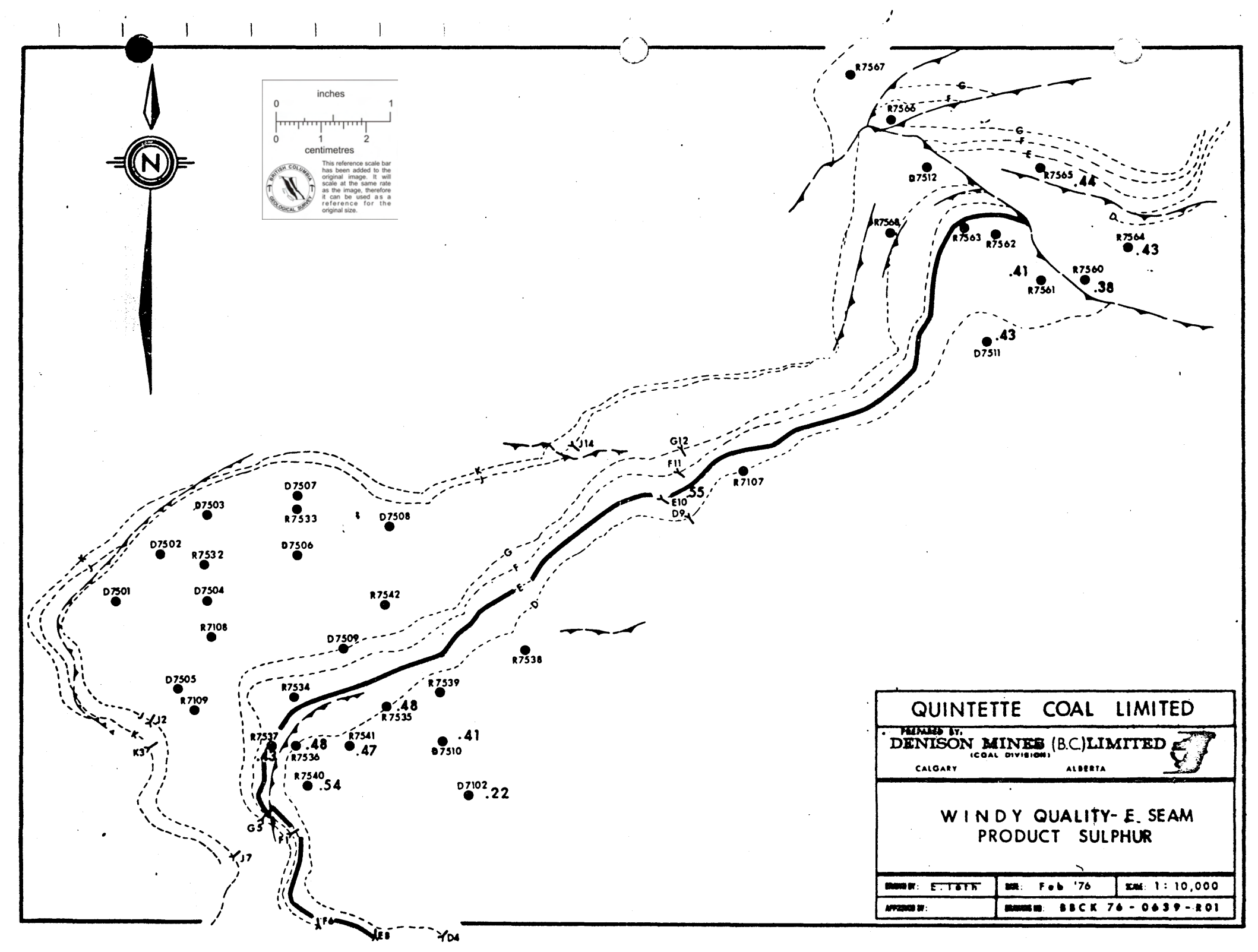
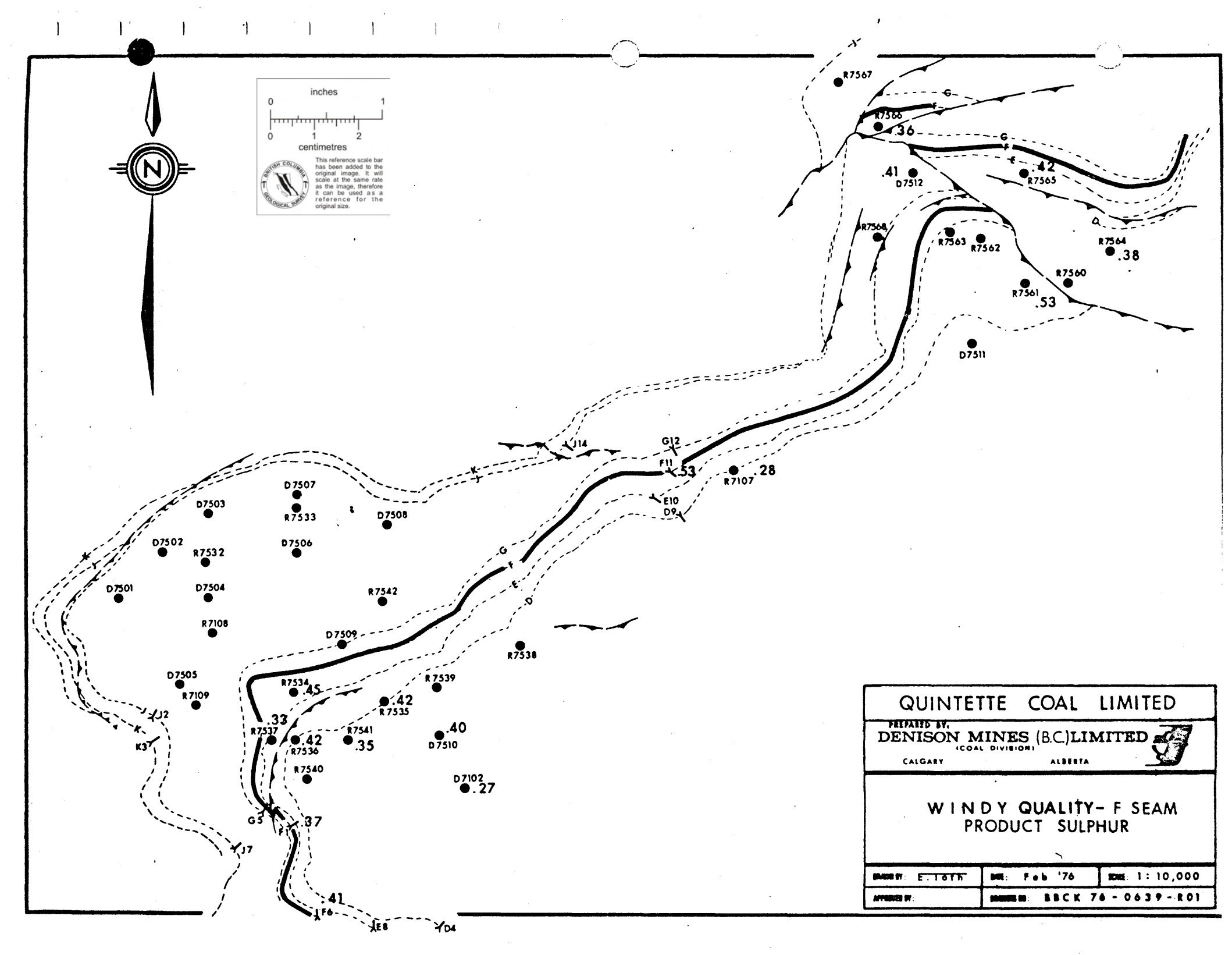
F6
E8
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY-D SEAM
PRODUCT SULPHUR
E. Toth
Feb '76
1 : 10,000
BBCK 76 - 0639 - R01



QUINTETTE COAL LIMITED		
PREPARED BY: DENISON MINES (B.C.) LIMITED (COAL DIVISION) CALGARY ALBERTA		
WINDY QUALITY- E. SEAM PRODUCT SULPHUR		
DRAWN BY: E. Toth	DATE: Feb '76	SCALE: 1 : 10,000
APPROVED BY:	DRAWING NO: BBCK 76 - 0639 - R01	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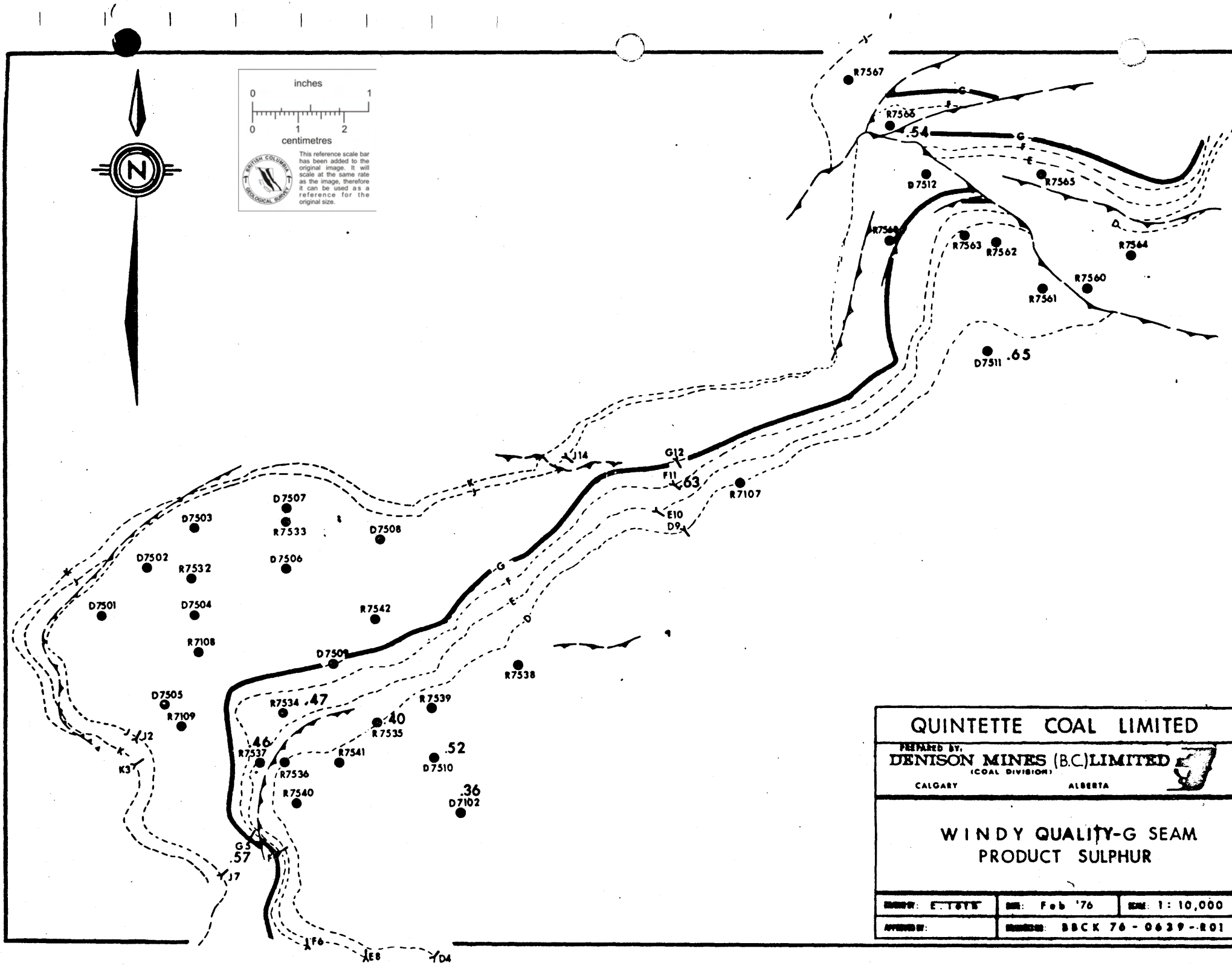
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY- F SEAM
PRODUCT SULPHUR
DRAWN BY: E. leith
DATE: Feb '76
SCALE: 1:10,000
APPROVED BY:
DRAWING NO: BBCK 76-0639-R01

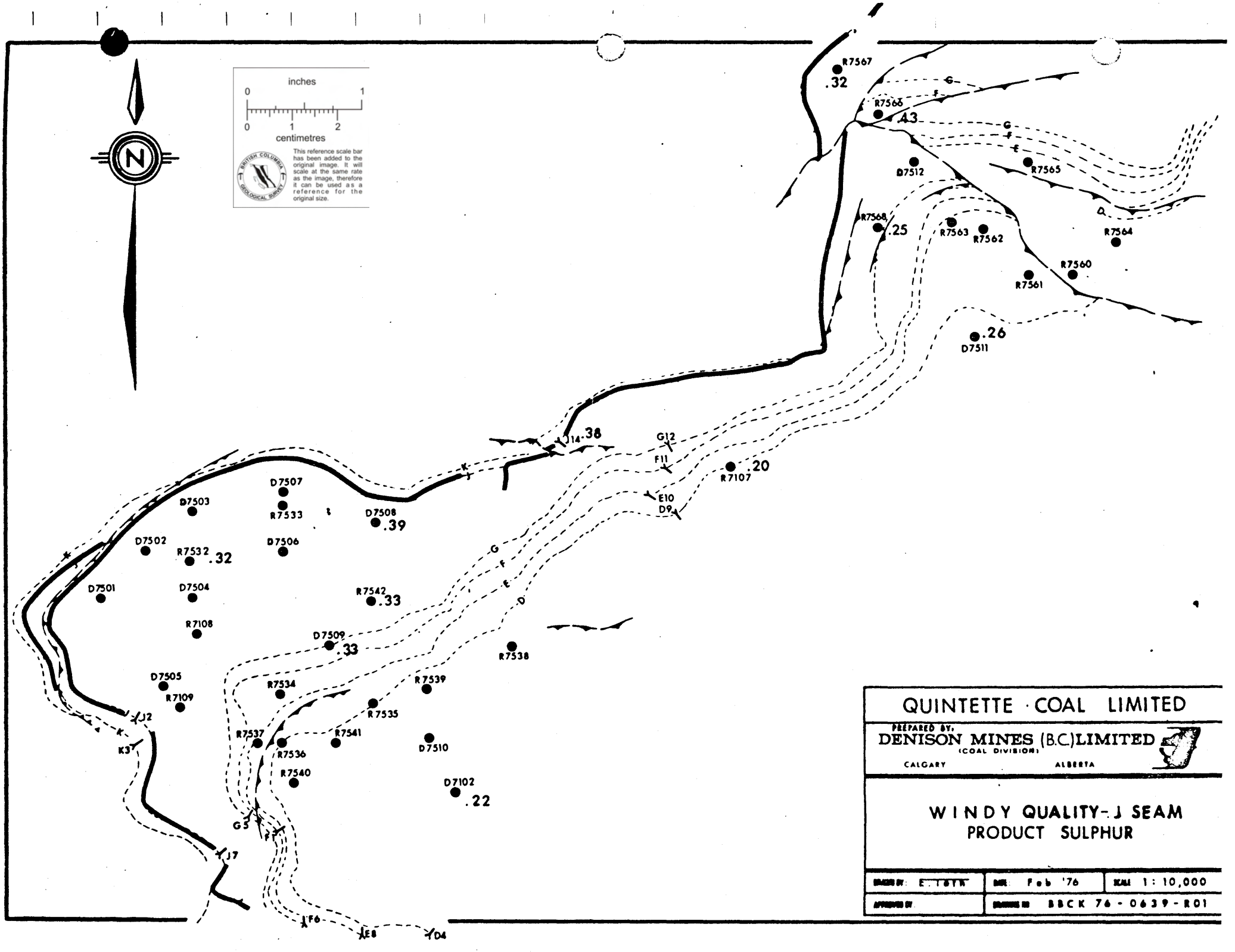


QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

WINDY QUALITY-G SEAM
PRODUCT SULPHUR

DRAWN: E. TOTH	DATE: Feb '76	SCALE: 1 : 10,000
APPROVED:	DRAWING: BBCK 76 - 0639 - R01	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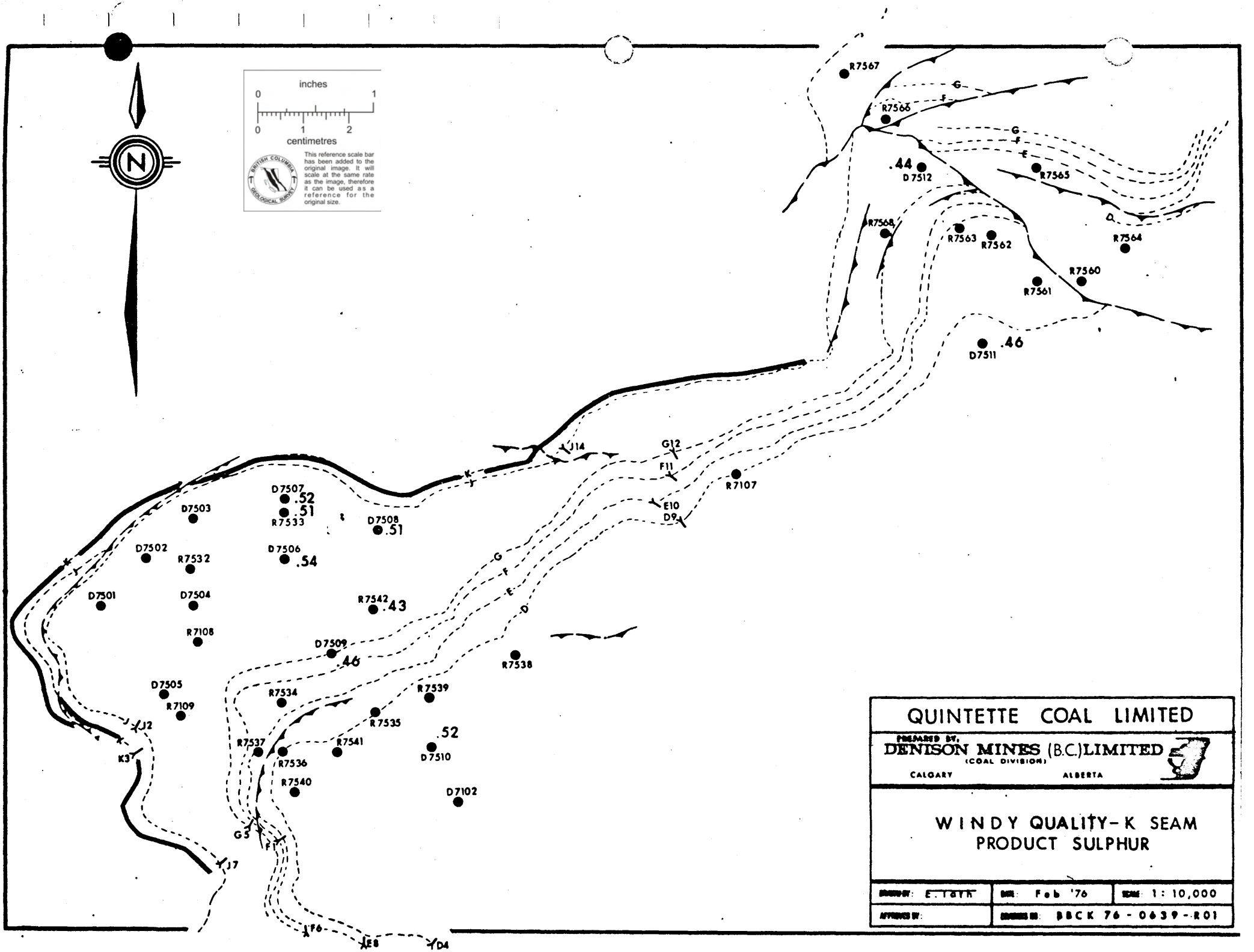
QUINTETTE COAL LIMITED
PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY
ALBERTA
WINDY QUALITY - J SEAM
PRODUCT SULPHUR
Feb '76
1 : 10,000
BBCK 76 - 0639 - R01



QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

WINDY QUALITY - K SEAM
PRODUCT SULPHUR

DRAWN: E. Toth	DATE: Feb '76	SCALE: 1 : 10,000
APPROVED:	DRAWING NO: BBCK 76 - 0639 - R01	

A.2.0 Roman Mountain Pit

A.2.1 Introduction

Exploration work at the Roman Mountain Pit during 1975 consisted of detailed geological mapping, 3 trenches, 2 diamond drill holes and 11 rotary drill holes. As at the Windy Pit, the drilling was located to confirm the location of coal seams and to define the extent of oxidation. A summary of drill holes and trenches intersecting the seams in the pit is as follows:

D Seam - QBR 7580, QBD 7513, QBD 7514, RT-1, RT-2

E Seam - QBR 7580, QBR 7581, QBR 7593, QBR 7594, QBD 7513, QBD 7514, RT-1, RT-2, RT-3

F Seam - QBR 7581, QBR 7586, QBR 7591, QBR 7594, QBD 7513, QBD 7514, RT-1, RT-2

I Seam - QBR 7582, QBR 7587, QBR 7589, QBD 7513, QBD 7514, RT-1, RT-2, RT-3

J Seam - QBR 7582, QBR 7587, QBR 7588, QBR 7590, QBR 7594, QBD 7513, QBD 7514, RT-1, RT-2, RT-3

Thickness measurements were taken from core sections or in the case of poor rotary drill core recovery they were taken from detail density geophysical logs. The coal thickness and dilution thickness for each seam were averaged and are recorded on tables in this text. Actual logs of drilling and trenching are located in the back of the appendix box. In the case of I-J seams, these seams were totalled to give one coal and dilution thickness although the parting between them was considered to be mined as waste and thus an additional geological deduction (-.3 metres) was taken from the average.

Structure contour maps were made for each seam and separated into reserve blocks in the same procedure as at the Windy Pit. An oxidation boundary was also placed on these maps. At Roman Mountain all coal from outcrop to a depth of 10 metres of vertical cover was considered oxidized above the "tree line" and in the northwest portion of the pit below the "tree line" a 20 metre oxidation boundary was used.

Structure contour reserve blocks were measured by planimeter, corrected for dip and multiplied by the geologically factored coal thickness and dilution thickness to obtain "geologically factored" coal reserve and dilution tons. The structure contour maps and summary reserve tables are included in the summary report text and detailed reserve tables are included in this section.

A 55^{o} pit wall was located on or below the base of J seam for the Roman Mountain Pit and a 15 metre berm was located 150 metres above the pit floor. The pit volume was measured using the same procedure as in the Windy Pit, strip ratios using this pit volume were made and are summarized in the summary report with the pit map (Roman Mountain Pit Contours QNTT 76-0649-R01). Details of the actual pit volume calculation are included in this section.

A quality data table is presented in this report and followed by quality maps (1:10,000) of F.S.I., d.m.m.f. Vol., and Sulphur.

ROMAN MOUNTAIN

COAL & DILUTION THICKNESS USED IN RESERVE CALCULATIONS

D SEAM

Drill Hole (or trench)	Coal	Dilution	Dip	True Coal Thickness	True Dilution Thickness
D 7513	4.43*	0.17	30	3.84*	.15
D 7514	2.83	.38	35	2.32	.31
R 7580	6.81*	1.40	60	3.41*	.70
RT 1	2.01	0.52	00	2.01	0.52
RT 2	2.50	.24	00	2.72	0.23
Average				2.86	0.38

E SEAM

D 7513	1.92	0.60	30	1.66	.52
D 7514	2.72	0.00	40	2.08	0.00
R 7581	2.67	0.00	69	0.96	0.00
R 7586	2.19	0.66	33	1.84	0.55
R 7594	1.37	0.00	42	1.02	0.00
RT 1	2.47	0.50	00	1.47	0.50
RT 2	1.64	0.26	00	1.64	0.26
RT 3	1.28	0.59	00	1.28	0.59
Average				1.50	0.30

* includes D-1 and an extra 30 cm geological deduction

ROMAN MOUNTAIN

COAL & DILUTION THICKNESS USED IN RESERVE CALCULATIONS

F SEAM

Drill Hole (or trench)	Coal	Dilution	Dip	True Coal Thickness	True Dilution Thickness
D 7513	1.69	0.31	30	1.46	.27
D 7514	2.11	0.45	35	1.73	.37
R 7581	3.50	2.60	61	1.70	1.26 (poor recovery no geoph. log)
R 7591	2.86	0.80	60	1.43	.41 (includes top dilution)
R 7594	2.34	0.61	42	1.74	0.45
RT 1	1.92	0.03	00	2.35	0.03
Average				1.76	0.40

I & J SEAMS

Drill Hole (or trench)	Combined Coal	Combined Dilution	Dip	Combined True Coal Thickness	Combined True Dilution Thickness
D 7513	12.11	0.60	30	10.19*	0.52
D 7514	12.29	0.40	40	9.12*	0.31
R 7582	9.10	0.48	55	5.22	0.28
R 7587	13.91	1.44	55	7.68*	0.83
R 7588	9.13	1.05	42	6.78	0.78
R 7590	8.85***	0.00	55	5.08	1.00**
RT 1	--------faulting -- not used -------				
RT 2	9.13	0.31	00	8.84*	0.31
RT 3	8.98	0.47	00	8.68*	0.47
Average				7.70	0.56

* To account for the geological factor, where both I & J seams are present an additional 0.30 m. has been deducted.
** Included to account for dilution expected to be present within lost core sections.
*** Estimated thickness, as hole was collared in coal.

ROMAN MOUNTAIN

COAL AND DILUTION THICKNESS USED IN RESERVE CALCULATIONS (ADDENDUM)

I & J SEAMS (individual seam data)*

Drill Hole (or Trench)	I Seam Coal Only Thickness	Major Out-of-Seam Parting Thickness	J Seam Coal Only Thickness	Combined Thickness In-Seam Dilution
D 7513	7.29	2.97	3.20	0.52
D 7514	4.73	3.54	4.69 (incomplete)	0.31
R 7582	(incomplete)	1.44	5.22	0.28
R 7587	2.34	3.85	5.64	0.83
R 7588	(not drilled)	0.00	6.78	0.78
R 7590	(not drilled)	0.00	5.08 (incomplete)	0.00
RT 1	1.55 (fault)	2.38	7.58	0.00
RT 2	3.20	0.00	5.94	0.31
RT 3	3.34	1.98	5.64	0.47

* - in calculating reserves, Seams I and J were combined as one seam for coal volume and tonnage calculations, but the major parting between them was not included as dilution in the mined coal as it is assumed that it will be removed separately as waste.

METRIC

SEAM D Strip Reserves

Property: Quintette
Area: Roman
Pit: "

Reserve Block	DIP CORRECTION N. D. m.	V. D. m.	Dip°	Sec.	Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m² Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)m.t.	Pit Loss	Est. Minable Coal	Dilution Volume c.m.	Dilution m.t.	OXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)	Dilution Volume cu. m.	Dilution m.t.
1	107	110	48.5	1.4342	2.86	0.38	17180	0095	0.0079	0.0202	0.0283	.9	0.0255	0.0030	0.0057	0005	0.0043	0.0110	0.0154	0.0016	0.0031
2	100	90	42.0	1.3454	2.86	0.38	17180	0344	0.0280	0.0689	0.0964	.9	0.0868	0.0102	0.0194	0038	0.0029	0.0074	0.0104	0.0011	0.0021
3	104	120	49.1	1.5269	2.86	0.38	17180	0318	0.0282	0.0722	0.1011	.9	0.0910	0.0107	0.0204	0037	0.0029	0.0074	0.0104	0.0011	0.0021
4	125	140	48.0	1.4948	2.86	0.38	17180	0165	0.0144	0.0369	0.0516	.9	0.0464	0.0055	0.0104	0012	0.0010	0.0026	0.0036	0.0004	0.0007
5	76	120	57.7	1.8690	2.86	0.38	17180	0787	0.0856	0.2191	0.3068	.9	0.2761	0.0325	0.0618	0049	0.0054	0.0138	0.0194	0.0021	0.0039
6	40	20	26.6	1.1180	2.86	0.38	17180	0296	0.0192	0.0492	0.0688	.9	0.0619	0.0073	0.0139	0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	56	40	35.5	1.2289	2.86	0.38	17180	0388	0.0284	0.0727	0.1018	.9	0.0916	0.0108	0.0205	0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	100	120	50.2	1.3620	2.86	0.38	17180	0823	0.0748	0.1915	0.2681	.9	0.2413	0.0284	0.0540	0035	0.0031	0.0079	0.0111	0.0012	0.0022
9	102	110	47.2	1.4707	2.86	0.38	17180	0985	0.0843	0.2158	0.3021	.9	0.2719	0.0320	0.0609	0078	0.0066	0.0169	0.0237	0.0025	0.0048
10	62	100	58.2	1.8978	2.86	0.38	17180	0518	0.0569	0.1457	0.2039	.9	0.1835	0.0216	0.0411	0060	0.0066	0.0169	0.0237	0.0025	0.0048
11	50	40	38.7	1.2806	2.86	0.38	17180	0578	0.0430	0.1101	0.1541	.9	0.1387	0.0163	0.0310	0443	0.0330	0.0845	0.1183	0.0125	0.0238
12	24	30	51.3	1.6008	2.86	0.38	17180	0137	0.0128	0.0328	0.0459	.9	0.0413	0.0049	0.0092	0183	0.0171	0.0438	0.0613	0.0065	0.0123
									TOTALS:	1.2351	1.7289		1.5560	0.1832	0.3483			0.2122	0.2973	0.0315	0.0598

METRIC

SEAM E Strip Reserves

Property: Quintette
Area: Roman
Pit: "

Reserve Block	DIP CORRECTION H. D. m.	V. D. m.	Dip°	Sec.	Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)m.t.	Pit Loss	Est. Mineable Coal	Dilution Volume c.m.	Dilution m.t.	OXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)	Dilution Volume cu. m.	Dilution m.t.
1	100	120	50.0	1.5620	1.5	0.3	17180	0303	0.0275	0.0330	0.0462	.9	0.0416	0.0083	0.0157	0030	0.0027	0.0032	0.0045	0.0008	0.0015
2	92	70	37.3	1.2566	1.5	0.3	17180	0367	0.0268	0.0322	0.0450	.9	0.0405	0.0080	0.0153	0036	0.0026	0.0031	0.0044	0.0008	0.0015
3	76	80	46.5	1.4579	1.5	0.3	17180	0272	0.0231	0.0277	0.0388	.9	0.0349	0.0069	0.0132	0015	0.0013	0.0016	0.0022	0.0004	0.0007
4	153	180	49.6	1.5440	1.5	0.3	17180	0503	0.0452	0.0542	0.0759	.9	0.0683	0.0136	0.0258	0034	0.0031	0.0037	0.0052	0.0009	0.0018
5	88	130	55.9	1.7839	1.5	0.3	17180	0830	0.0862	0.1034	0.1448	.9	0.1303	0.0259	0.0491	0058	0.0060	0.0072	0.0101	0.0018	0.0034
6	34	40	49.6	1.5440	1.5	0.3	17180	0392	0.0352	0.0422	0.0591	.9	0.0532	0.0106	0.0201	0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	35	30	40.6	1.3171	1.5	0.3	17180	0317	0.0243	0.0292	0.0408	.9	0.0367	0.0073	0.0139	0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	117	150	50.0	1.6259	1.5	0.3	17180	0988	0.0935	0.1122	0.1571	.9	0.1414	0.0281	0.0533	0154	0.0146	0.0175	0.0245	0.0044	0.0083
9	116	120	50.0	1.4388	1.5	0.3	17180	1342	0.1124	0.1610	0.2255	.9	0.2029	0.0337	0.0641	0063	0.0053	0.0064	0.0089	0.0016	0.0030
10	50	60	50.2	1.5620	1.5	0.3	17180	0763	0.0694	0.0916	0.1282	.9	0.1154	0.0208	0.0396	0057	0.0052	0.0062	0.0087	0.0016	0.0030
11	75	60	38.7	1.2806	1.5	0.3	17180	1185	0.0883	0.1060	0.1483	.9	0.1335	0.0265	0.0503	0257	0.0192	0.0230	0.0322	0.0058	0.0109
12	40	60	56.3	1.8028	1.5	0.3	17180	0451	0.0473	0.0568	0.0795	.9	0.0715	0.0142	0.0270	0091	0.0095	0.0114	0.0160	0.0029	0.0054
									TOTALS:	0.8495	1.1892		1.0702	0.2039	0.3874			0.0833	0.1167	0.0210	0.0395

METRIC

SEAM F Strip Reserves

Property: Quintette.
Area: Roman
Pit: "

Reserve Block	DIP CORRECTION				Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL					
	H. D. m.	V. D. m.	Dip°	Sec.				Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)m.*	Pit Loss	Est. Minemable Coal	Dilution Volume c.m.	Dilution m.t.	Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)	Dilution Volume cu. m.	Dilution m.t.
1	125	160	52.0	1.6243	1.76	0.40	17180	0445	0.0421	0.0615	0.0861	.9	0.0774	0.0168	0.0320	0035	0.0032	0.0047	0.0065	0.0013	0.0024
2	132	130	44.6	1.4035	1.76	0.40	17180	0416	0.0340	0.0496	0.0695	.9	0.0625	0.0136	0.0258	0047	0.0038	0.0055	0.0078	0.0015	0.0029
3	80	80	45.0	1.4142	1.76	0.40	17180	0333	0.0274	0.0400	0.0560	.9	0.0504	0.0110	0.0208	0017	0.0027	0.0039	0.0055	0.0011	0.0021
4	162	190	49.5	1.5413	1.76	0.40	17180	0686	0.0615	0.0898	0.1257	.9	0.1131	0.0246	0.0467	0040	0.0035	0.0051	0.0072	0.0014	0.0027
5	100	180	60.9	2.0591	1.76	0.40	17180	0914	0.1095	0.1549	0.2238	.9	0.2014	0.0438	0.0832	0063	0.0130	0.0190	0.0266	0.0052	0.0099
6	30	30	45.0	1.4142	1.76	0.40	17180	0354	0.0291	0.0425	0.0595	.9	0.0535	0.0116	0.0221	0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	46	40	41.0	1.3252	1.76	0.40	17180	0598	0.0461	0.0673	0.0942	.9	0.0848	0.0184	0.0350	0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	130	170	52.6	1.6462	1.76	0.40	17180	1134	0.1086	0.1586	0.2220	.9	0.1998	0.0434	0.0825	0054	0.0089	0.0130	0.0182	0.0036	0.0068
9	128	150	49.5	1.5405	1.76	0.40	17180	1499	0.1345	0.1964	0.2749	.9	0.2474	0.0538	0.1022	0073	0.0112	0.0164	0.0229	0.0045	0.0085
10	91	120	52.8	1.6550	1.76	0.40	17180	1012	0.0974	0.1422	0.1991	.9	0.1792	0.0389	0.0740	0050	0.0083	0.0121	0.0170	0.0033	0.0063
11	72	80	48.0	1.4945	1.76	0.40	17180	1608	0.1399	0.2043	0.2860	.9	0.2574	0.0560	0.1063	0336	0.0502	0.0733	0.1026	0.0201	0.0382
12	54	70	52.4	1.6372	1.76	0.40	17180	0660	0.0629	0.0918	0.1286	.9	0.1157	0.0252	0.0478	0130	0.0213	0.0311	0.0435	0.0085	0.0162
									TOTALS:	1.3039	1.8254		1.6426	0.3571	0.6784			0.1841	0.2578	0.0505	0.0960

METRIC

SEAM IJ Strip Reserves

Property: Quintette
Area: Roman
Pit: "

Reserve Block	DIP CORRECTION H. D. m.	V. D. m.	Dip°	Sec.	Average True Coal Thickness m.	Average True Dilution Thickness m.	10^6 m^2 Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)m.r.	Pit Loss	Est. Mineable Coal	Dilution Volume c.m.	Dilution m.t.	OXIDIZED COAL Planimeter Area units	Actual Area sq. m.	Coal Volume cu. m.	Geologically Factored Coal Reserve (-30cm)	Dilution Volume cu. m.	Dilution m.t.
1	136	190	54.4	1.7181	7.70	0.56	17180	0578	0.0578	0.4277	0.5988	.9	0.5389	0.0268	0.0508	0040	0.0040	0.0296	0.0414	0.0022	0.0043
2	130	120	42.7	1.3609	7.70	0.56	17180	0888	0.0703	0.5202	0.7283	.9	0.6554	0.0394	0.0748	0052	0.0042	0.0310	0.0435	0.0024	0.0045
3	108	110	45.5	1.4274	7.70	0.56	17180	0666	0.0553	0.4092	0.5729	.9	0.5156	0.0310	0.0588	0052	0.0042	0.0310	0.0435	0.0024	0.0045
4	206	250	50.5	1.5725	7.70	0.56	17180	1160	0.1062	0.7859	1.1002	.9	0.9902	0.0595	0.1130	0052	0.0042	0.0310	0.0435	0.0024	0.0045
5	131	230	60.3	2.0205	7.70	0.56	17180	1214	0.1428	1.0567	1.4794	.9	1.3315	0.0800	0.1519	0067	0.0079	0.0585	0.0818	0.0044	0.0084
6	33	30	42.3	1.3515	7.70	0.56	17180	0432	0.0339	0.2509	0.3513	.9	0.3162	0.0190	0.0361	0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	67	40	30.8	1.1647	7.70	0.56	17180	0606	0.0411	0.3041	0.4259	.9	0.3832	0.0230	0.0437	0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	178	220	51.0	1.5898	7.70	0.56	17180	1652	0.1529	1.1315	1.5840	.9	1.4256	0.0856	0.1627	0050	0.0046	0.0340	0.0476	0.0026	0.0050
9	176	220	51.0	1.5898	7.70	0.56	17180	1959	0.1813	1.3416	1.8783	.9	1.6904	0.1015	0.1929	0067	0.0062	0.0459	0.0642	0.0035	0.0066
10	160	200	51.3	1.6008	7.70	0.56	17180	1683	0.1568	1.1603	1.6244	.9	1.4620	0.0878	0.1668	0073	0.0068	0.0503	0.0704	0.0038	0.0072
11	160	180	48.4	1.5052	7.70	0.56	17180	2950	0.2585	1.9129	2.6781	.9	2.4102	0.1448	0.2750	0304	0.0266	0.1968	0.2756	0.0149	0.0283
12	72	110	56.8	1.8260	7.70	0.56	17180	1786	0.1898	1.4045	1.9663	.9	1.7697	0.1063	0.2019	0213	0.0226	0.1672	0.2341	0.0126	0.0240
									TOTALS:	10.7055	14.9879		13.4889	0.8047	1.5284			0.6753	0.9456	0.0512	0.0973

QUINNETTE - ROMAN MOUNTAIN PIT TOTAL PIT VOLUME

Elevation	Area 1	Area 2	Area 3	Total	$\frac{A+B}{2}$
					137
1440 m.	0,273	-	-	0,273	
					500
1460 m.	0,726	-	-	0,726	
					952
1480 m.	1,177	-	-	1,177	
					1,416
1500 m.	1,654	-	-	1,654	
					1,925
1520 m.	2,040	0,156	-	2,196	
					2,625
1540 m.	1,826	0,227	-	3,083	
					3,185
1560 m.	2,861	0,455	-	3,316	
					3,571
1580 m.	3,046	0,779	-	3,825	
					4,133
1600 m.	3,314	1,127	-	4,441	
					4,620
1620 m.	3,216	1,582	-	4,798	
					4,851
1640 m.	2,883	2,020	-	4,903	
					5,001
1660 m.	2,422	2,560	0,117	5,099	
					5,233
1680 m.	1,898	3,084	0,385	5,367	
					5,500
1700 m.	1,180	3,658	0,796	5,634	
					5,836
1720 m.	0,555	4,113	1,370	6,038	
					6,154
1740 m.	0,146	4,259	1,864	6,269	
					6,352
1760 m.	-	4,076	2,360	6,436	
					6,492
1780 m.	-	3,769	2,780	6,549	
					6,608
1800 m.	-	3,451	3,217	6,668	
					6,749
1820 m.	-	3,102	3,728	6,830	
					6,848
1840 m.	-	2,751	4,114	5,865	
					6,792
1860 m.	-	2,389	4,331	6,720	
					6,551
1880 m.	-	1,936	4,446	6,382	
					6,138
1900 m.	-	1,452	4,492	5,894	
					5,523
1920 m.	-	0,879	4,273	5,152	
					4,688
1940 m.	-	0,337	3,887	4,224	
					3,669
1960 m.	-	0,031	3,083	3,114	
					2,514
1980 m.	-	-	1,915	1,915	
					1,240
2000 m.	-	-	0,565	0,565	
					0,320
2020 m.	-	-	0,075	0,075	
					0,038
	30,217	48,193	47,748	126,188	126,161

PLANIMETER FUNCTION

$17,180 = 1 \times 10^6 \text{ m}^2$

TOTAL PIT VOLUME

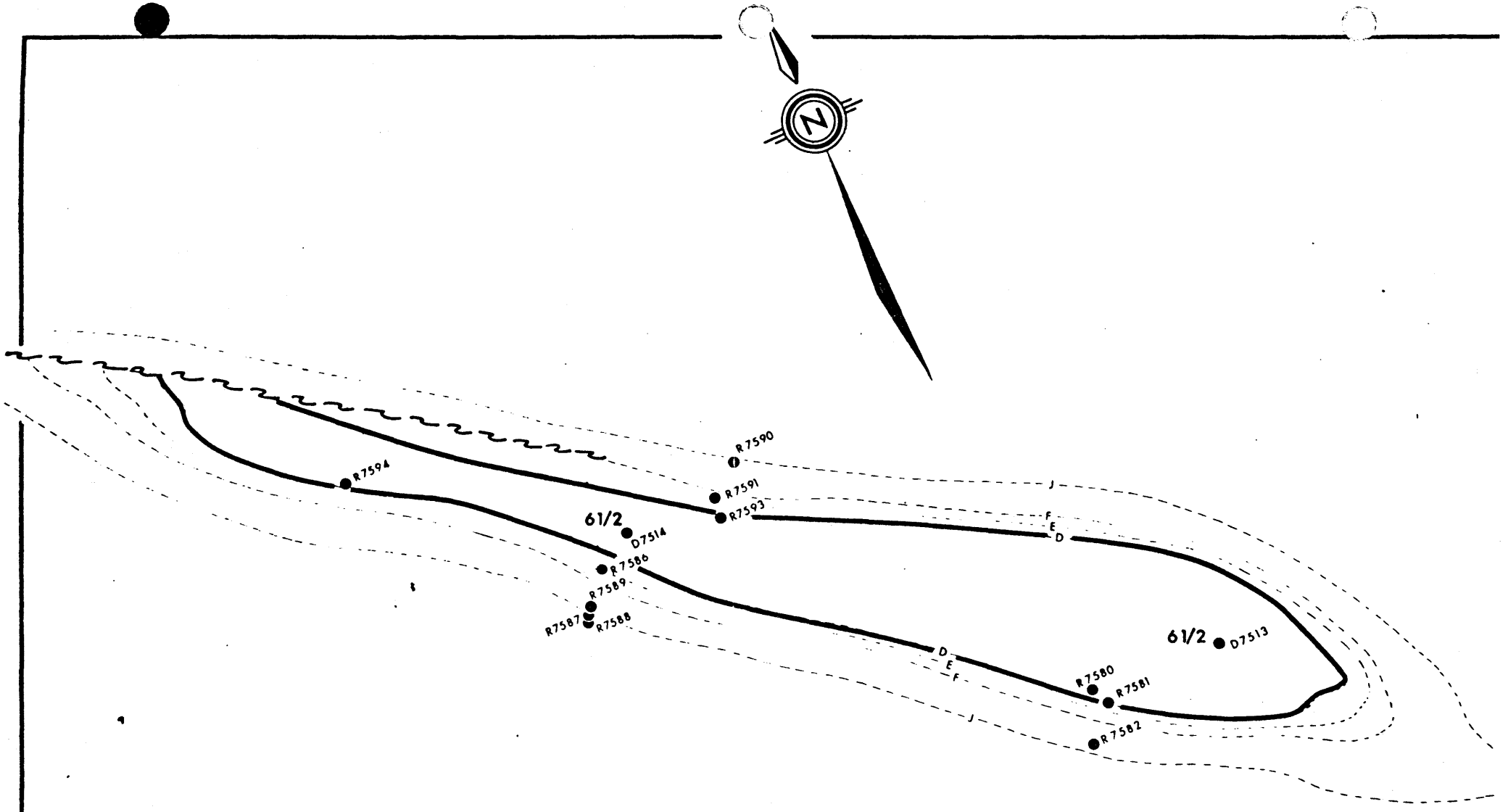
$= \frac{126,161}{17,180} \times 20$

$= 146.87 \times 10^6 \text{ m}^3$

PIT PRODUCT COAL QUALITY - ROMAN MOUNTAIN

Proximate Analysis of Product (Theoretical Clean Coal)

Seam/ Drill Hole	Ash %	Vol %	d.m.m.f. Vol. %	R.M. %	S. %	P. %	F.S.I.	Theor'l Yield	Sp. Gr.	Depth to Base of Seam	Core Recovery %
D:											
QBD 7514	7.03	27.35	29.17	0.92	0.40	0.038	5.5	68.40	1.55	134 ft.	94.1
E:											
QBD 7513	6.89	24.18	25.59	0.73	0.50	0.030	7.5	79.32	1.80	427 ft.	78.2
QBD 7514	7.08	24.83	26.37	0.80	0.46	0.015	7.5	82.19	1.65	267 ft.	82.0
Avg.	6.99	24.51	25.98	0.77	0.48	0.023	7.5	80.76	1.73		80.1
F:											
QBD 7514	7.07	24.42	25.87	0.64	0.47	0.040	8.0	72.81	1.73	376 ft.	76.0
QBR 7586	7.07	26.07	27.72	0.81	0.48	--	8.0	61.32	1.48	45 ft.	74.2
Avg.	7.07	25.25	26.80	0.73	0.48	0.040	8.0	67.07	1.61		75.1
I:											
QBD 7513	6.93	22.76	24.14	0.84	0.27	0.038	7.5	77.05	1.48	653 ft.	59.2
QBD 7514	7.21	23.73	25.18	0.62	0.31	0.040	8.0	78.09	1.52	604 ft.	58.0
Avg.	7.07	23.25	24.67	0.73	0.29	0.039	7.5	77.57	1.50		48.6
J:											
QBD 7514	7.10	22.22	23.50	0.69	0.40	0.020	6.0	85.06	1.70	670 ft.	72.0
QBR 7582	6.84	23.97	25.40	0.80	0.36	--	6.5	84.80	1.63	59 ft.	77.2
Avg.	6.97	23.10	24.46	0.75	0.38	0.020	6.0	84.93	1.67		74.6
K:											
QBR 7590	5.19	21.71	22.52	0.62	0.63	--	6.0	88.23	2.00	108 ft.	35.0



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PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

ROMAN MTN. QUALITY- D SEAM
F.S.I.

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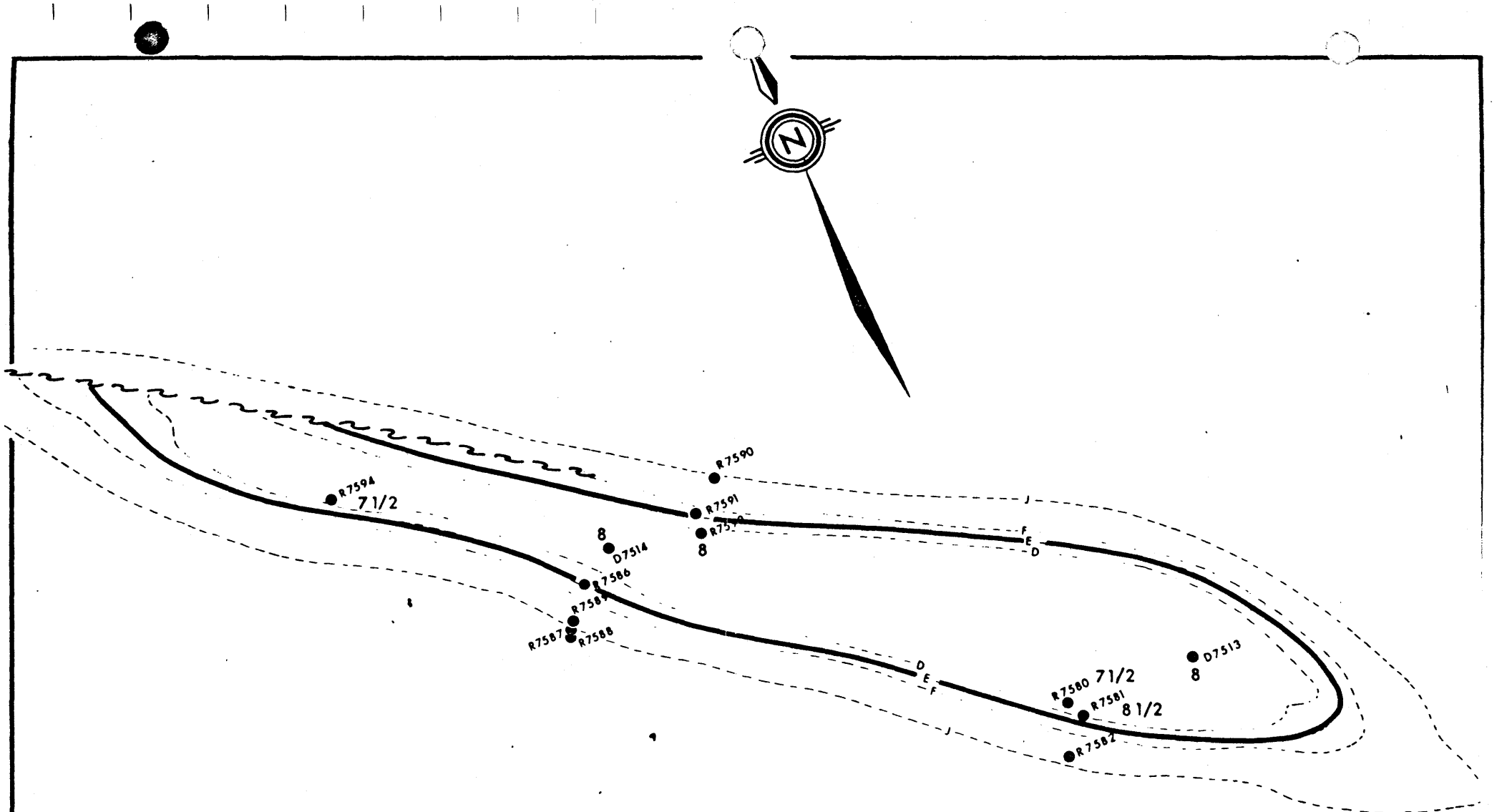

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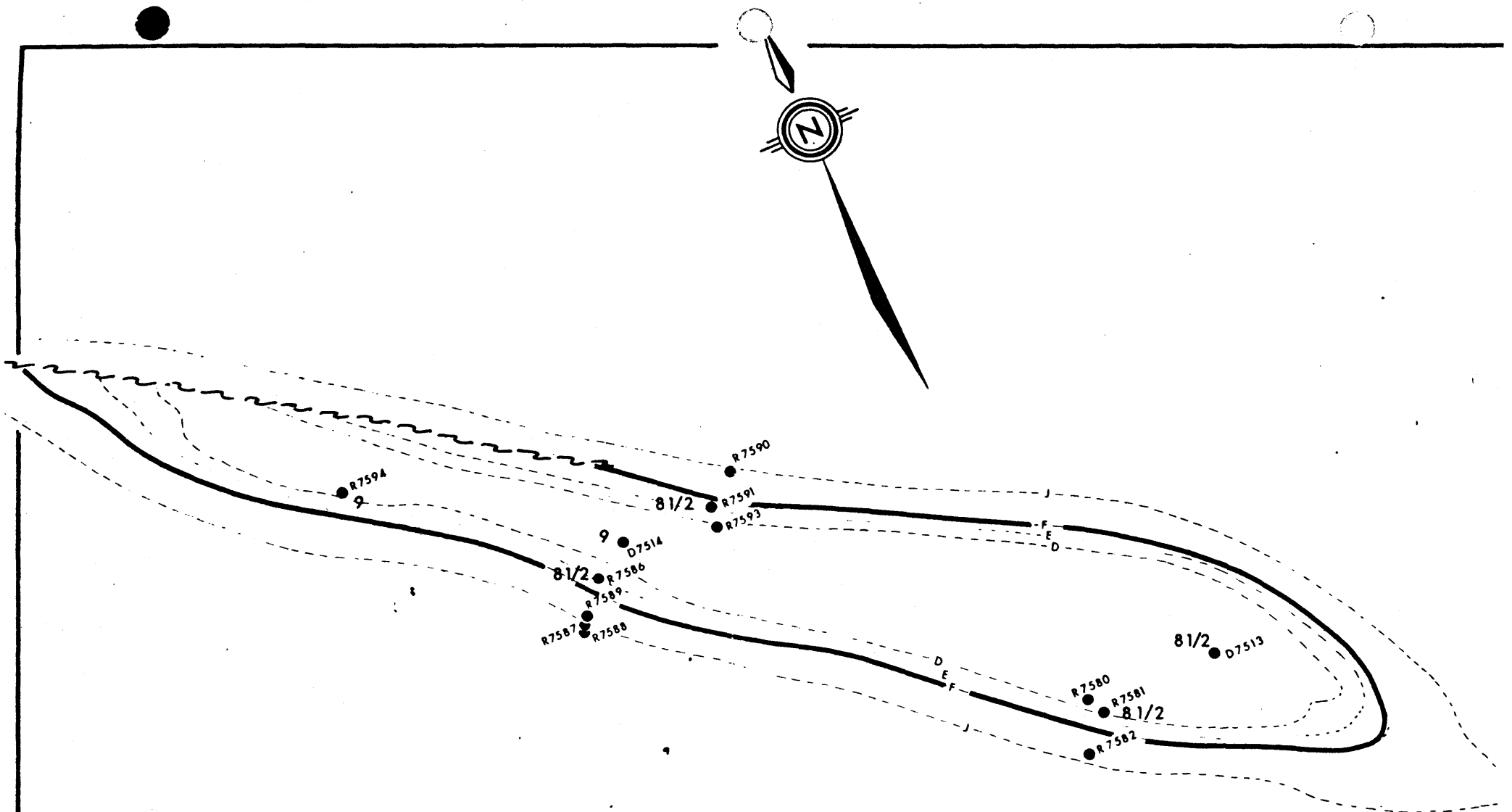

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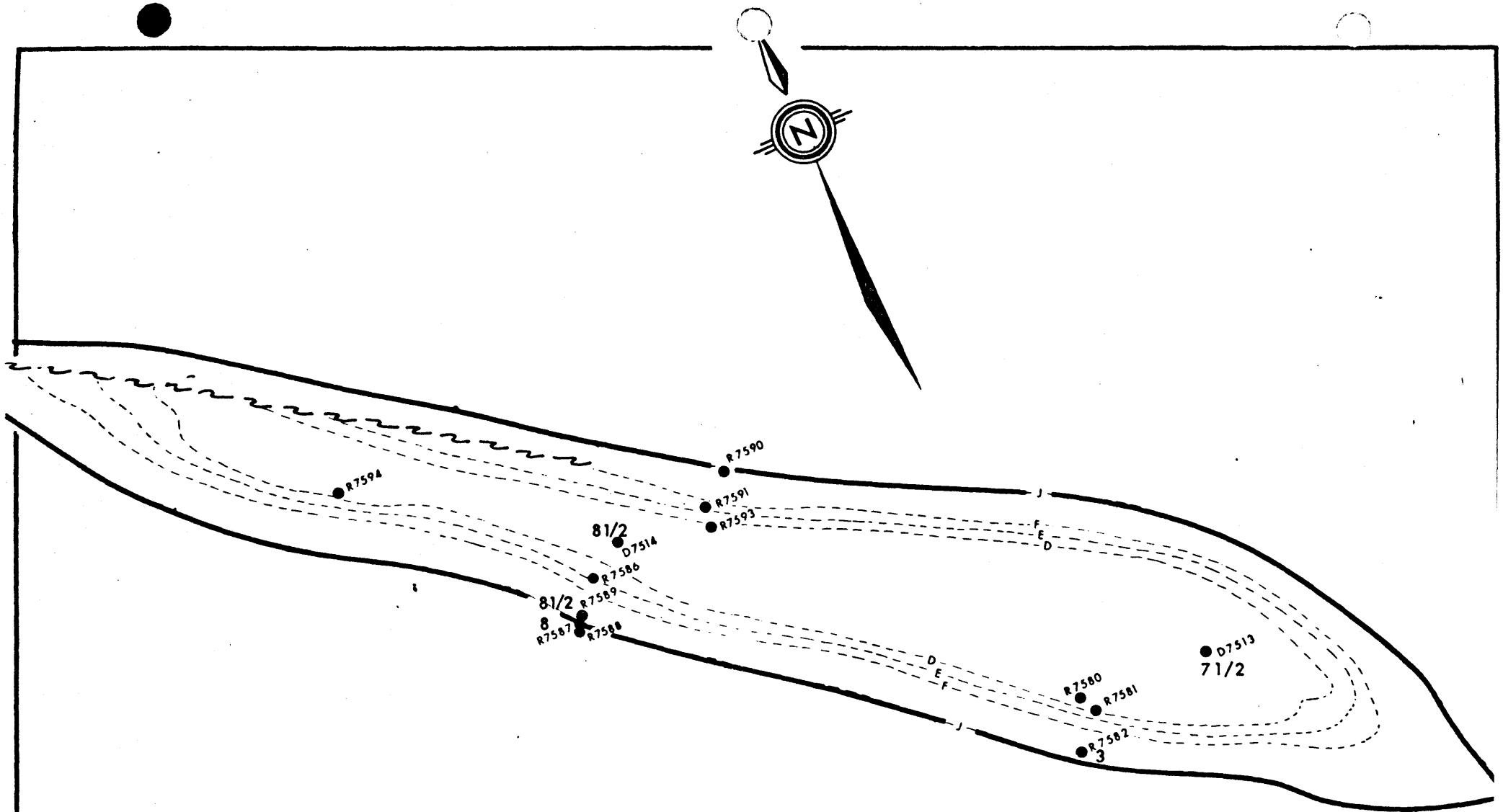

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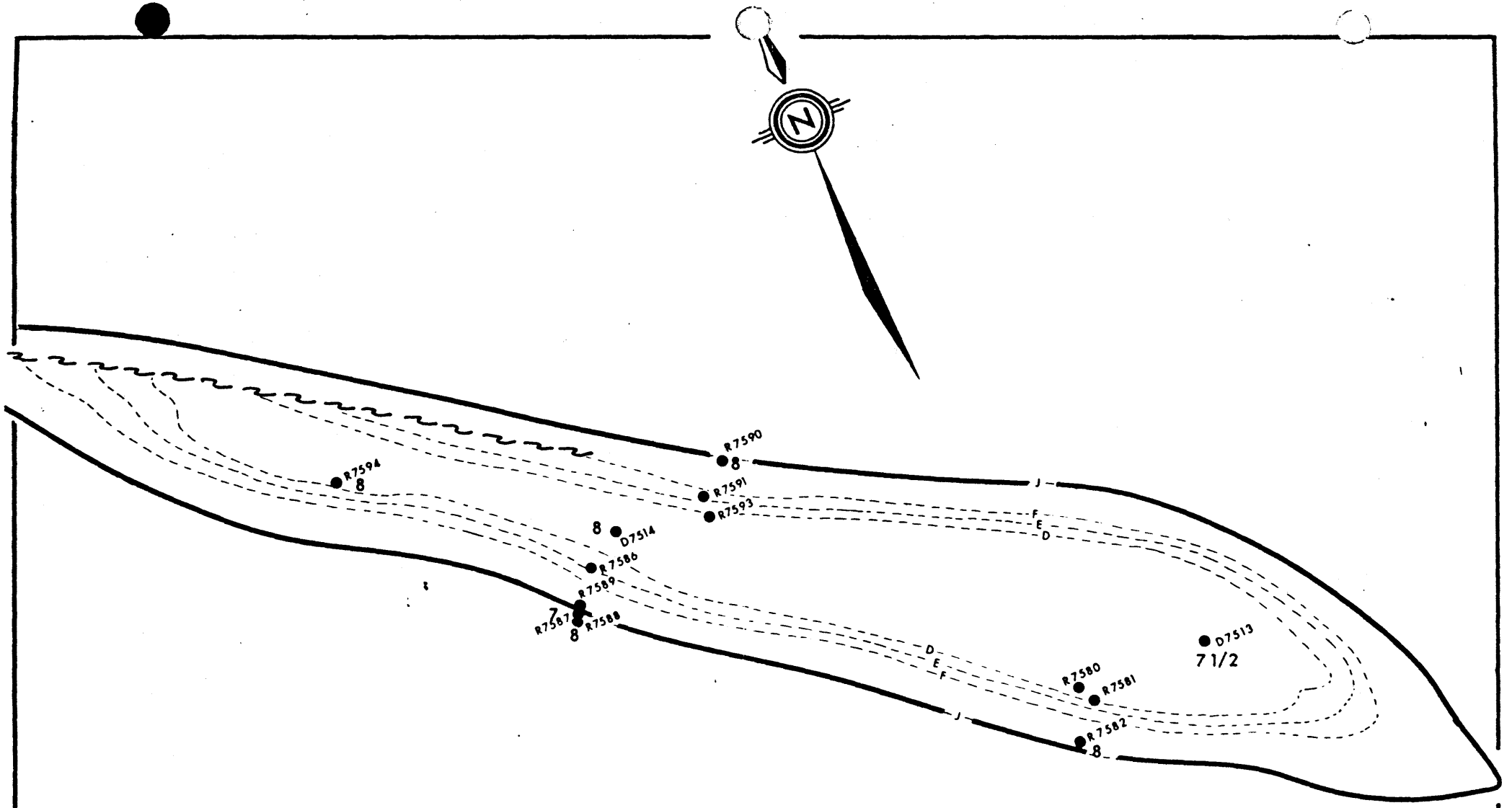

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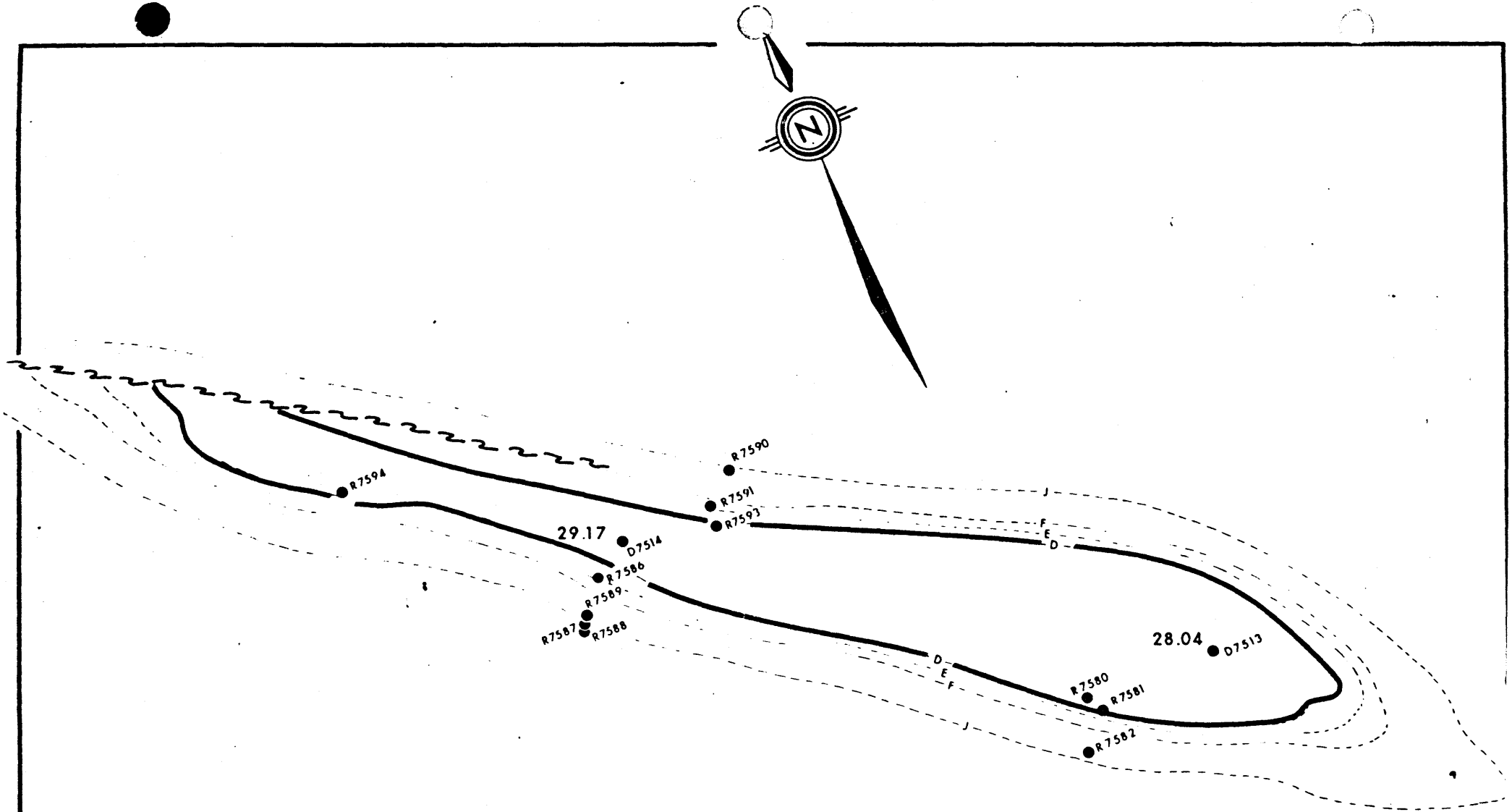

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ROMAN MTN. QUALITY – D SEAM

d.m.m.f. V.M.

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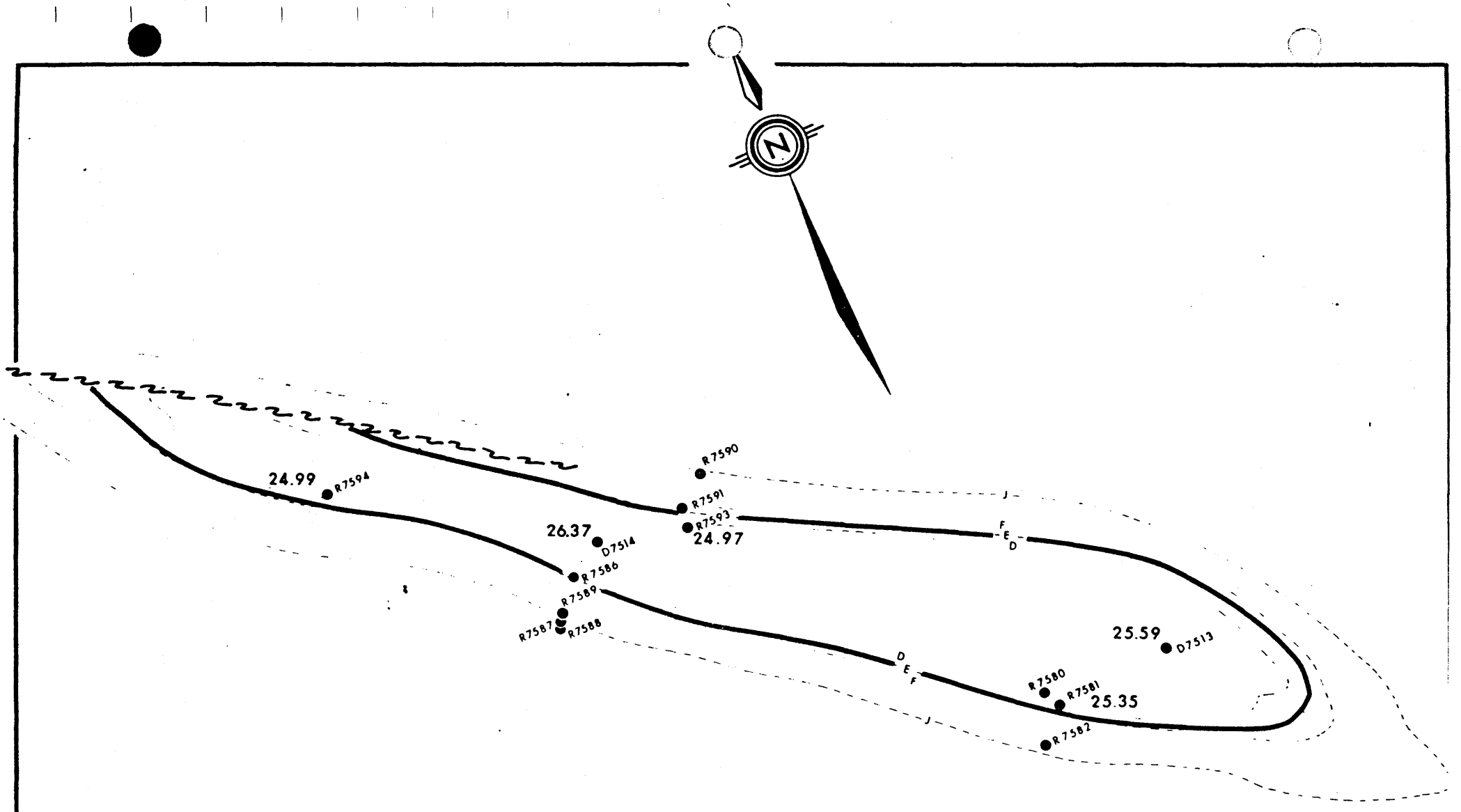

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d.m.m.V.M.

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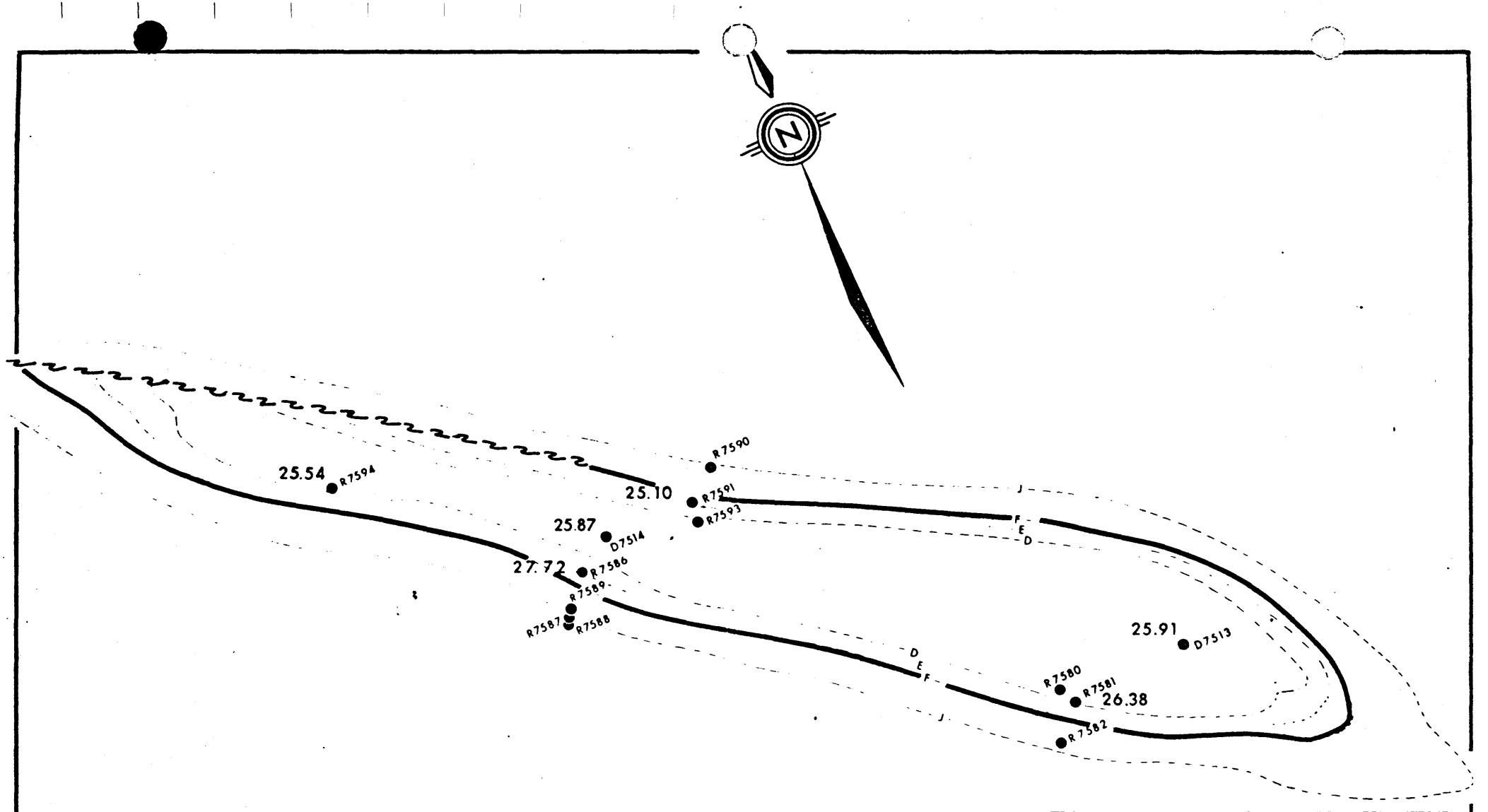

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ROMAN MTN. QUALITY - F SEAM
d.m.m.f.V.M.

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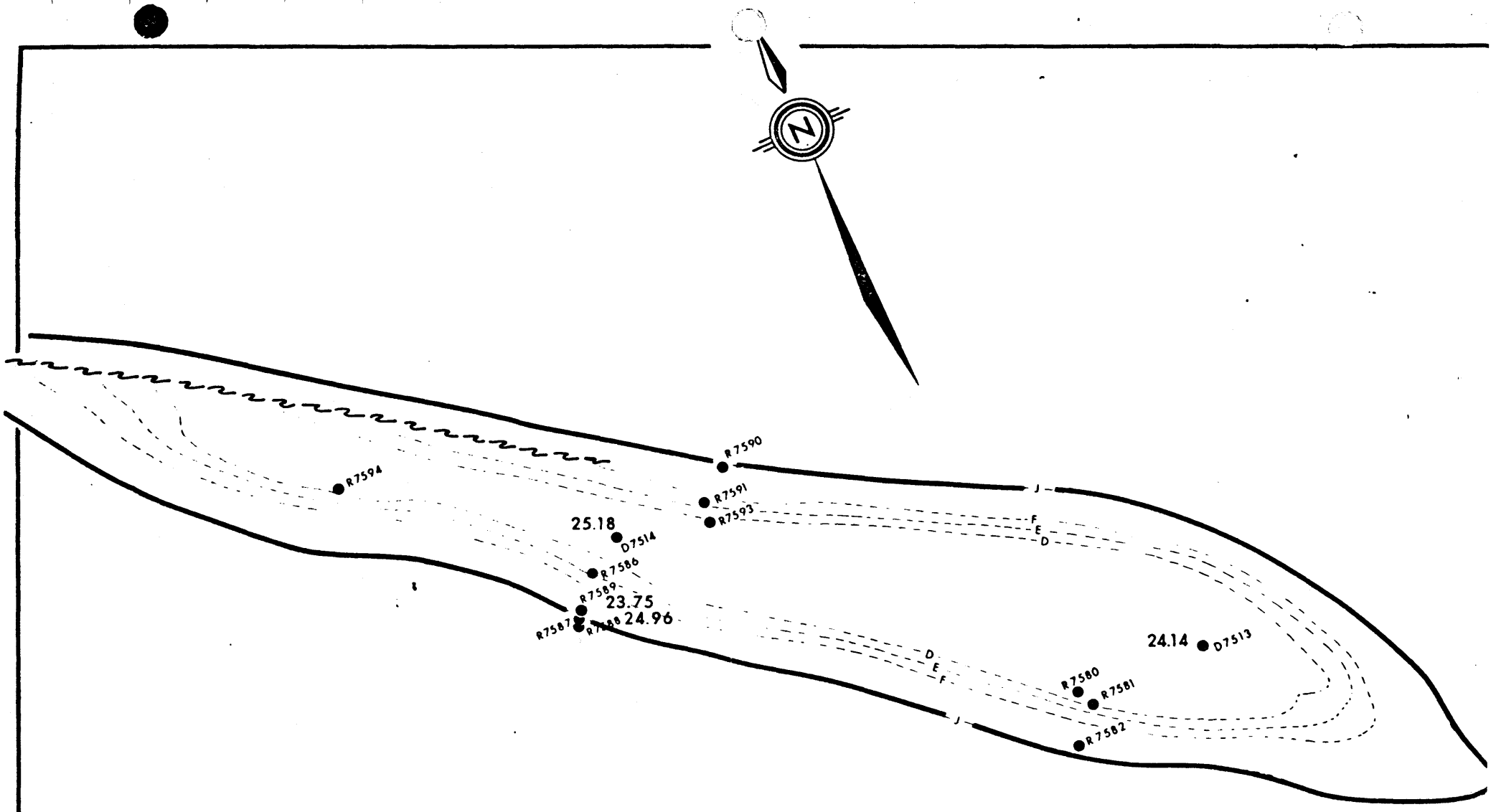

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ROMAN MTN. QUALITY – I SEAM

d.m.m.f. V.M.

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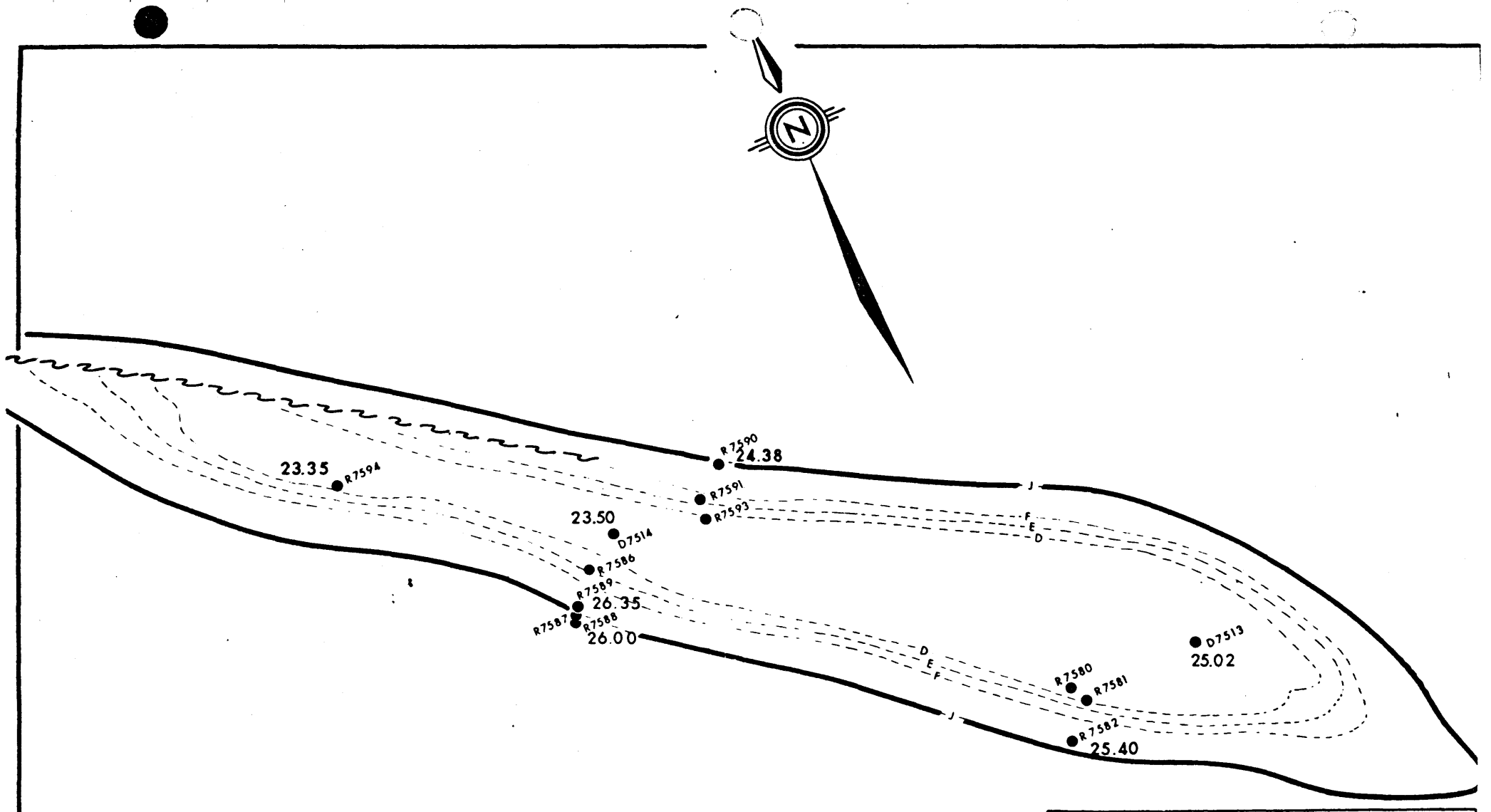

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ROMAN MTN. QUALITY - J SEAM

d.m.m.f. V.M.

DRAWN BY E. Toth	DATE Feb '76	SCALE 1:10,000
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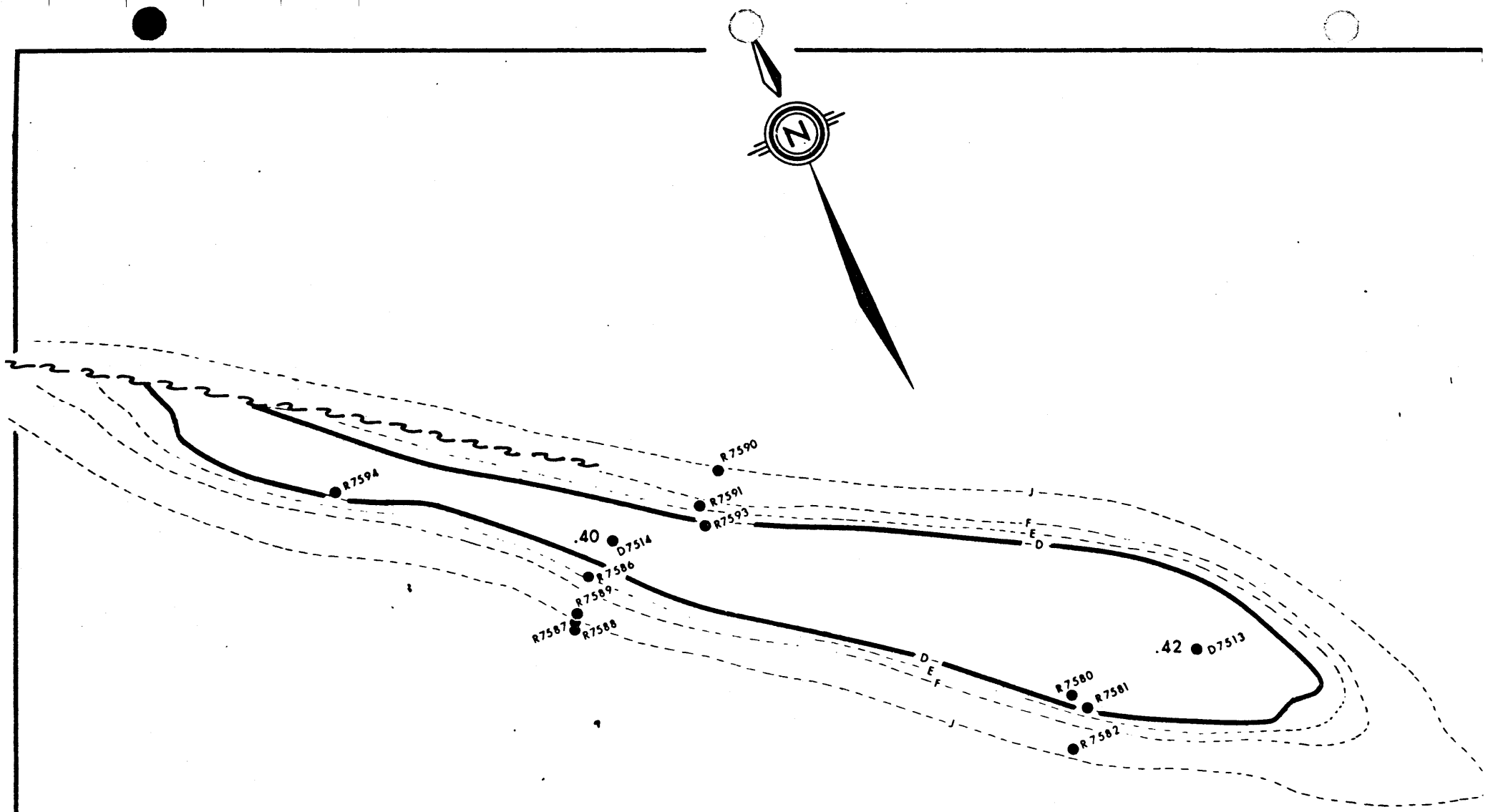

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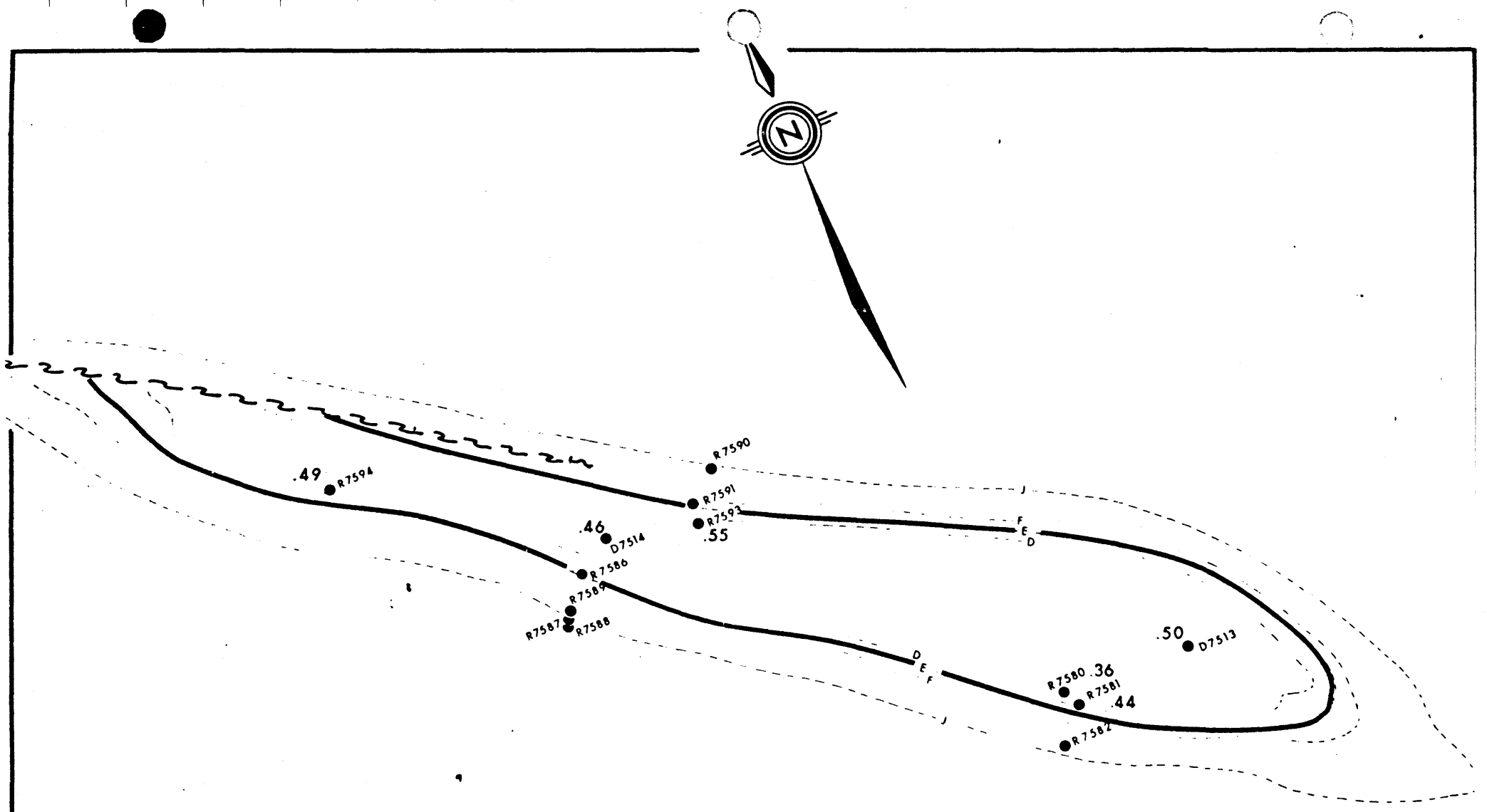
ROMAN MTN. QUALITY- D SEAM
PRODUCT SULPHUR

DRAWN BY E. LOTH	DATE Feb '76	SCALE 1:10,000
APPROVED BY	DRAWING NO QNTT 76-0638-R01	



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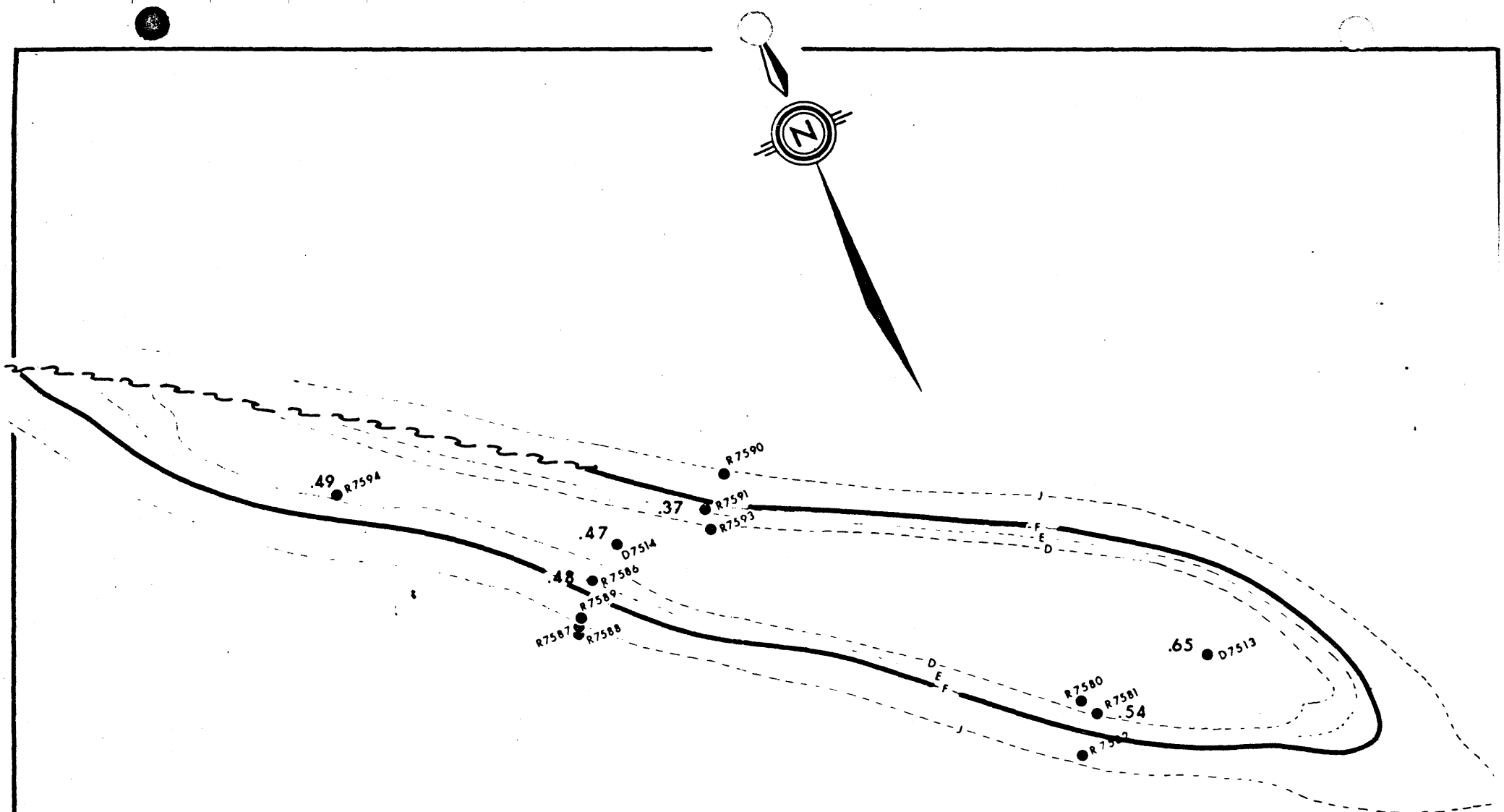
BRITISH COLUMBIA GEOLOGICAL SURVEY

QUINTETTE COAL LIMITED

PREPARED BY,
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

ROMAN MTN. QUALITY- E SEAM PRODUCT SULPHUR

DRAWN BY E. Toth	DATE Feb '76	SCALE 1 : 10,000
APPROVED BY	DRAWING NO QNTT 76-0638-R01	



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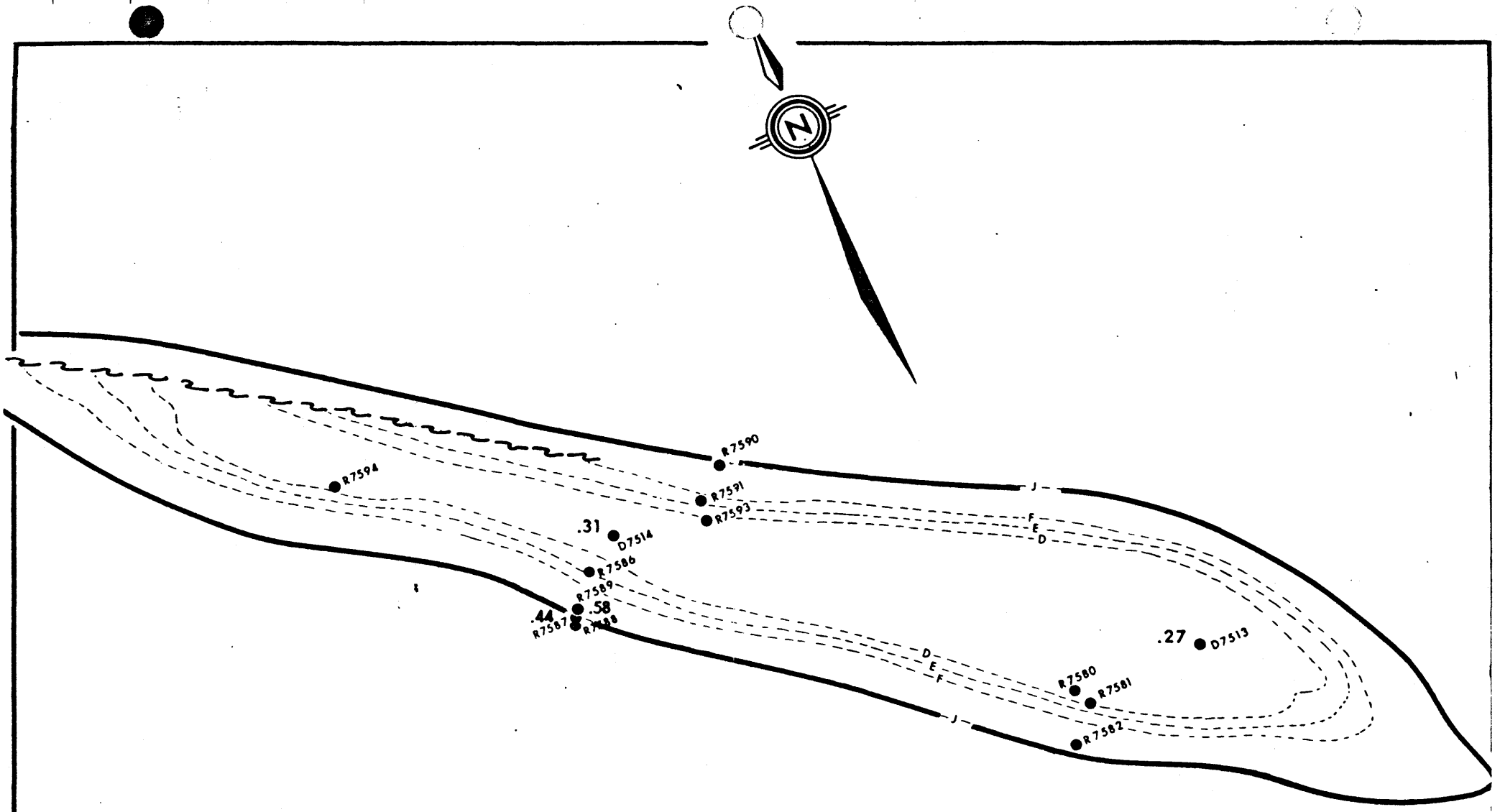
BRITISH COLUMBIA GEOLOGICAL SURVEY

QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

ROMAN MTN. QUALITY - F SEAM
PRODUCT SULPHUR

DRAWN BY: E. Toth	DATE: Feb '76	SCALE: 1:10,000
APPROVED BY:	DRAWING NO: QNTT 76-0638-R01	



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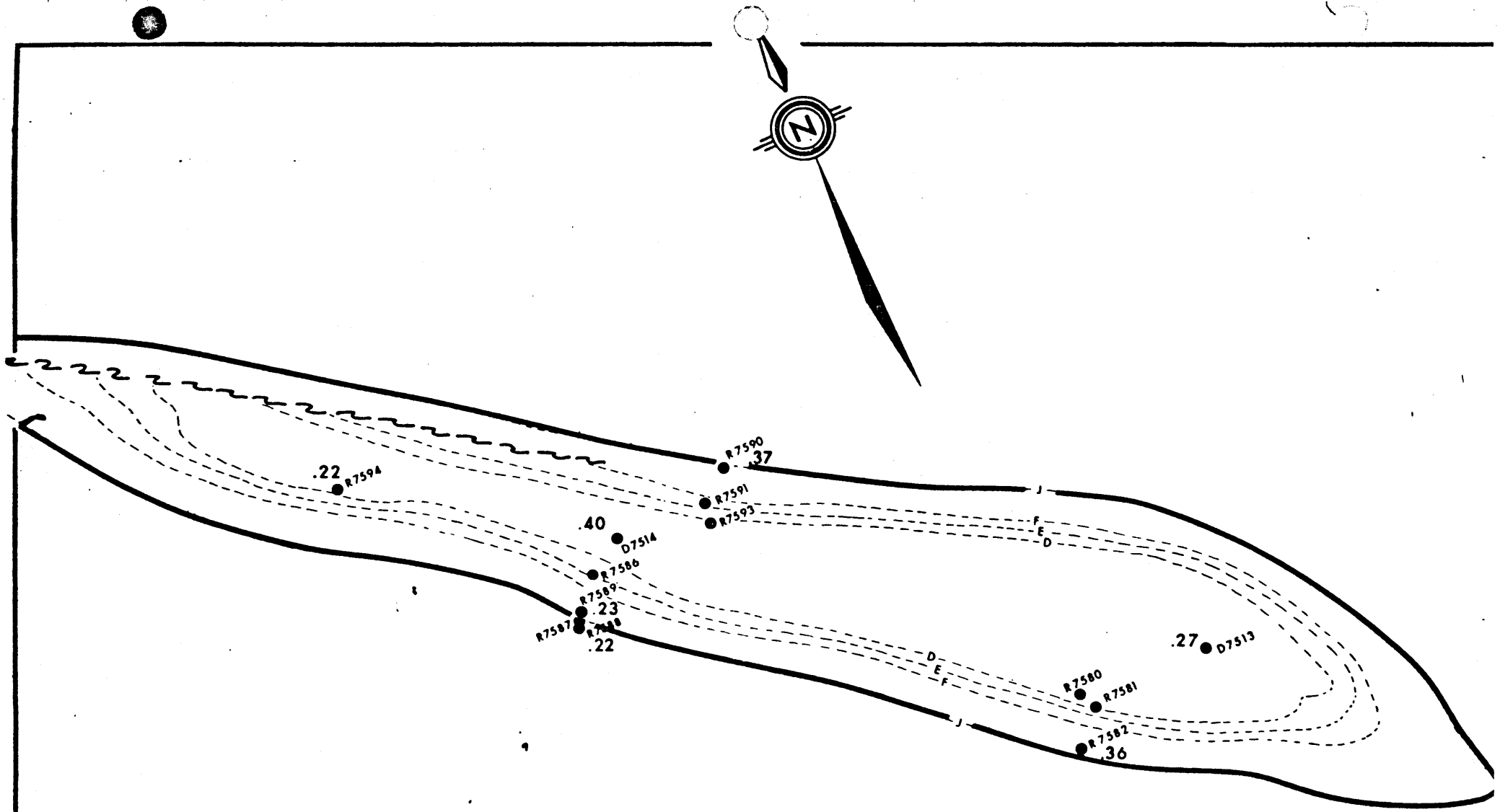
QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

ROMAN MTN. QUALITY - I SEAM
PRODUCT SULPHUR

DRAWN BY: E. Toth	DATE: Feb '76	SCALE: 1:10,000
APPROVED BY:	DRAWING NO: QNTT 76-0638-R01	



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QUINTETTE COAL LIMITED

PREPARED BY:
DENISON MINES (B.C.) LIMITED
(COAL DIVISION)
CALGARY ALBERTA

ROMAN MTN. QUALITY- J SEAM
PRODUCT SULPHUR

DRAWN BY: E. LOTT	DATE: Feb '76	SCALE: 1:10,000
APPROVED BY:	DRAWING NO: QNTT 76-0638-R01	

A.3.0 Sheriff and Frame Pits

A.3.1 Introduction

Work on the Sheriff and Frame Pits during 1975 consisted of limited geological mapping, approximately 30 trenches and 3 rotary drill holes.

Coal and dilution thickness averages were determined for each seam from logs of the trenches and drill holes for the Frame Pit, the Sheriff Pit and the Deputy Pit. (the Deputy Pit is a small syncline adjacent to the Sheriff Syncline) Tables used in the thickness average calculations are included in this section and the actual trench logs are included at the back of this appendix box.

Structure contour maps of the base of each seam were constructed for both the Sheriff and Frame Pits from geological cross sections and an oxidation depth barrier of 100 feet was placed on these maps except in the case of D seam at the Sheriff pit where additional oxidation was anticipated due to flat "near surface" topography. The structure contour maps are located in the summary report.

Reserve calculations were carried out using the same procedure as in the Roman and Windy pits. The detailed calculation tables presented in this text are in the British system but are summarized in metric units in the summary report text.

Total pit volume calculations were made according to the same procedures as the Windy and Roman pits and the calculation tables are included in this section and discussed in the summary Report. The floor of J seam was used as a pit floor in the Frame Pit and the floor of J seam and the major thrust fault plane to the north east of the Sheriff Syncline were used as the pit floor in the Sheriff Pit.

Limited quality information was obtained from the core of the 3 rotary drill holes in these pits and this information is presented in the summary report.

Summary of Coal and Dilution Thickness Used In

Reserve Calculation - Sheriff Pit

D Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-20	6.50	.90
T-19	7.50	.20
T-17	8.80	.20
T-16	7.10	.50
T-6	4.10	.65
QMR 7595	5.45	.00
Avg.	6.58 Less Geological Factor = 5.60	.41

E-1 Seam Sheriff

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-2	28.38	2.00
T-3A	25.13	-
T-5	26.69	5.98
QMR 7595	22.83	5.22
T-6	30.09	6.12
T-16A	13.20	3.53
T-17A	27.96	8.28
T-19A	16.18	5.28
Avg.	23.81 Less Geological Factor = 22.70	5.80

E-1 Seam Deputy

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-4A	23.1	6.68
T-4B	24.28	9.83
T-33B	21.32	5.25
Avg.	22.90 Less Geological Factor = 21.92	7.26

E-2 Seam Sheriff

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-3A	3.95	.30
QMR 7595	2.91	.00
T-6	3.90	1.60
T-19	3.58	.72
T-20	2.85	.20
Avg.	3.44 Less Geological Factor	.56
	= 2.46	

E-2 Seam Deputy

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-4	5.94	.69
T-3	6.60	.00
Avg.	6.27 Less Geological Factor	.32
	= 5.29	

G Seam Sheriff

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-17G	3.70	0
T-17F	3.05	0
T-17E	3.30	0
T-17B	5.00	.45
T-6	7.30	.65
QMR 7595	6.34	1.27
T-5	3.15	.15
T-3A	2.80	.30
Avg.	4.33 Less Geological Factor	.35
	= 3.35	

G Seam Deputy

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-3D	4.99	1.08
T-4C	5.95	.75
Avg.	5.47 Less Geological Factor	.92
	= 4.49	

J Seam Deputy

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-33	23.40	3.15
T-4	29.52	6.30
Avg.	26.46 Less Geological Factor	4.72
	= 25.48	

J Seam Sheriff

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-19B	37.60	2.75
T-16	21.70	2.00
T-6	34.42	2.97
QMR 7595	21.52	4.98
T-5	25.09	3.68
Avg.	28.07 Less Geological Factor	3.28
	= 27.09	

Summary of Coal and Dilution Thickness Used In

Reserve Calculation - Frame Pit

D Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-28	4.50	.30
T-27A	8.80	.25
T-25	8.60	.10
T-10	7.35	.33
T-11	8.05	.75
T-12	7.15	1.50
T-17A	7.35	.20
T-17B	7.05	.45
T-8	8.05	.35
T-23	7.75	2.40
T-14	9.75	1.19
QMR 7596	4.90	2.75
Avg.	7.44 Less Geological Factor = 6.46	.88

E Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-10	8.63	1.80
T-12	10.50	3.03
T-8	8.60	3.31
T-23	12.94	4.12
T-30	9.05	.50
QMR 7596	12.46	2.32
T-27	7.90	1.99
T-11	7.45	1.37
T-7	13.30	.50
Avg.	10.09 Less Geological Factor = 9.11	2.05

F Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-27B	14.78	2.72
T-10	8.30	1.30
T-12	4.12	.48
T-14	0.00 (All Waste)	0
T-24 (29)	6.80	.25
T-30	6.00	0
T-31A	5.70	.6
QMR 7596	5.80	1.30
Avg.	6.44 Less Geological Factor = 5.46	.95

G Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-27E	8.10	.63
T-27C	9.20	.95
T-32B	7.60	.50
T-9	10.50	.05
T-10	6.98	.20
T-12	12.52	.57
QMR 7596	11.59	0
Avg.	9.50 Less Geological Factor = 8.52	.41

J Seam

Data Point	Coal Thickness (ft.)	Dilution Thickness (ft.)
T-27D	7.27	.02
T-32	7.10	.00
T-10B	6.65	.25
T-14	10.18	2.52
T-12	9.00	1.40
QMR 7597	5.84	0
Avg.	7.67 Less Geological Factor = 6.69	.70

BRITISH

SEAM D STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Sheriff
Date: Feb. 20, 1976
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Average* True Coal Thickness ft	Average True Dil. Thickness ft	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t	Dilution Volume cu. yds.	Dilution Volume long tons
A	775	300	21.16	1.0723	5.60	0.41	1728	554 556 548 Avg. 553	1,372,644	284,697	299,911	82.98	269,920	20,844	29,800		434,385	90,095	94,910	6,596	9,430
B	485	200	22.41	1.0817	5.60	0.41	1728		140,220	29,083	30,637	82.98	27,573	2,129	3,044	Avg. 175 400 390 399 Avg. 396	991,557	205,657	216,647	15,050	21,517
C	545	50	5.24	1.0042	5.60	0.41	1728	Avg. 56 Avg. 19	44,163	9,160	9,650	82.98	8,685	671	959	321 326 322 Avg. 323	750,825	155,727	164,049	11,401	16,300
TOTAL									1,557,027	322,940	340,198		306,178	23,644	33,803		2,176,767	451,479	475,606	33,047	47,247

* - minus .98 feet

BRITISH

SEAM E STRIP RESERVES - page 1

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Sheriff
Date: Feb. 20, 1976
Approved by: Charlie Mankowski

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Average* True Coal Thickness ft	Average True Dil. Thickness ft	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	570	300	27.76	1.1300	25.16	6.14	1728	277 282 280 Avg. 280	732,411	682,499	718,972	68.19	647,075	166,555	238,119		319,122	297,374	313,266	72,571	103,753
B	1565	300	10.85	1.0182	25.16	6.14	1728	151 153 155 Avg. 153	360,612	336,054	353,995	68.19	318,595	82,006	117,242	Avg. 122	63,639	59,301	62 470	14,472	20,690
C	570	200	19.33	1.0597	25.16	6.14	1728	489 484 488 Avg. 487	1,191,375	1,113,204	1,172,694	68.19	1,055,425	271,664	388,390	Avg. 27	294,363	274,301	288,960	66,940	95,702
D	430	200	24.94	1.1028	25.16	6.14	1728	776 778 776 Avg. 777	1,983,510	1,848,338	1,947,113	68.19	1,752,401	451,065	644,874	Avg. 120	1,878,849	1,750,807	1,844,370	427,264	610,847
E	-	-	10.0	1.0154	25.16	6.14	1728	161 161 157 Avg. 160	376,074	350,445	369,173	68.19	332,256	85,522	122,268	Avg. 736	303,210	282,547	297,646	68,952	98,579
																Avg. 129					
TOTALS	SHERIFF							1857	4,643,982	4,330,540	4,561,947		4,105,752	1,056,812	1,510,893	1134	2,859,183	2,664,330	2,806,712	650,199	929,571

* - minus .98 feet

B R I T I S H

SEAM E STRIP RESERVES - page 2

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Sheriff
Date: Feb. 20, 1976
Approved by: Charlie Mankowski

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Average* True Coal Thickness ft	Average True Dil. Thickness ft	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t	Dilution Volume cu. yds.	Dilution Volume long tons
DEPUTY F	500	200	21.8	1.0770	27.21	7.58	1728	110 115 110 Avg. 112	279,225	281,397	296,435	84.17	266.791	78,390	112,071	Avg. 128	319,113	321,594	338,780	89,588	128,081
DEPUTY G	1525	200	7.47	1.0086	27.21	7.58	1728	89 80 82 Avg. 84	196,119	197,642	208,204	84.17	187,384	55,059	78,716	Avg. 42	98,055	98,821	104,102	27,528	39,356
DEPUTY H	180	100	29.05	1.1440	27.21	7.58	1728	84 82 81 Avg. 82	217,152	218,837	230,532	84.17	207,479	60,963	87,157	Avg. 107	283,466	285,556	300,816	79,550	113,730
DEPUTY TOTALS								278	692,496	697,876	735,171		661,654	194,412	277,944	277	700,634	705,971	743,698	196,666	281,167
SHERIFF AND DEPUTY TOTALS								2133	5,336,478	5,028,399	5,297,118		4,767,406	1,251,224	1,788,837	1411	3,559,817	3,370,301	3,550,410	846,865	1,210,738

* - minus .98 feet

BRITISH

SEAM 6 STRIP RESERVES - page 1

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Sheriff
Date: Feb. 20, 1976
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Average* True Coal Thickness ft	Average True Dil. Thickness ft	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	575	300	27.55	1.1279	3.35	0.35	1728	243 245 242 Avg. 243	634,446	78,718	82,925	81.10	74,632	8,225	11,759		305,469	37,901	39,926	3,960	5,661
B	1005	300	16.62	1.0436	3.35	0.35	1728	106 106 102 Avg. 105	253,656	31,472	33,154	81.10	29,838	3,288	4,701	117	45,900	5,695	5,999	595	851
C	670	200	16.62	1.0436	3.35	0.35	1728	488 493 493 Avg. 491	1,186,128	147,168	155,033	81.10	139,530	15,376	21,983	19	326,124	40,463	42,625	4,228	6,045
D	770	300	21.29	1.0732	3.35	0.35	1728	1057 1055 1050 Avg. 1054	2,618,406	324,877	342,238	81.10	308,014	33,943	48,527	135	539,082	66,886	70,460	6,988	9,991
E	-	-	-	1.00	3.35	0.35	1728		203,697	25,274	26,625	81.10	23,962	2,641	3,776	217 340 336 336 Avg. 337	780,093	96,709	101,877	10,113	14,458
F	350	100	28.57	1.1386	3.35	0.35	1728	Avg. 88 0 0 0 Avg. 0	0	0	0	81.10	0	0	0	265 265 262 Avg. 264	695,808	86,332	90,946	9,020	12,896
G	580	100	9.78	1.0147	3.35	0.35	1728	143 145 142 Avg. 143	335,880	41,675	43,902	81.10	39,512	4,354	6,225	46	108,045	13,406	14,122	1,401	2,003

* - minus .98 feet

B R I T I S H

SEAM G STRIP RESERVES - page 2

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Sheriff
Date: Feb. 20, 1976
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Average* True Coal Thickness ft	Average True Dil. Thickness ft	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t	Dilution Volume cu. yds.	Dilution Volume long tons
H	-	-	10.00	1.0154	3.35	0.35	1728	127 129 127 Avg. 128	300,861	41,675	39,324	81.10	35,392	3,900	5,576	96	225,648	27,997	29,493	2,925	4,182
TOTALS									5,533,074	686,513	723,200		650,880	71,727	102,546		3,026,169	375,389	395,450	39,230	56,086
DEPUTY I	565	200	19.49	1.0608	4.49	0.915	1728	Avg. 203	498,474	82,894	87,324	73.35	78,592	16,893	24,151	229	562,320	93,512	98,519	19,056	27,244
DEPUTY J	1485	200	7.67	1.0090	4.49	0.915	1728	127 121 117 Avg. 122	284,949	47,386	49,918	73.35	44,926	9,657	13,806	35	81,747	13,594	14,320	2,770	3,960
DEPUTY K	315	100	17.61	1.0492	4.49	0.915	1728	151 152 153 Avg. 152	369,162	61,391	64,671	73.75	58,204	12,530	17,914	175	425,025	70,680	74,457	14,404	20,593
DEPUTY TOTALS									1,152,585	191,671	201,913		181,721	39,080	55,871		1,069,092	177,786	187,296	36,230	57,797
SHERIFF AND DEPUTY TOTALS									6,685,659	878,184	925,113		832,601	110,807	158,417		4,095,261	553,175	582,746	75,460	113,883

* - minus .98 feet

BRITISH

SEAM J Strip Reserves

Property: Quintette
Area: Murray
Pit: Sheriff

Reserve Block	DIP CORRECTION H. D. ft.	V. D. ft.	Dip°	Sec.	Average * True Coal Thickness ft.	Average True Dilution Thickness ft.	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (- 98 Pct) l.t.	Pit Loss	Est. Mineable (- al l.t.	Dilution Volume cu.yds.	Dilution l.t.	OXIDIZED COAL Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (- 98 Pct) l.t.	Dilution Volume cu.yds.	Dilution l.t.
A	685	300	23.65	1.0917	27.09	3.28	1728	160 162 161 Avg. 161	406,863	408,219	430,034	77.68	387,030	49,426	70,663	Avg. 83	209,745	210,444	221,690	25,479	36,427
B	1,225	400	18.08	1.0526	27.09	3.28	1728	82 81 82 Avg. 82	199,683	200,351	211,058	77.68	189,952	24,258	34,681	Avg. 16	38,961	39,092	41,181	4,733	6,767
C	925	300	17.97	1.0513	27.09	3.28	1728	467 465 471 Avg. 468	1,138,905	1,142,706	1,203,772	77.68	1,083,395	138,356	197,803	Avg. 155	377,199	378,460	398,685	45,822	65,510
D	510	200	21.41	1.0741	27.09	3.28	1728	973 976 973 Avg. 974	2,421,693	2,429,773	2,559,620	77.68	2,303,658	294,191	420,596	Avg. 155	385,380	386,668	407,332	46,815	66,930
E	580	100	9.78	1.0148	27.09	3.28	1728	208 203 194 Avg. 202	474,516	476,095	501,538	77.68	451,384	57,645	82,413	Avg. 127	298,332	299,327	315,323	36,241	51,813

* - minus .98 feet

B R I T I S H

SEAM J Strip Reserves

Property: Quintette
Area: Murray
Pit: Sheriff

Reserve Block	DIP CORRECTION				Average True Coal Thickness ft.	Average True Dilution Thickness ft.	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL					
	H. D. ft.	V. D. ft.	Dip°	Sec.				Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Fell.t.	Pit Loss	Rec. Mineable Coal l.t.	Dilution Volume cu.yds.	Dilution l.t.	Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Fell.t.	Dilution Volume cu.yds.	Dilution l.t.
F			00.00	1.0000	27.09	3.28	1728	93 96 90 Avg. 93	215,280	215,995	227,538	77.68	204,784	26,153	37,390	Avg. 90	208,332	299,028	220,198	25,308	36,182
G			00.00	1.0000	27.09	3.28	1728	408 412 417 Avg. 412	953,703	956,884	1,008,020	77.68	907,218	115,857	165,637	Avg. 151	349,533	350,703	369,444	42,460	60,704
H			28.57	1.1386	27.09	3.28	1728	000 000 000 Avg. 000	000	000	000	77.68	000	000	000	194 194 201 Avg. 196	516,591	518,310	546,008	62,754	89,718
TOTALS	(SHERIFF)							2392	5,810,643	5,830,024	6,141,580		5,527,422	705,886	1,009,184	973	2,384,073	2,392,032	2,519,862	289,612	414,050

* - minus .98 feet

BRITISH

SEAM J Strip Reserves

Property: Quintette
Area: Murray
Pit: Sheriff

Reserve Block	DIP CORRECTION				Average True Coal Thickness ft.	Average True Dilution Thickness ft.	4,000,000 sq. ft. Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL					
	N. D. ft.	V. D. ft.	Dip°	Sec.				Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Rec. Mineable Coal l.t.	Dilution Volume cu.yds.	Dilution l.t.	Planimeter Area units	Actual Area sq.ft.	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Dilution Volume cu.yds.	Dilution l.t.
DEPUTY I	1,000	300	16.70	1.044	25.48	4.72	1728	508 508 505 Avg. 507	1,225,251	1,156,275	1,218,066	73.99	1,096,259	214,192	306,224	Avg. 267	645,255	608,926	641,467	112,800	161,268
DEPUTY J	915	100	6.24	1.0059	25.48	4.72	1728	119 115 118 Avg. 117	272,430	257,095	270,834	73.99	243,751	47,625	68,088	Avg. 25	58,212	54,935	57,871	10,176	14,549
DEPUTY K	290	100	19.03	1.0577	25.48	4.72	1728	310 303 310 Avg. 308	754,101	711,649	749,680	73.99	674,712	131,828	188,471	Avg. 149	364,806	344,272	362,670	63,773	91,175
DEPUTY	TOTAL						%	932	2,251,782	2,125,019	2,238,580		2,014,722	393,644	562,783	441	1,068,273	1,008,133	1,062,208	186,749	266,992
SHERIFF & DEPUTY TOTAL								3324	8,062,425	7,955,043	8,380,160		7,542,144	1,099,530	1,571,966	1414	3,452,346	3,400,165	3,582,070	476,361	681,042

* - minus .98 feet.

B R I T I S H

SEAM D STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Frame
Date:
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Coal * Thickness ft	Dil. Thickness ft	Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored -- Coal Reserve (-.98 Ft)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	2800	1200	23.20	1.0879	6.46	0.88	1736	2507 2512 2518 Avg.2512	6,296,785.34	1,506,564	1,587,075	77.55	1,428,367	205,228	293,409	997	2,499,161.9	597,948	629,902	81,454	116,452
B	1700	400	13.24	1.0273	6.46	0.88		807 808 804 Avg. 806	1,907,842.88	456,469	480,863	77.55	432,777	62,181	88,899	85	201,199.3	48,139	50,711	6,557	9,375
C	2300	400	9.87	1.0150	6.46	0.88		187 186 182 Avg. 185	432,661.28	103,518	109,050	77.55	98,145	14,101	20,160	22	51,451.6	12,310	12,968	1,677	2,397
D	230	100	23.50	1.0904	6.46	0.88		268 268 266 Avg. 267	670,822.12	160,500	169,078	77.55	152,170	21,864	31,258	46	115,572.3	27,652	29,129	3,767	5,385
E	410	500	50.65	1.5770	6.46	0.88		220 221 222 Avg. 221	803,034.56	192,133	202,401	77.55	182,161	26,173	37,419	184	668,589.8	159,966	168,515	21,791	31,154
F	750	700	43.02	1.3678	6.46	0.88		701 701 704 Avg. 702	2,212,432.2	529,345	557,633	77.55	501,870	72,109	103,092	82	258,432.2	61,832	65,137	8,423	12,042
TOTALS								4693	12,323,527.	2,948,529	3,106,100		2,795,490	401,656	574,237	1416	3,794,404.	907,847	956,362	123,669	176,805

* - minus .98 feet

B R I T I S H

SEAM E STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray.
Pit: Frame
Date:
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	DIP CORRECTION V. D. ft	DIP CORRECTION Dip	DIP CORRECTION Sec.	Coal * Thickness ft	Dil. Thickness ft	Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft.) l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft) l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	2690	1100	22.24	1.0803	9.11	2.05	1736	3324 3328 3326 Avg. 3326	8,278,981.1	2,793,389	2,942,668	70.55	2,648,401	628,589	898,675	936	2,329,853.5	786,113	828,123	176,897	252,904
B	1060	300	15.80	1.0392	9.11	2.05		454 452 453 Avg. 453	1,084,694.9	365,984	385,542	70.55	346,988	82,356	117,742	92	220,291.2	74,328	78,300	16,726	23,912
C	4070	700	9.76	1.0146	9.11	2.05		265 247 260 Avg. 257	600,811.52	202,718	213,551	70.55	192,196	45,617	65,217	21	49,093.5	16,565	17,450	3,727	5,329
D	280	100	19.65	1.0618	9.11	2.05		461 445 469 Avg. 458	1,120,517	378,071	398,275	70.55	358,447	85,076	121,631	43	105,201	35,496	37,392	7,987	11,419
E	580	600	45.97	1.4388	9.11	2.05		1023 1029 1025 Avg. 1026	3,401,403	1,147,658	1,208,989	70.55	1,088,090	258,255	369,219	227	752,552	253,917	267,486	57,138	81,689
TOTALS								5520	14,486,406	4,887,820	5,149,025		4,634,122	1,099,893	1,572,484	1319	3,457,000	1,166,419	1,228,751	262,475	375,253

* - minus .98 feet

BRITISH

SEAM F STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Frame
Date:
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	V. D. ft	Dip	Sec.	Coal * Thickness ft	Dil. Thickness ft	Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98Ft)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98rt)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	3020	1300	23.29	1.0887	5.46	0.95	1736	2995 2991 2982 Avg. 2989	7,497,982.2	1,516,258	1,597,287	74.99	1,437,558	263,818	377,172	2441	6,123,310	1,238,269	1,304,443	215,450	308,022
B	1270	300	13.29	1.0275	5.46	0.95		551 552 550 Avg. 551	1,304,498.7	263,799	277,896	74.99	250,106	45,899	65,620	43	101,803	20,587	21,687	3,581	5,121
C	2610	500	10.84	1.0182	5.46	0.95		355 379 346 Avg. 360	844,589.87	170,795	179,922	74.99	161,930	29,717	42,485	51	119,650	24,196	25,489	4,210	6,019
D	450	200	23.96	1.0943	5.46	0.95		230 225 237 Avg. 231	582,450	117,784	124,079	74.99	111,671	20,494	29,299	0	0	0	0	0	0
E	500	300	30.96	1.1662	5.46	0.95		530 527 522 Avg. 526	1,413,412.8	285,823	301,098	74.99	270,988	49,731	71,099	16	42,994	8,694	9,159	1,513	2,163
F	410	500	50.65	1.5771	5.46	0.95		877 866 893 Avg. 879	3,194,172.5	645,932	680,451	74.99	612,406	112,387	160,676	261	948,440	191,796	202,045	33,371	47,709
TOTAL								5536	14,837,103	3,000,391	3,160,733		2,844,659	522,046	746,351	2812	7,336,197	1,483,542	1,562,823	258,125	369,034

* minus .98 feet.

BRITISH

SEAM G STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property: Quintette
Area: Murray
Pit: Frame
Date:
Approved by:

Reserve Block	DIP CORRECTION				Coal* Thickness ft	Dil. Thickness ft	Planimeter Function	UNOXIDIZED COAL								OXIDIZED COAL					
	H. D. ft	V. D. ft	Dip	Sec.				Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Pit Loss	Est. mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal Reserve (-.98 Ft)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	3190	1300	22.17	1.0798	8.52	0.41	1736	4805 4799 4797 Avg. 4800	11,942,488	3,768,518	3,969,908	85.02	3,572,917	438,124	626,372	749	1,857,831	460,329	484,929	48,166	68,861
B	1110	300	15.12	1.0358	8.52	0.41		739 742 743 Avg. 741	1,768,497.1	558,059	587,882	85.02	529,094	63,346	90,564	94	221,268	54,825	57,755	5,736	8,201
C	3240	600	10.49	1.0169	8.52	0.41		420 424 438 Avg. 427	1,000,498.3	315,713	332,584	85.02	299,326	30,321	43,350	47	110,158	27,295	28,753	2,856	4,083
D	250	100	21.80	1.0770	8.52	0.41		241 256 256 Avg. 251	622,873.2	196,551	207,055	85.02	186,349	18,043	25,796	0	0	0	0	0	0
E	410	200	26.00	1.1126	8.52	0.41		394 394 392 Avg. 393	1,007,492.6	317,920	334,909	85.02	331,418	28,986	41,441	41	104,182	25,814	27,193	2,701	3,861
F	600	570	43.53	1.3793	8.52	0.41		1089 1121 1122 Avg. 1111	3,530,880.8	1,114,189	1,173,731	85.02	1,056,357	136,416	195,030	329	1,123,376	278,348	293,222	29,124	41,638
TOTAL								7726	19,872,728	6,270,950	6,606,069		5,945,462	715,236	1,022,553	1260	3,416,815	846,611	891,852	88,583	126,644

* - minus .98 feet

B R I T I S H

SEAM J STRIP RESERVES

DENISON MINES (B.C.) LIMITED

Property:
Area:
Pit:
Date:
Approved by:

Reserve Block	DIP CORRECTION H. D. ft	DIP CORRECTION V. D. ft	DIP CORRECTION Dip	DIP CORRECTION Sec.	Coal* Thickness ft	Dil. Thickness ft	Planimeter Function	UNOXIDIZED COAL Planimeter Area units	Actual Area sq.feet	Coal Volume cu. yds.	Geologically Factored Coal Reserve (-.98Ft.)l.t.	Pit Loss	Est. Mineable Coal l.t.	Dilution Volume cu. yds.	Dilution Volume long tons	OXIDIZED COAL Planimeter Area units	Actual Area sq. feet	Coal Volume cu.yds.	Geologically Factored Coal (-.98 Ft)l.t.	Dilution Volume cu. yds.	Dilution Volume long tons
A	3260	1300	21.74	1.0765	6.69	0.70	1736	6806 6813 6820 Avg. 6813	16,899,064	4,187,212	4,410,977	80.08	3,969,879	181,349	259,269	1504	3,741,980	1,180,803	1,243,905	56,823	81,238
B	2390	500	11.82	1.0216	6.69	0.70		1038 1037 1038 Avg. 1038	2,443,365.9	605,412	637,765	80.08	573,988	26,855	38,394	99	240,383	75,854	79,908	3,650	5,219
C	3220	600	10.56	1.0172	6.69	0.70		508 495 493 Avg. 499	1,169,545.6	289,787	305,274	80.08	274,747	15,193	21,721	54	126,527	39,926	42,060	1,921	2,747
D	460	200	23.50	1.0904	6.69	0.70		301 278 253 Avg. 277	695,946.5	172,440	181,655	80.08	163,490	9,458	13,522	0	0	0	0	0	0
E	430	200	24.94	1.1028	6.69	0.70		443 426 451 Avg. 440	1,118,046	277,027	291,831	80.08	262,648	15,299	21,872	10	25,636	8,090	8,522	389	556
F	640	700	47.56	1.4819	6.69	0.70		1557 1527 1542 Avg. 1541	5,261,769.2	1,303,749	1,373,422	80.08	1,236,080	53,617	76,655	251	797,706	251,720	265,172	12,113	17,318
TOTAL								10608	27,587,735	6,835,627	7,200,924		6,480,832	301,771	431,433	1918	4,932,232	1,556,393	1,639,567	74,896	107,078

* - minus .98 feet

TOTAL VOLUME SHERIFF

CONTOURLINE	PLANIMETER AREA BLK A	PLANIMETER AREA BLK B	TOTAL	TOTAL AVERAGED WITH PRECEDING CONTOURLINE	VOLUME (YD^3)
5200	86	6			
	83	4			
	84	10			
Average	84	7	91	45	384,246
5300	673	514			
	665	516			
	674	516			
Average	671	515	1,186	639	5,456,293
5400	1,252	991			
	1,255	988			
	1,251	990			
Average	1,253	990	2,243	1,715	14,644,042
5500	1,913	1,072			
	1,911	1,078			
	1,910	1,073			
Average	1,911	1,074	2,985	2,614	22,320,417
5600	1,922	565			
	1,927	562			
	1,925	564			
Average	1,924	563	2,487	2,736	23,362,156
5700	423 + 534	130			
	420 + 536	132			
	422 + 530	133			
Average	955	132	1,087	1,787	15,258,835
5800	88 + 201	0			
	90 + 199	0			
	91 + 205	0			
Average	291	0	291	689	5,883,233
				146	1,246,665

PLANIMETER AREA (P.A.) (On a 2,000' x 2,000' area) = 1,735

$$\text{AREA} = \text{P.A.} \times \frac{4{,}000{,}000 \text{ ft.}^2 \times 1 \text{ YD}^2}{1{,}735 \times 9 \text{ ft.}^2}$$

$$\text{VOLUME} = \text{P.A.} \times \frac{4{,}000{,}000 \times 100 \text{ YD}^3}{1{,}735 \times 27}$$

SINCE: THICKNESS = 100 ft.

SHERIFF TOTAL VOLUME = 88,555,890

DEPUTY TOTAL VOLUME = 20,412,764

SHERIFF AND DEPUTY TOTAL = 108,968,654

TOTAL VOLUME DEPUTY

CONTOURLINE	PLANIMETER AREA	AVERAGED WITH PRECEDING CONTOURLINE	VOLUME (YD^3)
5200	106		
	103		
	100		
Average	103	52	441,724
5300	392		
	397		
	405		
Average	398	250	2,123,675
5400	775		
	772		
	772		
Average	773	586	4,977,894
5500	748		
	742		
	748		
Average	746	760	6,455,972
5600	371		
	370		
	370		
Average	370	558	4,740,043
5700	12		
	12		
	12		
Average	12	191	1,622,488
		6	50,968

PLANIMETER AREA (P.A.) = 1,744 (On a 2,000' x 2,000' area)

$$\text{VOLUME} = \text{P.A.} \times \frac{4{,}000{,}000 \times 100 \text{ YD}^3}{1{,}744 \times 27}$$

$$\text{VOLUME} = \text{P.A.} \times 8.4947 \times 10^3$$

DEPUTY TOTAL VOLUME = 20,412,764 YD^3

TOTAL VOLUME FRAME

PLANIMETER FUNCTION
1734 = 4,000,000 (ft.)^2

CONTOURLINE	PLANIMETER AREA	TOTAL AVERAGED WITH PRECEDING CONTOURLINE	VOLUME
6100	197	98	1,683,113
	198		
	196		
	Avg. 197		
6000	463	330	3,955,742
	464		
	463		
	Avg. 463		
5900	820	640	6,980,219
	814		
	818		
	Avg. 817		
5800	904	863	7,766,241
	913		
	910		
	Avg. 909		
5700	2994	1949	25,545,723
	2988		
	2989		
	Avg. 2990		
5600	3757	3371	32,047,493
	3744		
	3752		
	Avg. 3751		
5500	4262	4002	36,344,985
	4251		
	4249		
	Avg. 4254		
5400	4537	4392	38,703,052
	4527		
	4527		
	Avg. 4530		
5300	4623	4574	39,454,899
	4617		
	4613		
	Avg. 4618		
5200	4190	4405	35,815,274
	4187		
	4199		
	Avg. 4192		
5100	3663	3927	31,287,103
	3670		
	3653		
	Avg. 3662		
5000	3181	3420	27,160,486
	3178		
	3180		
	Avg. 3179		
4900	2904	3045	24,862,225
	2918		
	2909		
	Avg. 2910		
4800	2620	2769	22,444,352
	2622		
	2640		
	Avg. 2627		
4700	2300	2467	19,710,362
	2316		
	2306		
	Avg. 2307		
4600	1914	2107	16,284,330
	1908		
	1898		
	Avg. 1906		
4500	1672	1787	14,250,925
	1672		
	1660		
	Avg. 1668		
4400	1422	1538	12,029,558
	1400		
	1403		
	Avg. 1408		
4300	1057	1231	9,005,081
	1051		
	1054		
	Avg. 1054		
4200	663	859	5,673,030
	666		
	664		
	Avg. 664		
4100	115	390	991,071
	119		
	114		
	Avg. 116		
		58	495,536
	TOTAL	48,222	411,995,265