MAGNESITE DEPOSITS AT RUM JUNGLE, N.T., AUSTRALIA - GENESIS AND ASSOCIATION WITH URANIUM AND POLYMETALLIC SULFIDES

(VOLUME II)

by

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This thesis is submitted as fulfilment of the requirements for the degree of Doctor of Philosophy in Geology at the University of Adelaide.

August, 1985.

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PACE AND COMPASS SURVEY OF OUTCROP AREAS

(FIGS. 16-22)

OBSERVED DATA

CELIA DOLOMITE AREA A

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS – MAX. LENGTH OF -XLS. MMS.
1	1 2	F 25 C 10 M 25 VC40	115/45S	2 4	white/ red 1/1	dom. columnar, few rosettes	fine bedding minor discordant	40	35 5	good bedding
2	3 4	F 20 C 30 M 30 VC20	78/75S	1 2	w/r 3/1	", rare rosettes	"	40	35 5	within some areas of magnesite recrystallisation- larger magnesite
3	1.0 1.5	F 20 C 30 M 30 VC20	–	2 2	w/r 5/1	"	"	25	25 –	quartz very common (algal) in very small areas
4	1.5 2.0	F 40 C 35 M 20 VC 5	–	3 1	w/r 5/1	"	"	25	25 –	no definite bedding, chicken-wire texture

CELIA DOLOMITE AREA A

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
5	3 4	F 40 C 25 M 30 VC 5	53/64S	3 3	white, minor red & green	"	"	20	20 –	saccharoidal
6	2 4	F 10 C 20 M 30 VC40	80/68S	2 10	w/r 3/1	"	sugges-tion of re-xl as CO_3	50	40 10	algal quartz structures common
7	1.0 1.5	F 25 C 20 M 35 VC10	60/54S	1 10	w/r 5/1	"	" espe-cially in algal cores	20	15 5	"
8	5cms 10 "	F 20 C 20 M 30 VC30	–	1 10	red in centre	"	very coarse	40	20 20	chicken wire texture stromalites algae
9	5cms 15 "	F 15 C 30 M 35 VC20	62/80S	1 15	w/r 3/1	"	"	40	20 20	algae very pytgmatic
10	2 3	F 10 C 30 M 40 VC20	100/76S	1 10	white, green & red	recryst. to car bonate	algal qz. re-xl	40	20 20	slight stylolite development, strong algal-rhomb. type association

<u>CELIA DOLOMITE AREA A</u>

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
11	10cms 15 "	F 35 C 30 M 25 VC10	-	1 5	"	as for 2	as for 1	30	20 10	slightly stylolytic
12	0.25 1.0	F 40 C 20 M 30 VC10	25/55W	1 2	white	"	"	30	30 -	strongly stylolitic, appears to be along algal laminations
13	5cms 10 "	- C 10 M 10 VC80	-	- 5	white	all rhombs	-	-	-	
14	20cms 50 "	F 25 C25 M 25 VC25	92/30S	2 5	"	as for 2	as for 1	50	35 15	3 very coarse discordant veins
15	2 5	F 30 C 30 M 30 VC10	80/64S	1 5	white, minor red	"	"	40	30 ?10	well laminated, minor stylolites
16	20cms 40 "	F 40 C 20 M 30 VC10	120/48S	1 2	w/r 5/1	"	"	30	20 ?10	seems to be fold-95/55W stylolites, well laminated
17	1.0 1.5	F 40 C 20 M 30 VC10	75/78S	5 5	w/r 5/1	"	"	30	20 ?10	quartz algal cores have talc rims, stylolites, re-xl. qz. veins
18	5cms 10 "	F 30 C 20 M 30 VC20	-	1 2	"	"	"	40	30 ?10	-

CELIA DOLOMITE AREA A

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
19	2cms 5 "	F 5 C 10 M 10 VC75	75/64S	– 5	w/r 10/1	appears to be re-xl	"	70	25 ?55	well banded algae
20	1 2	F 25 C 30 M 25 VC20	80/40S	2 8	white	no rosettes	veins dom. concordant	50	40 ?10	algae laminae very well developed, ?folding, finer laminae in finer grain size material
21	1 1	F 20 C 20 M 30 VC30	68/55S	1 10	w/r 3/1	"	"	50	25 25	algae common, now mainly cleavage rhombs
22	1cm 10 "	F – C 40 M – VC60	–	2 5	w/r 10/1	"	all rex. coarsely	100	– 100	"
23	1cm 10 "	F 25 C 25 M 25 VC25	–	1 2	w/r 3/1	large rosettes	as for 1	50	40 10	stylolites with chlorite
24	2cms 5 "	F 15 C 20 M 15 VC50	–	1 2	w/r 10/1	no rosettes mainly rhombs	"	70	25 45	algae associated with coarse rhombs

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	8 6	F 20 C 30 M 30 VC20	–	1 1	white	normal to bedding, rosettes common, columnar (veins)	parallel to bedding to random to cross cutting	50	50 –	no stroms. 10
2	2 1	F 10 C 20 M 20 VC50	–	3 1	"			70	70 –	no stroms, stylolites 25
3	4 3	F 20 C 30 M 20 VC30	–	3 1	white & buff	"	"	60	55 5	no stroms, stylolites common 10
4	1.5 1.0	F 10 C 40 M 20 VC30	–	3 1	"	"	"	70	50 20	no stroms, stylolites common, carbonate rhombs 40
5	3.5 2.5	F 10 C 30 M 20 VC40	–	4 1	"	"	"	70	60 10	no stroms, stylolites common, mainly veins 40
6	1.5 0.5	F 10 C 40 M 20 VC30	–	2 2	"	"	"	70	50 20	strat. stroms., stylolites common, cleavage rhombs 35

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
7	1.5 0.5	F 20 C 30 M 20 VC30	-	2 -	white	"	"	60	60 -	no stroms., stylolites common, cleavage rhombs 30
8	8 5	F 20 C 30 M 20 VC30	-	2 2	"	"	"	60	60 -	strat. stroms., stylolites common, cleavage rhombs 15
9	1.5 1.0	F 10 C 30 M 10 VC50	75/75S good	2 4	"	"	"	80	70 10	strat. stroms., stylolites common, marked cleavage rhombs 30
10	4 2	F 10 C 40 M 20 VC30	-	1 -	"	"	"	70	70 -	no stroms., stylolites 30
11	1.5 1.0	F 10 C 40 M20 VC30	47/67W ? in situ	1 2	"	"	"	70	70 -	strat. stroms. 20
12	5 3	F 20 C 30 M 20 VC30	74/58W	3 -	white & buff	"	"	60	35 25	strat. stroms., very coarse cleavage rhombs 20

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
13	2 1	F 10 C 30 M 20 VC40	horiz.	2 4	"	"	"	70	50 20	strat. stroms., cleavage rhombs, strongly veined 30
14	8 6	F 20 C 30 M 20 VC30	63/68SE	2 4	"	"	"	60	40 20	strat. stroms., cleavage rhombs. up to 10cms 20
15	3 2	F 20 C 20 M 20 VC40	–	3 2	"	"	"	60	50 10	strat. stroms., minor stylolites 10
16	2 1	F 10 C 30 M 20 VC40	55/62SE	3 2	"	"	"	70	50 20	strat. stroms., almost horizontal in places, stron-gly veined 15
17	8 5	F 20 C 30 M 20 VC30	57/66S	4 5	"	"	"	60	40 20	domal & strat. strom, talc rich in places, minor stylolites 10
18	6 5	F 20 C 30 M 20 VC30	32/44E	3 6	"	"	"	60	50 10	strat. stroms. 10
19	50cms 30 "	F 20 C 40 M 10 VC30	62/67S good	2 8	"	"	"	70	30 40	strat. stroms, cleavage rhombs, adjacent to drill-hole 20

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
20	1.5 1.0	F 30 C 40 M 10 VC20	82/60S good	– 20	"	"	"	60	20 40	strat. stroms., laminated cleavage rhombs, strong silification 5
21	3 2	F 20 C 40 M 10 VC30	–	– 2	"	"	"	70	60 10	good domal stroms, strongly veined, stylolites 30
22	3.5 2.5	F 20 C 30 M 20 VC30	53/49S	2 2	"	"	"	60	60 –	domal & strat. stroms., cleavage rhombs 30
23	4 2	F 30 C 30 M 10 VC30	76/50SW	2 15	"	"	"	60	30 30	Conophyton & strat.stroms, marked rhombs, orientation changes from SW to SE 30
24	2 1	F 20 C 30 M 20 VC30	59/59S good	2 10	white	"	"	60	40 20	good strat. stroms. 10
25	5 3	F 30 C 20 M 10 VC40	dips SW	2 20	"	"	"	60	50 10	complex algal structures, dewatering structures,very large rosettes & cleavage rhombs. 35

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
26	2.0 1.5	F 30 C 30 M 10 VC30	57/42S good	2 10	"	"	"	60	40 20	<u>Conophyton</u> & strat.stroms. 10
27	2 1	F 20 C 30 M 20 VC30	45/66S good	2 10	"	"	"	60	30 30	<u>Conophyton</u> & strat.stroms. stylolites cleavage rhombs 30
28	4.0 2.5	F 20 C 30 M 20 VC30	53/66S	4 10	white & green	"	"	60	40 20	ex. <u>Conophyton</u> & strat. stroms., stylolites 10
29	6 4	F 30 C 30 M 20 VC20	42/58S good	2 20	"	"	"	50	30 20	ex. <u>Conophyton</u> & strat. stroms., stylolites 10
30	4.0 2.5	F 30 C 30 M 20 VC20	54/56S	2 20	white	"	"	50	30 20	" " 10
31	4 3	F 30 C 30 M 20 VC20	58/66S good	2 20	"	"	"	50	30 20	" " 10
32	4.0 2.5	F 20 C 30 M 20 VC30	65/76S good	- 10	"	"	"	60	50 10	" " 10
33	2 1	F 30 C 30 M 10 VC30	40/69S	- 10	green- ish white	"	"	60	35 25	" " cleavage rhombs10

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
34	4 3	F 20 C 30 M 20 VC30	60/64S good	2 8	" with red zones	"	"	60	50 10	" " 10
35	4 2	F 20 C 40 M 10 VC30	60/74S	3 5	green- ish white	"	"	70	60 10	strat. stroms., stylolites, red veining 10
36	50cms 20 "	F 10 C 30 M 20 VC40	–	2 2	"	"	"	70	70 –	strat. stroms., red veining, cross-cutting qz. veins 10/90 stylolites 10
37	3 2	F 30 C 30 M 10 VC30	46/76S	2 5	"	"	"	60	40 20	*Conophyton* & strat.stroms. stylolites 20
38	4 3	F 20 C 30 M 20 VC30	25/65S	2 5	"	"	"	60	50 10	strat. stroms & ex *Conophyton*, cleavage rhombs, stylolites 30
39	3 2	F 10 C 30 M 20 VC40	–	1 2	white	"	"	70	70 –	strat. stroms & *Conophyton* 30
40	7 4	F 25 C 30 M 15 VC30	70/64S	4 10	"	"	"	60	50 10	strat. stroms & *Conophyton* strongly veined, stylolites 35

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
41	4 2	F 30 C 30 M 10 VC30	80/66S good	3 15	"	"	"	60	60 –	" " 20
42	3 2	F 25 C 20 M 15 VC40	–	5 5	"	"	"	60	60 –	strat. stroms, very strongly veined 40
43	4 2	F 15 C 30 M 15 VC40	–	3 3	"	"	"	70	70 –	" " 40
44	2 1	F 15 C 30 M 15 VC40	–	2 2	"	"	"	70	60 10	minor strat. stroms, very strongly veined 40
45	6 4	F 20 C 30 M 20 VC30	–	2 2	"	"	"	60	50 10	minor strat. stroms and <u>Conophyton</u>,very strongly veined 20
46	6 4	F 20 C 30 M 10 VC40	60/62S good	3 5	"	"	"	70	60 10	strat. stroms & <u>Conophyton</u>, very strongly veined 30
47	4 3	F 20 C 30 M 20 VC30	65/78S	3 5	"	"	"	60	40 20	" " plus stylolites 20

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
48	2 1	F 5 C 30 M 15 VC50	–	2 2	"	"	"	80	20 60	minor strat. stroms, coarse cleavage rhombs 20
49	3 2	F 10 C 30 M 20 VC40	55/60S	1 3	"	"	"	70	40 30	" " 10
50	2 1	F 10 C 40 M 20 VC30	–	2 2	"	"	"	70	30 40	minor strat. stroms, cleavage rhombs 20
51	4 2	F 20 C 30 M 20 VC30	65/67S	2 4	"	"	"	60	40 20	" " 10
52	6 3	F 20 C 30 M 20 VC30	60/62S	2 5	green- ish white	"	"	60	50 10	strat. stroms. 30
53	3 2	F 20 C 30 M 20 VC30	48/80S	2 5	"	"	"	60	50 10	strat. stroms. 20
54	2.0 1.5	F 10 C 40 M 10 VC40	–	1 1	"	"	"	80	40 40	cleavage rhombs, strongly veined 30
55	30cms 20 "	F 10 C 40 M 20 VC30	–	2 2	white & buff	"	"	70	40 30	cleavage rhombs 10
56	1.0 0.5	F 10 C 40 M 20 VC30	66/65S	3 5	"	"	"	70	30 40	" & red veins 20

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
57	2 1	F 10 C 20 M 10 VC40	-	3 -	white	"	"	80	20 60	" " strongly veined 10
58	2 1	F 20 C 30 M 20 VC30	-	3 2	"	"	"	60	30 30	no stroms. cleavage rhombs 10
59	6 4	F 20 C 40 M 30 VC30	72/75S	2 3	"	"	"	50	50 -	strat. stroms, stylolites common in med. matrix, ?dessication cracks 5
60	1.5 0.5	F 30 C 15 M 50 VC 5	-	1 2	"	"	"	20	15 5	exceptionally fine, ?dessication cracks, stylolites, strat. stroms. 5
61	3 2	F 20 C 10 M 30 VC20	70/74S	5 5	"	"	"	60	50 10	domal & strat. stroms, stylolites 5
62	2.5 2.0	F 30 C 30 M 30 VC10	50/59S	5 8	"	"	"	40	30 10	domal & strat. stroms.stylolites, cleavage rhombs, ?dessication cracks 5
63	2 1	F 10 C 20 M 10 VC60	-	1 1	"	"	"	80	40 40	coarsely recryst. 20

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
64	2.0 1.5	F 20 C 30 M 20 VC30	–	5 –	"	"	"	60	50 10	stylolites common 10
65	3.0 1.5	F 10 C 30 M 20 VC40	–	5 –	"	"	"	70	40 30	domal stroms., stylolites common cleavage rhombs 20
66	7 5	F 20 C 30 M 20 VC30	–	3 2	"	"	"	60	30 30	domal stroms., stylolites common 10
67	6 4	F 10 C 30 M 10 VC50	–	2 2	"	"	"	80	30 50	domal stroms., stylolites common, cleavage rhombs 30
68	1.5 0.5	F 20 C 35 M 20 VC25	43/50S	2 4	white	"	"	60	50 10	strat. stroms.,stylolites cleavage rhombs, in med. matrix 10
69	6.0 2.5	F 20 C 30 M 20 VC30	–	5 –	"	"	"	60	30 30	domal stroms., stylolites, cleavage rhombs 20

<u>CELIA DOLOMITE AREA B</u>

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
70	5 3	F 20 C 30 M 20 VC30	53/55W	5 -	"	"	"	60	30 30	domal stroms., stylolites, very coarse cleavage rhombs & qz. crystals 20
71	1.0 0.5	F 20 C 40 M 30 VC10	134/88W	4 -	"	"	"	50	50 -	cleavage rhombs stylolites 10
72	3.0 1.5	F 20 C 40 M 30 VC10	48/72S	3 3	"	"	"	50	20 30	?dessication cracks, strat. stroms. & <u>Conophyton</u>, stylolites, cleavage rhombs10
73	3 2	F 20 C 30 M 30 VC20	45/80S 45/63W	5 3	"	"	"	40	30 10	strat. stroms., well bedded, stylolites, cleavage rhombs, complex folding 25
74	3 2	F 30 C 20 M 30 VC20	55/72S	5 3	"	"	"	40	30 10	strat. stroms., well bedded, stylolites, cleavage rhombs, greenish 25

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
75	2.0 1.5	F 20 C 30 M 30 VC20	57/59S	4 3	"	"	"	50	40 10	strat. stroms., well bedded, stylolites 20
76	4 3	F 20 C 30 M 30 VC20	64/53S	5 2	"	"	"	40	35 5	well bedded, stylolites, cleavage rhombs 10
77	2.5 2.0	F 20 C 30 M 20 VC30	–	3 3	"	"	"	60	60 –	cleavage rhombs, stylolites 20
78	3 2	F 20 C 30 M 20 VC30	100/82S	5 3	"	"	"	60	50 10	strat. stroms., cleavage rhombs, stylolites 20
79	4 3	F 20 C 30 M 20 VC30	–	10 3	"	"	"	60	50 10	strat. stroms., cleavage rhombs, stylolites 10
80	2.0 1.5	F 20 C 40 M 20 VC20	55/58S	4 2	"	"	"	60	40 20	no stroms., cleavage rhombs, stylolites 10
81	5 3	F 20 C 30 M 30 VC20	74/64S	3 2	greenish white	"	"	50	40 10	strat. stroms., rhomb. type at base, stylolites, cleavage rhombs 25

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
82	5 4	F 20 C 30 M 30 VC20	60/56S	5 2	"	"	"	50	40 10	" " 10
83	5 3	F 20 C 30 M 30 VC20	-	3 -	"	"	"	50	50 -	strat. stroms., cleavage rhombs 25
84	5 4	F 30 C 30 M 20 VC20	80/73S	10 8	"	"	"	50	40 10	Conophyton & strat stroms., stylolites, cleavage rhombs 10
85	2.0 1.5	F 20 C 30 M 30 VC20	45/35S	8 2	"	"	"	50	40 10	strat. stroms., slight red veining, ?dessication cracks, rhombs, stylolites 25
86	5 4	F 30 C 30 M 20 VC20	70/48S	10 4	"	"	"	50	45 5	" " 20
87	2 1	F 30 C 20 M 30 VC20	? dipsW.	5 5	"	"	"	40	40 -	" " 10
88	5 3	F 30 C 30 M 20 VC20	58/90	12 3	"	"	"	50	45 5	strat. stroms., slight red veining, rhombs, stylolites 15

CELIA DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
89	5 3	F 30 C 30 M 20 VC20	67/80S	10 2	"	"	"	50	50 –	domal & strat. stroms., slight red veining, rhombs, stylolites 10
90	5 4	F 30 C 30 M 20 VC20	50/61S	8 2	"	"	"	50	50 –	" " 10
91	3.5 3.0	F 20 C 30 M 20 VC30	55/55S	2 2	white	"	"	60	20 40	strat. stroms., very rhomb type rich
92	50cms 30 "	F 30 C 30 M 20 C 20	90/70N	– 2	"	"	"	50	20 30	" "
93	50cms 30 "	F 10 C 40 M – VC40	–	– –	"	"	"	90	10 80	complex open folds
94	1.0 0.5	F 20 C 30 M 10 VC40	70/60W	– 4	"	"	"	70	30 40	complex open folds
95	30cms 10 "	F 30 C 20 M 20 VC30	70/63W	– –	"	"	"	50	10 40	" "
96	50cms 25 "	F 20 C 30 M 20 VC30	75/70W	– –	"	"	"	60	10 40	" ",?axis

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	1.5 1.0	F 20 C 20 M 20 VC40	-	2 2	"	columnar rosettes random common around quartz	concor- dant to discord. parallel to bed- ding	60	60 -	-
2	2 1	F 30 C 10 M 30 VC30	80/60S	1 5	"			40	40 -	thin, well defined quartz algal lami-nae, rosettes very common
3	1.5 1.0	F 10 C 30 M 20 VC40	-	2 5	"	dom. random, rosettes, veins columnar	random rex.	70	70 -	common quartz blebs(1cm^3), pink talc
4	2.5 2.0	F 5 C 50 M 15 VC30	-	- 2	"	" , some rosettes	"	80	80 -	-
5	7 5	F 20 C 30 M 30 VC20	95/56S	2 3	white & buff	"	"	50	50 -	good quartz stroms ?folding
6	50cms 20 "	F 15 C 25 M 20 VC40	-	- 2	white	", minor rosettes	"	65	65 -	almost completely re-xl
7	8 6	F 35 C 25 M 25 VC15	125/72S (varies)	2 5	white & buff	rex. concord. to 2 sets discord.	"	40	40 -	much variety, good Conophyton with veins parallel to algae, tepees

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEJGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
8	3.0 1.5	F 20 C 30 M 40 VC10	70/63S	5 8	"	"	", 1 set discord.	40	40 –	algae almost ptyg-matically folded
9	2 1	F 25 C 25 M 25 VC25	–	5 5	"	"	"	50	50 –	small, numerous blebs of talc
10	1.0 0.25	F 20 C 25 M 20 VC35	72/74S	5 1	white	"	", minor discord.	60	30 10	", stratiform stroms.
11	1.0 0.5	F 40 C 30 M 10 VC20	62/51S good	3 12	"	"	"	50	30 20	", stratiform stroms. excep-tionally well laminated with bands algae
12	5 2	F 25 C 25 M 25 VC25	70/62S good	2 10	"	"	"	50	40 10	minor stylolites in fine grained
13	2.0 1.5	F 25 C 25 M 25 VC25	–	2 3	green-ish white	"	"	50	50 –	talc rims on quartz
14	30cms 20 "	F 40 C 20 M 20 VC20	–	2 2	white	dom. columnar minor rosettes	", strongly veined	40	40 –	fine grained for this area
15	2 1	F 20 C 20 M 20 VC40	–	2 5	green-ish white	"	"	60	60 –	talc rims on quartz

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
16	1.0 0.5	F 25 C 25 M 25 VC25	-	2 2	"	"	"	50	50 -	-
17	1.0 0.5	F 20 C 20 M 20 VC40	-	2 8	"	dom. random	"	60	60 -	-
18	8 5	F 25 C 20 M 25 VC30	73/60S good	3 10	"	rosettes common	"	50	50 -	exceptionally well laminated, especially in fine grained
19	4 2	F 25 C 20 M 25 VC30	68/60S good	5 15	"	"	"	50	50 -	", large cross-cutting quartz veins, stroms.
20	1.0 0.5	F 25 C 20 M 25 VC30	55/58S	2 10	white	"	"	50	50 -	" "
21	4 2	F 25 C 20 M 25 VC30	80/76S	5 10	green-ish white	"	"	50	50 -	green talc plus stylolites as well as blebby pink talc
22	4 3	F 35 C 20 M 25 VC20	58/65S	2 10	"	"	",little veining	40	40 -	", well laminated
23	3.0 1.5	F 35 C 20 M 25 VC20	65/55S good	5 10	"	"	"	40	40 -	" "

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
24	1.0 0.5	F 15 C 20 M 25 VC40	-	2 5	white	"	", strongly veined	60	60 -	-
25	4 3	F 5 C 20 M 15 VC60	76/72S	1 3	"	"	"	80	80 -	dominantly very coarsely recry-stallised
26	5 3	F 20 C 25 M 20 VC35	63/62S good	2 5	green-ish white	"	"	60	60 -	" "
27	3 2	F 25 C 25 M 25 VC25	72/62S	5 5	"	"	"	50	40 10	2 rhomb type beds
28	7 5	F 40 C 25 M 20 VC15	50/56S	2 10	"	"	"	40	40 -	well laminated
29	1.5 1.0	F 10 C 20 M 20 VC50	-	2 2	white	dom. concord. rosettes rare	"	70	70 -	dom. coarsely recryst. concord & x-cutting veins
30	5 3	F 15 C 25 M 25 VC35	68/64S	2 2	white & buff	"	"	60	50 10	dom. random & con-cord. bladed veins minor rhombs, strat. stroms

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CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
31	2 1	F 20 C 30 M 20 VC30	70/67S good	2 5	"	"	", no x-cutting	60	50 10	small tepees, strat. stroms., finely laminated 40
32	1.5 0.5	F 20 C 30 M 30 VC20	70/62S	1 2	"	"	"	50	30 20	strat. stroms., green & pink talc 20
33	50cms 20 "	F 20 C 25 M 30 VC25	58/56S good	2 10	"	"	"	50	50 -	strat. stroms. 30
34	2 1	F 20 C 25 M 20 VC35	62/67S good	5 5	"	"	", x-cut common	60	50 10	talc blebs common (0.5 cms) 30
35	2 1	F 20 C 30 M 20 VC30	78/78S good	5 8	"	", also rimming rhombs	"	60	45 15	strat. stroms., rhombs all around nuclei 20
36	2 1	F 20 C 30 M 20 VC30	58/73S	3 10	"	"	"	60	45 15	" " 20
37	3.0 1.5	F 20 C 30 M 20 VC30	53/73S good	3 10	"	"	"	60	40 20	classic Conophyton beds (0.5m) rhomb lenses 20
38	1.5 0.5	F 10 C 20 M 10 VC60	73/71S	2 5	"	"	"	80	60 20	strat. stroms. 30

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
39	1.5 0.5	F 20 C 30 M 20 VC30	48/70S good	1 10	"	"	"	60	50 10	", quartz algal "boudins" 10
40	2 1	F 20 C 25 M 30 VC25	–	4 10	"	"	"	50	40 10	– 20
41	3.5 2.0	F 20 C 30 M 20 VC30	60/68S	10	"	"	"	60	50 10	strat. stroms. & poorly developed <u>Conophyton</u> 15
42	7 3	F 10 C 30 M 20 VC40	73/65S good	2 15	white	"	"	70	60 10	quartz disrupted by movement parallel to veining, (plunge 16/23°SE) strat. stroms., domal stroms 20
43	1.0 0.5	F 10 C 40 M 10 VC40	–	2 10	"	"	"	80	70 10	probably block off outcrop 42 30
44	1.5 0.5	F 10 C 40 M 10 VC40	80/62S	2 5	"	"	"	80	70 10	strat. stroms., discrete 30
45	2 1	F 20 C 25 M 20 VC35	80/59S good	2 10	"	"	"	60	50 10	strat. stroms., where quartz exterior surface to algal blebs, have bladed-type casts 30

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
46	3.0 1.5	F 10 C 40 M 20 VC30	70/60S good	2 8	"	"	"	70	45 25	thick (3m t.t.) beds of rhomb &/or bladed type magnesite 20
47	4 2	F 20 C 30 M 20 VC30	60/80S good	2 5	"	"	"	60	50 10	strat. stroms & <u>Conophyton</u>, bladed veins x-cutting carbonates & also parallel to stroms., ?dessication 30
48	5 2	F 10 C 30 M 20 VC40	60/60S good	3 8	white & red	"	"	70	60 10	red colour associated with late veins, rhombs at base 15
49	3 1	F 20 C 30 M 20 VC30	72/63S	2 5	white	"	"	60	35 25	overall much finer grained 20
50	3 1	F 10 C 30 M 20 VC40	72/60S	2 5	"	"	"	70	40 30	- 45
51	4.0 1.5	F 10 C 30 M 20 VC40	68/58S	3 8	white, red	"	"	70	50 20	strat. stroms & x-cutting 15
52	2 1	F 10 C 30 M 20 VC40	63/42S	5 5	"	"	"	70	40 30	" " 15

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
53	1.0 0.5	F 25 C 40 M 5 VC30	76/76S	10 10	"	"	"	70	50 20	", thick vein of random quartz-talc 10
54	3 2	F 15 C 30 M 15 VC40	67/56S good	10 5	white	"	"	70	50 20	stylolites & tepees 10
55	2.0 1.5	F 10 C 30 M 20 VC40	83/71S good	5 5	"	"	"	70	50 20	", plus tepees 15
56	4 2	F 10 C 30 M 20 VC40	83/57S	5 5	white, min. red	"	"	70	50 20	strat. stroms. 15
57	2 1	F 20 C 40 M 10 VC30	72/46S	10 5	"	"	"	70	40 30	" " 8
58	2 1	F 10 C 40 M 20 VC30	53/66S	5 5	"	"	"	70	50 20	" (minor) 10
59	2 1	F 10 C 30 M 10 VC50	–	2 5	"	"	"	80	60 20	" " 10
60	2 1	F 10 C 40 M 20 VC30	54/64S	5 5	"	"	"	70	50 20	" " 10
61	2 1	F 10 C 30 M 10 VC50	83/73S	2 5	"	"	",strongly veined	80	50 20	", plus stylolites 15
62	4 2	F 10 C 30 M 20 VC40	–	2 5	white & buff	"	"	70	50 20	", plus boudins 25

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
63	1.5 1.0	F 20 C 30 M 10 VC40	63/66S good	2 12	"	"	"	70	60 10	", 1 section all recryst. veins 20
64	8 4	F 20 C 30 M 20 VC30	40/48S	4 10	"	"	"	60	50 10	", <u>Conophyton</u> variable orientation, x-cutting qz. vein 47/87W 25
65	5 2	F 15 C 30 M 15 VC40	42/47S	5 5	"	"	"	70	50 20	" ", 50/78W 30
66A	4 2	F 15 C 40 M 15 VC30	58/58S	5 2	"	"	"	70	40 30	poor strat.stroms, rhomb rich 15
66B	5 3	F 10 C 30 M 10 VC50	80/55S	2 2	"	"	"	80	70 10	", dom. veined 15
66C	5 3	F 15 C 30 M 5 VC50	65/60S	2 5	"	"	"	80	75 5	strom. strat., " parallel to bedding, qz. & talc blebs 35
66D	5 3	F 20 C 20 M 20 VC40	–	2 5	"	"	"	60	50 10	strat. stroms, good area of <u>Conophyton</u> in fine material 40
67	3 2	F 20 C 30 M 20 VC30	–	2 5	"	"	"	60	55 5	strat. stroms poor 10

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
68	1.5 0.5	F 10 C 20 M 30 VC40	–	1 2	white	"	"	60	60 –	rosettes very common (av. 2cms) within medium matrix 20
69	7 4	F 10 C 25 M 30 VC35	50/65S	2 3	"	"	"	60	60 –	strat. stroms., stylolitic on N. (with chlorite) 20
70	0.5 0.2	F 10 C 20 M 30 VC40	–	1 1	"	"	"	60	60 –	almost all bladed type veins in medium matrix 20
71	2.0 1.5	F 10 C 40 M 10 VC40	–	1 1	"	"	"	80	50 30	" " 10
72	8 5	F 20 C 30 M 20 VC30	72/64S	2 5	white & buff	"	"	60	60 –	strat. stroms to <u>Conophyton</u>, stylolites common 15
73	6 4	F 20 C 30 M 20 VC30	80/68S	2 5	"	"	"	60	60 –	", plus areas of cleavage rhombs 15
74	8 4	F 20 C 30 M 20 VC30	47/64S	5 5	"	"	"	60	60 –	strat. stroms., some stroms have gone to talc (5cms), stylolites 15

<u>CELIA DOLOMITE AREA C</u>

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
75	4 2	F 20 C 30 M 20 VC30	57/48S	2 5	"	"	"	60	60 –	strat. stroms and stylolites 10
76	2 1	F 20 C 30 M 20 VC30	58/67S good	5 5	white	"	"	60	60 –	" " 20
77	2.0 1.5	F 10 C 30 M 20 VC40	87/66S	3 5	"	"	"	70	70 –	strat. stroms., dom. veined & rosettes in medium matrix 25
78	2 1	F 20 C 30 M 20 VC30	60/65S good	5 5	"	"	"	60	60 –	strat. stroms and stylolites 20
79	4 2	F 20 C 30 M 20 VC30	73/65S good	5 5	"	"	"	60	55 5	strat. stroms., fold direction 88° green talc (shows movement) associated with pink talc., stylolites 25
80	4 2	F 20 C 30 M 10 VC40	60/74S good	5 8	white	"	"	70	50 20	strat. stroms. (dom.), 3 rhomb. beds 20
81	6 2	F 20 C 30 M 10 VC40	see map	2 15	w/r 1/1	"	"	70	30 40	strong silicification and contortion, qz. veins 37/86W, strat. stroms., 20

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
82	6 2	F 20 C 40 M 10 VC30	72/72S	5 10	white & buff	"	"	70	30 40	strat. stroms., thick rhomb. beds 15
83	7 4	F 20 C 25 M 20 VC35	83/78S	5 5	"	"	"	60	30 30	strat. stroms., talc inside quartz stroms. 15
84	4 2	F 10 C 50 M 20 VC20	53/69S good	2 3	"	"	"	70	20 50	", dom. rhomb. beds 10
85	50cms 20 "	F 10 C 60 M 10 VC20	55/65S	5 1	"	"	"	80	- 80	strat. stroms., rhomb beds -
86	2 1	F 10 C 60 M 10 VC20	62/46S	1 3	w/r 1/1	"	"	80	20 60	strat. stroms. " 10
87	2 1	F 20 C 30 M 20 VC30	not in situ	2 1	w/r 1/2	"	"	60	40 20	strat. stroms. 30
88	2.0 1.5	F 20 C 30 M 20 VC30	not in situ	1 3	w/r 1/1	"	"	60	30 30	strat. stroms. 25
89	2 1	F 20 C 50 M 10 VC20	?dips to W.	- 3	w/r 1/1	"	"	70	20 50	strat. stroms., dom. rhombs 10
90	1.0 0.5	F 20 C 30 M 20 VC30	?not in situ	- 5	w/r 1/1	"	"	60	30 30	domal & strat. stroms. 15

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
91	6 5	F 30 C 20 M 20 VC30	-	2 5	dom. white r.& buff	"	"	50	50 -	well developed block jointing 88/6E 10
92	8 6	F 20 C 30 M 20 VC30	83/64S	2 5	"	"	"	60	30 30	extensive quartz veining with green tourmaline, vari- ous directions, E side have rhombs, strat. stroms. 20
93	8 6	F 20 C 40 M 20 VC30	80/66S	2 5	w/r 2/1	"	"	70	40 30	similar to 92 15
94	8 4	F 20 C 30 M 20 VC30	53/75S	2 5	"	"	"	60	40 20	" " 10
95	8 3	F 20 C 40 M 10 VC30	75/84S good	2 8	w/r 1/1	"	"	70	30 40	" " 10
96	6 3	F 20 C 30 M 20 VC30	48/74S	2 5	w/r 5/1	"	"	60	50 10	strat. stroms., quartz veins (37/74E - but variable) 15
97	7 3	F 20 C 30 M 20 VC30	-	2 5	"	"	"	60	40 20	- 30
98	6 3	F 20 C 30 M 20 VC30	-	2 2	"	"	"	50	40 10	stylolites 20

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
99	5 3	F 20 C 30 M 40 VC10	–	1 2	white, min.red	"	"	40	20 20	sparse rhomb & bladed crystals in med. matrix qz. blebs (40x20cms) stylolites strat. stroms. 15
100	4 3	F 20 C 30 M 20 VC30	–	3 2	"	"	"	60	35 25	stylolites, strat. stroms. 10
101	2.5 2.0	F 20 C 40 M 20 VC20	–	3 2	"	"	"	60	50 10	fine "mud", strat. stroms. 10
102	3 2	F 20 C 40 M 20 VC20	–	3 2	w/r 2/1	"	"	60	20 40	mainly rhomb.beds, strat. stroms. 5
103	3 2	F 30 C 40 M 10 VC20	–	3 15	"	"	"	60	20 40	strat. stroms. -very contorted 10
104	40cms 20 "	F 20 C 25 M 50 VC 5	–	3 –	white	"	"	70	30 –	bladed veins in med. matrix, green & pink talc, no algae 5
105	40cms 20 "	F 20 C 20 M 30 VC30	–	2 –	"	"	"	50	50 –	" " 15
106	50cms 20 "	F 10 C 40 M 20 VC30	73/72S	1 5	"	"	"	70	20 50	2 rhomb beds, strat. stroms. 20

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
107	20cms 10 "	F 20 C 20 M 20 VC40	-	- -	w/r 1/1	"	"	60	?	cleavage rhombs. in med. matrix, no algae -
108	1.0 0.5	F 10 C 50 M 20 VC20	100/50S	- 8	"	"	"	70	- 70	strat. stroms., mainly rhombs, quartz veins 68/68W -
109	40cms 30 "	F 30 C 25 M 40 VC 5	72/80S	4 -	white	"	"	30	70 -	strat. stroms. 5
110	80 " 50 "	F 20 C 30 M 30 VC20	70/79S	2 -	"	"	"	50	40 10	strat. stroms. 5
111	5 4	F 20 C 30 M 20 VC30	85/68S good	- 2	white & buff	"	"	60	60 -	strat. stroms. 10
112	2 1	F 20 C 30 M 20 VC30	-	- -	"	"	"	60	50 10	strat. stroms. 10
113	1.5 1.0	F 20 C 40 M 20 VC20	-	- 2	"	"	"	60	45 15	2 rhomb beds, 1 quartz vein, no algae 5
114	1.0 0.25	F 10 C 50 M 20 VC20	50/62S	1 2	white & red	"	"	70	45 25	4 rhomb beds, distinct red lenses, strat. stroms. 10

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
115	5 4	F 20 C 20 M 30 VC30	68/88S good	2 2	"	"	"	50	40 10	well veined, minor rhombs at top, strat. stroms. 25
116	2 1	F 20 C 30 M 20 VC30	-	- -	"	"	"	60	40 20	well veined, minor rhomb beds(4) carbonate vein 15
117	4 3	F 20 C 30 M 20 VC30	?160/48W	- 1	"	"	"	60	20 40	minor strat. stroms, mainly rhombs 10
118	1.5 1.0	F 20 C 30 M 20 VC30	60/80W	1 -	"	"	"	60	60 -	minor strat. stroms. 10
119	1.5 1.0	F 20 C 30 M 20 VC30	83/70W	2 -	"	"	"	60	30 30	red veins clear-cut, minor strat. stroms. 10
120	2.0 1.5	F 20 C 30 M 20 VC30	-	2 -	"	"	"	60	30 30	red veins clear-cut (late stage bladed), minor strat. stroms. 10
121	2.5 0.5	F 20 C 30 M 30 VC20	110/43N	1 3	w/r 2/1	"	"	50	30 20	large carbonate blebs-W side, shows folding, strat. stroms. 10

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
122	1.0 0.5	F 30 C 20 M 30 VC20	55/80W	1 2	white	"	"	40	30 10	strat. stroms. 10
123	2 1	F 20 C 30 M 30 VC20	100/50N	1 4	white min.red	"	"	50	30 20	strat. stroms. 10
124	1.0 0.5	F 20 C 30 M 30 VC20	63/72W	1 2	"	"	"	50	30 20	strat. stroms., rhomb-bladed beds in medium matrix 5
125	1.5 1.0	F 20 C 40 M 20 VC20	-	- 3	"	"	"	60	20 40	well folded beds of algae & rhombs 130/56W- symmetri- cal 5
126	4 3	F 10 C 50 M 20 VC20	48/67W good	- 3	"	"	"	70	20 50	good rhomb. beds, strat. stroms. 10
127	2.5 2.0	F 10 C 50 M 20 VC20	43/80W good	- 3	"	"	"	70	10 60	discrete rhomb crystals 5
128	1.5 1.0	F 5 C 50 M 15 VC30	-	- -	"	"	"	80	- 80	plus carbonate veins - some show- ing red zoning -
129	1.0 0.5	F 20 C 30 M 20 VC30	-	- 3	"	"	"	60	15 45	folded beds as at 125 5

CELIA DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
130	1.0 0.5	F 10 C 40 M 10 VC40	33/77W good	- 4	"	"	"	80	20 60	well laminated rhomb beds (1cm) 5

CELIA DOLOMITE AREA D

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	2.5 1.5	F 25 C 30 M 15 VC30	-	8 4	w/r 2/1	normal to bed- ding, rosettes common,	parallel to bed- ding to random, to cross-	60	60 -	domal & strat. stroms. (minor), cross cutting bladed 10
2	2.5 2.0	F 25 C 30 M 15 VC30	-	8 1	white, minor r.	columnar (veining)	cutting	60	60 -	no stroms., some red veining, minor stylolites & rhombs 25
3	4 3	F 25 C 20 M 15 VC40	58/30S	8 1	"	"	"	60	60 -	no stroms. except talc relicts, greenish in part 30
4	2.0 1.5	F 25 C 20 M 15 VC40	-	10 -	"	"	"	60	60 -	", plus stylolites 15
5	6 5	F 25 C 30 M 15 VC30	-	10 1	"	"	"	60	55 5	no stroms. except talc relicts, rhomb on NW corner 10

CELIA DOLOMITE AREA D

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
6	2 1	F 20 C 50 M 10 VC20	–	5 1	white	"	"	70	20 50	no stroms. except talc relicts, mainly rhombs 20
7	8 5	F 20 C 40 M 20 VC20	45/46S	5 4	"	"	"	60	50 10	strat. stroms. on E. side 35
8	2.0 1.5	F 20 C 30 M 10 VC40	–	5 –	"	"	"	70	50 20	no stroms except as talc relicts, stylolites, coarse rhombs 45
9	3 2	F 20 C 20 M 10 VC50	–	5 1	"	"	"	70	70 –	no stroms. except as talc relicts stylolites 45
10	3 2	F 20 C 30 M 20 VC30	–	3 –	"	"	"	60	60 –	", plus coarse rhombs 45
11	50cms 20 "	F 20 C 30 M 20 VC30	–	2 1	"	"	"	60	55 5	no stroms., stylo-lites 20
12	1.0 0.5	F 20 C 30 M 20 VC30	–	5 –	"	"	"	60	55 5	" " 15
13	1.0 0.5	F 30 C 20 M 20 VC30	70/67S	3 3	"	"	"	50	40 10	strat. stroms. & _Conophyton_, stylo-lites powdery sur-face (?2nd magne-site) 20

CELIA DOLOMITE AREA D

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
14	4 2	F 20 C 30 M 10 VC40	58/62S	5 5	white	"	"	70	60 10	strat. stroms. & Conophyton (well developed) 60
15	1.5 1.0	F 20 C 30 M 20 VC30	20/57S	8 3	"	"	"	60	60 –	strat. stroms, stylolites 10
16	2 1	F 30 C 40 M 10 VC20	35/47S	5 15	"	"	"	60	20 40	strat. stroms., stylolites, rhombs 5
17	1.5 0.5	F 20 C 20 M 10 VC50	–	2 –	"	"	"	70	70 –	no stroms., rhombs 20
18	1.5 1.0	F 20 C 30 M 20 VC30	58/61S	3 8	"	"	"	60	60 –	strat. stroms. well developed, small Conophyton, stylolites on S.E. 10
19	4 2	F 30 C 25 M 20 VC25	58/32S	5 15	"	"	"	50	50 –	" " 20
20	2 1	F 30 C 25 M 20 VC25	60/55S good	10 5	"	"	"	50	50 –	well developed strat. stroms., small Conophyton 10
21	2 1	F 30 C 25 M 20 VC25	42/64S good	8 8	"	"	"	50	40 10	" " 10

CELIA DOLOMITE AREA D

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
22	1.5 1.0	F 20 C 20 M 20 VC40	-	- -	white minor red	"	"	60	40 20	no stroms., cleavage rhombs, strongly veined 60
23	8 6	F 30 C 30 M 20 VC20	85/77S	3 3	"	"	"	50	40 10	strat. stroms., good domal stroms in fine matrix, cleavage rhombs, stylolites (greenish) 20
24	5 3	F 20 C 30 M 20 VC30	75/68S	3 3	"	"	"	60	50 10	strat. stroms., good domal stroms. in fine matrix, stylolites (greenish) 20

CELIA DOLOMITE AREA E

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	5 -	F 20 C 30 M 10 VC40	80/58S	- 5	white	normal to bedding, rosettes common, columnar (veins)	parallel to bedding to random to cross cutting	70	50 20	3 rhomb type beds, no quartz assoc. poor cross-cutting veins
2	3 -	F 10 C 30 M 20 VC40	67/39S	- 5	"			75	60 15	quartz as blebs
3	4 -	F 20 C 30 M 20 VC30	62/62S	- 5	"	"	"	60	45 15	algal structures defined by quartz

COOMALIE DOLOMITE AREA A

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	7 -	F 20 C 20 M 30 VC30	40/90	5 2	w/r 3/1	normal to bedding, rosettes common, columnar (veining)	parallel to bedding to random to cross-cutting	50	50 -	red colouration not related to any particular grain size, no obvious stroms., stylolites with chlorite, talc common in W end
2	2 -	F 20 C 20 M 30 VC30	-	- 5	"	"	"	50	50 -	as above, qz. cores in coarsest bladed magnesite
3	1 -	F 10 C 35 M 20 VC35	-	- -	w/r 3/7	"	"	50	50 -	as above

COOMALIE DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	7 5	F 20 C 30 M 20 VC30	25/62W	3 15	grey-white	"	"	60	50 10	strat. stroms. & good <u>Conophyton</u> rosettes rare 10
2	2.5 2.0	F 20 C 40 M 20 VC20	-	5 8	"	"	"	60	40 20	strat. stroms & good <u>Conophyton</u> talc reddish-pink 5

COOMALIE DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
3	10 8	F 20 C 30 M 30 VC20	48/59W	5 10	"& red	"	"	50	40 10	strat. stroms., cleavage rhombs 15
4	2.0 0.5	F 10 C 40 M 20 VC30	-	3 2	"	"	"	70	70 -	minor strat. stroms. in creek bed 15
5	1 1	F 20 C 30 M 20 VC30	113/80SW good	2 3	"	"	"	60	45 15	quite carbonaceous, ?in situ, good strat. stroms & _Conophyton_ 20
6	5 4	F 30 C 40 M 10 VC20	140/58SW	3 12	"	"	"	60	40 20	" " 20
7	6 4	F 30 C 30 M 20 VC20	?54/84W	3 8	"	"	"	50	30 20	carbonaceous, stylolites, chicken-wire texture, strat. stroms., _Conophyton_, shale-like "clasts" 5
8	4 2	F 20 C 30 M 30 VC20	-	5 5	"	"	"	50	40 10	as above plus quartz shows banding 10
9	5.0 3.5	F 20 C 30 M 20 VC30	160/57W	3 8	"	"	"	60	30 30	chicken wire texture, random multiple stylolites 15

COOMALIE DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
10	1.5 1.0	F 20 C 30 M 20 VC30	–	3 1	"	"	"	60	30 30	no algae, rhombs distinctly grey, chicken wire texture 20
11	8 6	F 20 C 40 M 20 VC20	–	3 2	"	"	"	60	30 30	" " 5
12	10 7	F 20 C 30 M 20 VC30	–	10 3	"	"	"	60	30 30	distinct grey rhombs, shale like blebs, stylolites 10
13	10 7	F 20 C 30 M 20 VC30	160/60W	2 3	"	"	"	60	30 30	as above 10
14	9 6	F 10 C 30 M 20 VC40	–	2 2	"more red	"	"	70	50 20	shale like blebs, very coarse rhombs, stylolites 30
15	4 3	F 10 C 40 M 20 VC30	–	2 2	"	"	"	70	50 20	as above 10
16	2 1	F 5 C 20 M 5 VC70	–	1 1	"	"	"	90	70 20	" 30
17	3 2	F 5 C 20 M 5 VC70	–	1 1	"	"	"	90	70 20	" 30

COOMALIE DOLOMITE AREA B

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
18	4 3	F 20 C 30 M 20 VC30	-	3 4	"	"	"	60	40 20	" 10
19	2.5 2.0	F 20 C 30 M 20 VC30	155/38W	3 5	"	"	"	60	50 10	" plus strat. stroms. 10
20	2.0 1.5	F 20 C 30 M 30 VC20	173/58W	3 10	"	"	"	50	30 20	" 5
21	3.5 2.0	F 20 C 30 M 20 VC30	180/62W	2 5	"	"	"	60	50 10	" plus very good chicken wire texture 10
22	7 4	F 20 C 30 M 20 VC30	-	5 1	"v.red	"	"	60	40 20	colourful talc, shaley blebs, rhombs 30
23	1.0 0.5	F 20 C 30 M 20 VC30	-	- 2	"	"	"	60	60 -	no algae

COOMALIE DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	2.5 1.5	F 20 C 30 M 30 VC20	70/90	3 5	grey-white	"	"	50	30 20	strat. stroms. & Conophyton, rhombs chicken wire texture 15

COOMALIE DOLOMITE AREA C

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
2	6 3	F 20 C 30 M 30 VC20	60/90	3 8	"	"	"	50	30 20	carbonaceous rhombs, Conophyton & strat. stroms., green talc, quartz crystals 20
3	2.0 1.5	F 20 C 30 M 30 VC20	not in situ	2 5	"	"	"	50	40 10	as above 10
4	2 1	F 20 C 20 M 40 VC20	70/60W	2 3	"	"	"	40	40 –	domal stroms., ?dessication cracks chicken wire texture & grey (dark) veins 10
5	6 4	F 20 C 30 M 30 VC20	80/74E	2 5	"	"	"	50	30 20	as above 5
6	2.0 1.5	F 30 C 30 M 20 VC20	–	5 5	"	"	"	50	40 10	" 5
7	5 4	F 20 C 30 M 30 VC20	70/84E	2 5	"	"	"	50	30 20	quartz crystals have grey cores 5
8	4 3	F 20 C 30 M 30 VC20	–	2 5	"	"	"	50	30 20	" " 5

COOMALIE DOLOMITE AREA D

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	1.0 0.3	F 20 C 20 M 30 VC30	-	- 10	grey	"	"	50	50 -	contorted strat. stroms., rosettes very coarse, carbonaceous 40
2	50cms 25 "	F 20 C 30 M 20 VC30	20/65S	- 8	"	"	"	60	60 -	as above 30
3	50cms 25 "	F 20 C 20 M 20 VC40	-	3 5	"	"	"	60	60 -	" plus cleavage rhombs 30
4	1.5 1.0	F 20 C 30 M 10 VC40	?140/70S	3 5	"	"	"	70	70 -	as above plus grey talc 35
5	2 1	F 10 C 30 M 10 VC50	-	2 5	"	"	"	80	80 -	as above plus large recryst. area 200
6	50cms 30 "	F 20 C 30 M 30 VC20	40/68S	4 4	"	"	"	50	50 -	" " 30

COOMALIE DOLOMITE AREA E

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	2 1	F 20 C 30 M 10 VC40	-	3 10	greyish white	"	"	70	70 -	qz. rex. to v. large crystals, v. coarse ?rhombs or cleavage rhombs, grey zoning, contorted strat. stroms. 100

COOMALIE DOLOMITE AREA E

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
2	3.0 1.5	F 10 C 30 M 10 VC50	-	2 2	"	"	"	80	80 -	as above, cross-cutting veins dom-inant 100
3	6.0 4.5	F 20 C 20 M 20 VC40	-	2 2	"	"	"	60	60 -	as above, plus carbonaceous mate-rial conc. along veins 100

COOMALIE DOLOMITE AREA F

OUTCROP NUMBER	HEIGHT AV.MAX. METRES	GRAIN SIZE % VIS.ESTIM.	ORIENTATION OF BEDDING %	TALC QUARTZ %	COLOUR	TEXTURE	TYPES OF VEINS	DISTINCT FORMS PRESENT %	BLADED /RHOMB. FORM %	REMARKS - MAX. LENGTH OF -XLS. MMS.
1	80cms 40 "	F 10 C 30 M 20 VC40	-	- 3	white	"	"	70	70 -	minor re-xl qz., no stroms. 30

APPENDIX 2

FLUID INCLUSION DATA

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
AREA: RUM JUNGLE COMPLEX (PREFIX A....)							
A02 (A)	-72.0	-54.4	?	D.C.260	30.5	-	
QUARTZ	-	-11.7	15	327.2	√	-	
	-	-13.5	16	319.5	-	-	
	-26.0	-11.0	15	278.4	-	-	
	-	-	-	323.3	-	-	
	-	-58.0	?	-	29.0	-	
	-3.5	-0.6	0	155.6	-	-	
	-2.8	-0.6	0	155.3	-	-	
	-	-0.2	0	155.1	29.0	-	
	-	-58.3	?	-	29.7	-	
	-	-55.4	?	-	29.3	-	
	-	-15.5	18	281.4	-	-	
	-	-	-	D.C.300.0	-	-	
	-	-14.7	17	-	-	-	
(B)	~-50.0	-29.6	25	143.7	-	-	
	-	-11.5	15	274.8	-	-	
	-	-58.9	?	D.C.306	√	-	
	-	-8.9	12	257.1	-	-	
	-	-9.3	13	256.8	-	-	
	-24.8	-11.3	15	D.C.254.9	-	-	
	-58.7	0.0	0	356.1	31.5	-	Good Nos
	-54.2	-	-	~323	31.5	-	
	-21.4	-10.7	14	305.4	-	-	Hydrate
(C)	~-15.0	-3.4	-	142.7	-	-	Good Nos
	-23.0	-8.1	-	192.2	-	-	"
	-55.1	-7.6	10	253.7	-	-	
	-	-	-	231.4	-	-	
	-54.4	-	-	-	-	-	
	-	-7.8	10	252.2	-	-	
	-	0.0	0	156.6	-	-	
	-	-2.3	-	152.7	-	-	Hydrate
	-	-	-	245.5	-	-	
	-	-	-	251.9	-	-	
A09	-45.0	-20.4	22	279.6	-	-	
QUARTZ	-71.8	-16.7	19	>515	26.4	- √	
	-56.0	-27.1	24	323.8	-	-	
	-	-15.9	18	>390	30.5	-	
	-31.1	-14.2	17	355.7	-	-	
	-25.0	-7.0	10	191.6	-	>515	
	-	-15.4	18	>395	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
AREA: BEESTONS FORMATION (PREFIX B ...)							
B09 (A)	-	-31.0	26	96.3	-	-	
QUARTZ	-	-31.0	26	98.4	-	-	
(TOURM)	-55.0	?	-	105.3	-	-	
	-	-	-	98.4	-	-	
	-	-30.7	26	101.8	-	√	
	-55.0	-31.3	26	99.8	-	-	
	-	-	-	180.8	-	-	
	-	-	-	126.5	-	-	Hydrate melted but no return of V.P.
	-50.0	~-30.0	-	-	-	-	
(C)	-	-12.0	35	133.6	-	-	Hydrate M.P. - 3.5
	-	-	-	83.3	-	-	
	-	-12.0	33	154.9	-	-	Hydrate M.P. - 6.4
	-	-25.3	23	90.0	-	-	
	-46.8	-24.3	23	125.0	-	Haem. D.M.	-
	-	-	-	91.6	-	-	
	-	-	-	177.9	-	-	
	-	-	-	192.3	-	-	
AREA: CELIA DOLOMITE (PREFIX C ...)							
C09 (A)	-50.0	-13.1	16	172.6	-	-	Bladed
MAGNESITE	-	-13.0	16	167.0	-	-	
	~-50.0	-12.6	16	152.2	-	-	
	-	-	-	165.0	-	-	
	-	-	-	167.5	-	-	
	-	-	-	165.4	-	-	
	-	-	-	168.0	-	-	
C09 (B)	-45(CO_2)	-15.4	18?	-	29.9	-	
	-	-14.7	17?	-	28.9	-	
	-	-		-	30.3	-	
	~-50.0	-31.8	26	304.7	-	-	
	-	-20.9	22	142.7	-	-	
	-	-	-	135.7	-	-	
	-	-	-	149.2	-	-	
	-	-	-	154.6	-	-	
	-	-	-	363.6	-	-	
	~-50.0	-36.3	27	113.8	-	-	
	~-17.4	-3.8	2	180.2	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C09 (C)	-	-13.4	16	149.4	-	-	
	-	-16.0	19	144.0	-	-	
	-	-18.6	21	161.3	-	-	
	-	-	-	179.6	-	-	
	-	-	-	159.1	-	-	
	-	-	-	163.7	-	-	
	-	-3.8	2	151.1	-	-	
	-	-13.4	16	150.2	-	-	
	~-45.0	-15.3	18	150.2	-	-	
C11 (A)	-	-	-	187.0	-	-	
QUARTZ	~-40	-22.3	22	215.0	-	-	
	-	~-23.0	22	-	-	-	
	-	-	-	216.6	-	-	Did not freeze
	-	-	-	214.7	-	√	"
	-	-	-	190.8	-	-	Hydrate
	-	-24.7	35	225.3	-	-	M.P. -12.6°C
(B)	-	-	-	228.6	-	-	did not freeze
	-	-	-	235.3	-	-	"
	-	-	-	214.0	-	-	"
	-50.0	-28.7	25	?183	-	-	
	-55.0	-27.7	-	190.7	-	-	? Hydrate
	-50.0	-15.2	18	-	-	-	L only
	-49.0	-15.7	18	220.4	-	-	Final melting
	-47.6	-16.7	19	213.5	-	-	Good Nos
C13 (A)	-	-	-	~145.0	-	-	Poor
QUARTZ	-	-	-	~100.0	-	-	sample did not freeze
ZONED CRYSTAL	~-56.0	?-25.3	-	~145.0	-	-	
	-	-	-	131.7	-	-	O.K
A = CORE	~-55.0	-8.6	12	~143.0	-	-	
THEN	-	-	-	143.4	-	-	
WORKING	-	-	-	124.5	-	-	
TO RIM	-	-	-	131.1	-	-	
AT (G)	-	-	-	125.6	-	-	
(B)	-	-	-	122.0	-	-	
	-	-	-	119.8	-	-	
	~-43.0	~-15.0	-	127.7	-	-	
	-	-	-	101.1	-	-	
	-	-	-	132.8	-	-	
(C)	-	-	-	170.4	-	-	None
	-	-	-	110.0	-	-	froze
	-	-	-	114.0	-	-	
	-	-	-	135.6	-	-	
	-	-	-	99.4	-	-	
	-	-	-	130.4	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(D)	–	–	–	93.4	–	–	
	–	–	–	99.8	–	–	
	–	–	–	112.0	–	–	
	~-50.0	-21.9	22	–	–	–	
	–	–	–	127.5	–	–	
(E)	–	-38.4	27	92.2	–	–	
	–	–	–	90.3	–	–	
	–	-3.5	36	~145	–	–	Hydrate
	–	-4.8	35	~146.8	–	–	"
	–	-21.8	(22)	?	–	√ 6	
	-18.0	-12.1	34	173.5	–	–	"
	–	–	–	129.8	–	–	
	–	–	–	136.5	–	–	Many with D.M.'s up to 6
	–	-52.9	30	139.8	–	–	
	–	-47.6	29	131.8	–	–	
	-64.1	-21.6	33	92.2	–	–	Hydrate
	-7.0	+2.3	38	131.8	–	–	"
	–	+3.0	38	136.5	–	–	"
	–	–	–	121.1	–	–	
	–	–	–	143.4	–	–	
	–	–	–	145.8	–	–	
	–	–	–	214.4	–	–	
	–	–	–	247.7	–	–	
	–	–	–	254.5	–	–	
(F)	-65.0	-9.3	13	158.6	–	–	
	–	–	–	119.1	–	–	
	–	-24.4	33	144.7	–	–	Hydrate did not freeze
	–	–	–	100.0	–	–	
	–	-38.7	28	100.0	–	–	
	–	-21.9	33	122.0	–	–	Hydrate
	–	-21.9	22	124.1	–	–	
	–	–	–	141.5	–	–	
	–	-21.9	22	–	–	–	
	–	–	–	106.5	–	–	Did not freeze
(G)	~-50.0	-19.9	21	112.5	–	–	All froze No D.M.'s
	~-50.0	-10.3	14	121.4	–	–	
	~-50.0	-24.6	24	100.6	–	–	
	~-50.0	-12.3	16	112.5	–	–	
	–	–	–	143.9	–	–	
	–	–	–	134.1	–	–	
	~-50.0	-18.3	21	<110	–	–	
	~-50.0	-19.9	21	110.7	–	–	
	~-50.0	-19.9	21	110.2	–	–	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C22	-	-	-	127.9	-	-	In 1 train
QZ	-58.0	-17.5	20	245.0	-	-	
	-58.0	-18.0	21	242.3	-	-	
	-58.0	-17.5	20	240.0	-	-	
	-58.0	-14.5	17	240.0	-	-	
	-58.0	-15.5	18	129.5	-	-	
	-58.0	-14.0	17	142.0	-	-	
	-	-	-	126.7	-	-	
	-58.0	CLATH -3.2	(35)	-	30.7	-	Decrep. 380.1°C
	-58.0	-17.5	20	128.1	-	-	Bubble -22.5°C
	-58.0	-14.5	17	246.0	-	-	
	-	+6.5✓	?	129.0	-	-	
	-	+7.0✓	?	129.5	-	-	
	-	-22.5	22	-	-	-	
	-	-	-	CO_2 Into V 359.6	-	-	
	-	-	-	CO_2 Into L 288.8	-	-	Rapidly Shrank
	-	-	-	-	30.7		
	-	-	-	-	29.8		
	-	-	-	-	3 x 31.0		
C27 MAGNESITE	-	-	-	168.5	-	-	Rhomb
	-	-	-	166.1	-	✓	
	-	-	-	169.8	-	-	
	-	-	-	189.7	-	-	
	-	-	-	136.8	-	-	
	-	-	-	191.7	-	-	
	-	-	-	125.5	-	-	
	-	-	-	145.0	-	-	
C28 MAGNESITE	-	-	-	131.0	-	-	"Mixed"
	-	-	-	110.0	-	-	
	-	-	-	152.8	-	-	
	-	-	-	151.8	-	-	
	-	-	-	142.3	-	-	
	-	-	-	170.4	-	-	
	-	-	-	199.6	-	-	
	-	-	-	182.3	-	-	
	-	-	-	201.4	-	-	
C32 MAGNESITE	-	-42.9	28	153.5	-	-	"Mixed"
	-	-28.7	25	172.7	-	Not Diss. at 300°C	
	-	-	-	213.5	-	Diss. 270.2°C	Did not freeze
	-	-	-	210.3	-	Diss. 266.8°C	"
	-	-	-	172.4	-	Diss. 259.6°C	"
	-38.0	-31.5	26	- 157.5	-	-	
	-	-	-	- 210.5	-	-	"

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C32 (CONT.)	–	–	– –	199.9	–	–	"
	–	–	– –	–	–	Diss. at 300°C	"
	–	–	– –	171.0	–	–	"
	–	–	– –	130.9	–	Not Diss. at 365°C	"
	–	–	– –	151.8	–	Diss. at 320.2°	" 2 d.m.
	–	–	– –	150.9	–	Not Diss. at 365°C	"
	–	–	– –	147.4	–	–	"
	–	–	– –	205.1	–	–	"
C33 QUARTZ	–	-31.7	26	118.2	–	–	
	–	-31.6	26	110.8	–	–	
	–	-32.3	26	125.8	–	–	
	–	-29.3	25	138.5	–	–	
	–	-29.7	35	–	–	–	Hydrate diss. -4.8°C
	–	-25.2	36	137.4	–	–	"-3.3°C
	–	-22.5	34	123.4	–	–	"-7.2°C
	–	-20.6	33	122.7	–	–	" -17.3°C
	–	-21.1	33	123.5	–	–	" -18.7°C
	–	-29.3	32	123.7	–	–	" -19.3°C
	–	-36.4	27	121.1	–	–	" -19.3°C
	–	-36.4	27	121.1		–	
C37 QUARTZ	–	-72.0	–	326.0	27.6	–	
	–	-70.7	–	?471.5	28.6	–	
	–	-60.9	–	340.3	32.0	–	
	–	-32.7	26	126.5		Not Diss. at 340	
	–	-30.0	26	126.3	–	–	
	–	–	–	143.1	–	–	Did not freeze
	–	–	–	158.7	–	–	"
C43 (A) QUARTZ	-65.0	-37.0	28	126.9	–	–	Grain within talc
	-60.0	-45.5	29	122.3	–	–	
	-65.0	-41.5	28	144.6	–	–	
	-65.0	-43.1	28	131.1	–	–	
	–	–	–	122.0	–	–	Did not freeze
	-70.0	-34.9	27	128.3	–	–	
(B)	–	–	–	116.0	–	√Diss. 88.6°C	Qz. adj. to talc
	-3.8	-2.0	3	145.6	–	–	
	–	–	–	133.1	–	–	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(B)	-	-0.2	0	169.3	-		-
(CONT.)	-26.0	-0.2	0	165.3	-		-
	-62.1	-41.4	(28)	101.5	-	√Diss. 82.7°C	
	-64.0	-42.9	(28)	119.4	-	√Diss. 60.0°C	
	-	-	-	120.0	-	-	
(C)	-	-	-	118.0	-	-	Qz 1cm
	-	-	-	117.2	-	-	from
	-	-	-	116.9	-	√Diss. 86.8	talc - few
	-	-	-	115.2	-	-	talc
	-62.0	-42.0	28	83.9	-	-	needles
	-	-	-	142.7	-	-	
	-	-	-	98.0	-	-	
	-	0.3	0	215.3	-	-	cut
	-	0.4	0	-	-	-	xross
	-	-	-	173.5	-	-	grain
	-	-	-	196.1	-	-	bound-aries.
(D)	-62	-	-	114.7	-	√77°C	Qz
	-	-	-	116.6	-	-	½cm
	-	-	-	106.7	-	-	from
	-	-	-	121.3	-	-	talc
	-	-	-	122.8	-	-	
	-	-	-	129.3	-	-	
	-	-	-	134.8	-	-	
	-	-49.6	30	122.3	-	-	
	-	-	-	119.3	-	-	
	-	-	-	111.1	-	-	
C48	-	-	-	137.7	-	-	some
MAFIC	-64.0	-30.0	26	108.7	-	-	F.I.'S
SCHIST - QUARTZ	-	-36.0	28	123.3	-	-	with CO_2 rich
	-53.8	-30.7	26	127.0	-	Did not dissolve by 200°C	Phases.
	-65.7	-30.7	26	132.5	-	-	
	-54.7	-29.8	25	130.8	-	-	
	-56.5	-	-	164.2	-	-	
	-64.0	-18.0	-	-	-	-	
	-23.6	-	23	120.0	-	-	
	-19.6	-5.4	6	167.5	-	-	
	-	-	-	184.4	-	-	
	-23.6	-7.3	10	232.5	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.		T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C52 TOURM/QZ	-	-	-		~123.9	-	-	
	-	-	-		-	28.2	-	V. phase expanded to fill F.I. on cooling for many F.I.'S
C54 QUARTZ	-46.0	-27.8	24		173.3	-	-	
	-	-	-		136.2	-		Did not freeze
	?-26.5	-4.4	5		167.1	-	Not Diss. at 300°C	
	-31.4	-3.7	3		161.6	-	-	
	-17.0	-4.4	5		207.0	-	-	
	-	-5.8	6		197.6	-	-	
	-33.0	-19.6	21		149.0	-	-	
	-39.2	-16.7	19		?342.5	-	-	1 Homog. only - doubtful
	?32.5	-14.5	17		?292.1	31.3	-	"
C56 MAGNESITE	-	-	-		190.9	-	-	Bladed
	-	-	-		198.6	-	1	
	-	-	-		129.1	-	-	
	-	-	-		184.0	-	-	
	-	-	-		168.5	-	-	
	-	-	-		187.7	-	-	
	-	-	-		-	-	-	Decrep. 193.0
	-	-	-		157.6	-	-	
C58 MAGNESITE	-	-	-	-	115.3	-	-	Rhomb.
	-	-	-	-	242.0		-	Did not freeze
	-	-	-	-	105.3	-	-	"
	-	-	-	-	137.5	-	-	"
	-	-23.7	23	-	102.4	-	-	
	-52.7	-45.4	28	-	102.3	-	-	
	-25.7	-	-	-	-	-		Bubble dissa-ppeared at -50°C & did not re-appear

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C63 MAGNESITE	-	-	-	185.1	-	-	"Mixed"
	-	-	-	191.0	-	-	
	-	-	-	190.7	-	-	
	-	-26.0	-	135.0	-	Hydrate -34.9°C Hydrate MP - 15.8°C	
	-	-	-	170.9	-	-	
	-	-	-	171.4	-	-	
	-	-	-	180.6	-	-	
	-	-	-	191.0	-	-	
	-	-	-	151.3	-	-	
	-	-	-	193.8	-	-	
	-58.4	-15.8	18	151.6	-	-	
	-59.2	?-29.3	-	142.7	-	-	
	-59.2	-22.4	22	132.9	-	-	
	-	-	-	153.7	-	-	
C64 MAGNESITE	-	-	-	149.0	-	-	Rhomb
	-	-	-	162.5	-	-	
	-	-	-	165.1	-	-	
	-	-	-	172.0	-	-	
	-	-	-	140.0	-	-	
	-	-	-	118.0	-	263.3	
	-	-	-	142.1	-	132.9	
	-	-	-	136.3	-	-	
	-	-	-	139.6	-	260°C & 293.3°C	
	-	-	-	141.9	-	-	
	-	-	-	149.4	-	-	
	-	-	-	139.6	-	-	
	-70.0	-54.9	?	153.9	-	-	
	-	-	-	197.5	-	240.8°C	
C71 MAGNESITE	-	-	-	169.7	-	✓	Rhomb
	-	-	-	177.8	-	-	
	-	-	-	153.0	-	-	
	-	-	-	169.4	-	✓	
	-	-	-	155.0	-	-	
	-	-	-	153.0	-	-	
	-	-	-	168.3	-	-	
	-	-	-	176.7	-	-	
	-	-	-	168.6	-	✓	
	-	-	-	174.0	-	✓	
	-	-	-	155.5	-	-	
	-	-	-	192.0	-	-	
	-	-	-	175.3	-	-	
	-	-	-	155.9	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
C80	~-70.0	-39.7	(28)	110.0	-	170.7 (Cubic)	Pseudo-primary
MEGA-QZ	~-70.0	-50.0	(30)	110.0	-	181.6°C "	(i.e.
(IN CO_3	~-74.0	-43.9	(29)	106.9	-	175.4°C "	of
IS C13	-	-	-	119.3	-	-	neomor-
	-33.6	-12.0	16	151.1	-	-	phic Qz)
	-47.4	-9.1	13	105.8	-	-	Adj. to
	-45.2	-9.5	(13)	104.5	-	Did not diss. by 200°C	CO_3 grain
	-	-5.4	6	106.2	-	-	
	-43.7	-8.5	12	102.9	-	-	
	-50.7	-6.6	8	103.0	-	-	
	-43.5	-3.4	5	107.1	-	-	
	-45.2	-4.9	6	106.8	-	-	
	-	-4.9	6	106.2	-	-	" trace

AREA: CRATER FORMATION
(PREFIX D ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
D03 QZ (A)	-	-58.9	-	249.5 (Into V.)	21.5	-	Assoc with bands of Tourm. ± Pyrite
	-	-	-	180.0	-	-	hydrate -21.7 melts -18
	-	-59.0	-	289.4 (into V.)	√√25.4	-	-
	-64.4	-58.9 (CO_2 PHASE) -13.3 L PHASE	-	300.4 (into V.)	24.0	-	-
	-	-	-	180.1	-	-	-
	-	-53.7	-	290.4 (into V.)	√√31.5	3* ~220	1 D.M. melts 220°
	-54.0 (Bubble reappears -39.3)	~-10.0	-	-	-	-	Dec rep 259.8
	-	-	-	153.0	-	-	-
	-	-	-	201.2	-	-	-

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(B)	–	-56.7	–	358.2 (into V.)	–	–	
	–	-56.7 (CO_2) L phase -12.0	–	301.2 (into V.)	30.2	1	2 Bubbles at -13.2
	–	-56.7 -12.5 ✓	–	325.5 (into V.)	28.2	–	2 Bubbles
	-48.5	-12.0	–	132.8	–	–	
	–	-58.6 17.8	–	376.0 (into V.)	24.5	–	
	–	-59.4	–	–	28.4	–	
	–	-23.5	–	272.1(L)	29.5	–	
	–	-57.4	–	277.5(L)	29.5	–	
	–	-12.5 ✓	–	–	24.5	–	Decrep.
	-67.4	-56.7 -12.0	–	–	23.0	–	Decrep. 304.3
	–	-25.0		135.8	–	–	–
	–	-55.0	–	–	28.1	–	–
	–	–	–	158.1	–	–	
	–	–	–	127.8	–	–	
	–	–	–	156.0	–	–	
D09 (A) QUARTZ	-65.0	-38.5	–	D.C. 420	-?	–	QZ 10% + Tourm. 80% + FE oxides 10% no F.I. act-ually showing CO_2 yet look like CO_2
	–	–	–	177.1	–	–	
	–	–	–	240.0	-?	✓	
	-63.0	-50.3	–	D.C.215.8	–	–	
	–	–	–	D.C.425.0	-?	–	
	-63.0	-34.4	–	377.0	-?	–	
	–	–	–	D.C.454.9	-?	–	
	–	?-30.4	–	~468	-?	–	
(B)	–	–	–	313.1	-?	–	
	–	–	–	329.9	-?	–	
	–	–	–	273.9	-?	–	→L
	–	–	–	373.3	-?	–	→L
	–	–	–	462.0	-?	–	→V
	–	–	–	~313	-?	–	
	–	–	–	147.5	–	–	→L
	–	–	–	154.2	–	–	→L
	–	–	–	280.7	-?	–	→L
	–	–	–	280.0	-?	–	→L

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
D10 (A)	-	-	-	187.7	-?	-	
	-	-	-	217.3	-?	-	
	-	-	-	264.0	-?	-	
	-	?-36.0	-	225.3	-?	-	
	-	-	-	208.9	-?	-	
	-	-	-	239.4	-?	-	
(B)	-	-	-	268.1	-?	-	Didn't freeze
	-	-	-	~230	-?	-	"
	-	-	-	272	-?	-	"
	-	-	-	~465	-	√Diss 150	Good readings
	-	-	-	360.3	-	√ "	"
(C)	-	-	-	477.4	√-	-	"
	-	-	-	419.4	√-	-	
	-	-	-	-	32.2	-	
	-	-	-	468.7	31.4	-	"
	-62.0	-	-	236.5	-	√Diss 320°	"
	-65.0	-37.5	-	253.0	14.7	√Diss 409	"
	-65.0	-31.8	-	-	-	-	
	-	-	-	212.4	-	-	
	-	-	-	237.0	-	-	
	-	-	-	239.7	-	-	
	-	-	-	264.4	-	-	
	-	-	-	220.8	-	-	
	-65.0	-30.8	-	237.8	-	√	
D11 (A) QUARTZ	-	-	-	398.7	~30(V)	-	→V
	-	-	-	400.2	~30(V)	-	→L
	-	-	-	95.1	-	√	
	-	-	-	144.0	-	2√	
	-	-	-	100.1	-	2√	
	-	-	-	131.8	-	2√	
	-	-	-	420.0	30.0	√	
	-	-	-	D.C.420.5	32.0	-	
	-	-	-	334.2	30.0	√	Diss 271
	-	-	-	D.C.420	30.5	5√	
	?-29.1	?-19.6		236.4	-	?	
(B)	-	-	-	389	31.1	-	
	-	-	-	288.3	32.3	-	
	-	-	-	330.0	32.0	-	
	-	-	-	D.C.360.6	32.6	-	
	~-73.0	-43.5	-	~315	?	-	
	-	-63.9		-	25.1	-	Then no ie all CO_2 (+CH_4?)
	-	-	-	385.2	?	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(B)	~-73.0	~-20.0	-	D.C.312	-4.6*	Clathratl	
(CONT.)	-70.0	~-19.0	-	-	-	-	
	-	~-18.0	-	327.0	~30	-	
	-	-	-	D.C.324	~30	2✓	Diss 260
	-	-		154.9	-	-	
(C)	-	-26.4	24	111.8	-	-	
	-	-58.9	-	D.C.236.6	7.5	-	
	-40.0	-25.7	-	-	-	-	
	-57.0	-12.6	-	D.C.276.6	17.0	-	
	-57.1	?	-	D.C.267.5	15.8	-	
	-	-9.6	-	-	-	-	
	-	-	-	129.6	-	-	
	-	-	-	D.C.315.6	?	-	
	-	-	-	240.8	?	-	
	-	-	-	D.C.292.9	✓	-	
	-	-	-	D.C.280.3	✓	-	
	-	-	-	D.C.203.1	✓	-	
	-	-	-	136.2	-	-	
	-49.0	-24.8	23	127.3	-	-	
	-	-	-	354.2	✓	-	+3 D.C.'s
	-	-	-	-	-0.6	-	
	-	-	-	-	13.9	-	
	-	-	-	-	21.0	-	
	-	-	-	-	27.8	-	
	-	-	-	-	32.0	-	
D12 (A)	-	-	-	125.3	-	-	With bands of Tourm.
QZ	-	-54.0	-	-	30.7	-	
	-66.9	-56.0	-	117.9	-	-	
	-66.0	-56.0	-	141.3	-	2	1 Diss ~120
	-68.0	-54.0	-	-	-	-	-
	-	-6.7	-	119.5	-	2 Diss at 14.9°C	Larger D.M. -39 + Hydrate
	-	-	-	-	22.2	-	
	-	-	-	-	25.1	-	
	-	-	-	-	28.5	-	
	-	-	-	-	26.9	-	
D12 (B)	-	-	-	143.9	-	✓	
NO L & V	-	-	-	146.9	-	✓	
ONLY	-	-	-	166.8	-	✓	
	-	-25.8	-	148.0	-	✓	
	-	-	-	115.0	-	✓	
	-	-25.0	-	116.9	-	✓	
	-	-53.7	-	-	?	-	
	-	-	-	122.7	-	-	
	-	-54.0	-	-	24.3	-	
	-	-	-	-	19.9	-	
	-	-	-	-	21.2	-	
	-	-	-	-	33.2 ✓	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
AREA: COOMALIE DOLOMITE (PREFIX E ...)							
E18	–	–		230.2	–	–	Rhomb
MAGNESITE	–	–		201.4	–	–	
	–	–		186.6	–	–	
	–	–		160.8	–	–	
	–	–		120.1	–	–	
E24	–	-26.8	24	–	–	–	
MAGNESITE	–	-28.5	(25)	175.4	–	Cubic	Bladed
	–	-28.0	(25)	154.7	–	diss at 264.8°C	
	–	-28.3	(25)	179.0	–	Cubic	
E25	–	–	–	191.0	–	–	Bladed
MAGNESITE	–	–	–	196.3	–	–	
	–	–	–	187.7	–	√	
	–	–	–	–	–	–	Decrep 320°
	–	–	–	149.5	–	–	
	–	–	–	158.0	–	–	
	–	–	–	187.9	–	–	
	–	–	–	259.6	–	–	
	–	–	–	198.4	–	√	–
	–	–	–	199.3	–	–	
	–	–	–	–	–	–	Decrep 320°
E28A	–	–		171.6	–	–	Bladed
MAGNESITE	–	–		194.3	–	–	
	–	-27.3	24	137.8	–	–	
	–	–		174.2	–	–	
	–	–		197.2	–	~260	
	–	–		158.4	–	–	
	–	–		200.9	–	~260	
	–	–		181.6	–	–	
	–	–		170.3	–	–	
	–	–		209.7	–	–	
	–	–		158.0	–	–	
	–	–		190.7	–	252,227	
	–	–		167.5	–	–	
	–	–		213.4	–	–	
	–	-36.4	27	171.8	–	–	
	–	–		163.7	–	–	
	–	–		183.5	–	252	
	–	–		188.1	–	–	
	–	–		185.6	–	290	
	–	–		198.2	–	265	
	–	–		131.1	–	–	
	–	–		168.3	–	–	
	–	–		>380	–	–	
	–	–		203.8	–	–	
	-48	-14.7	?	152.0	–	–	? Hydrate
	–	–		>380	–	–	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
E34	-	-30.8	26	136.9	-	-	Rhomb
MAGNESITE	-	-	-	138.2	-	-	
	-31.5	-21.6	22	147.4	-	-	
	-45.0	-31.4	26	164.0	-	-	
	-	-	-	108.3	-	-	
	-	-5.8	6	115.9	-	-	
E40	-57.0	-28.8	25	98.9	-	-	
QUARTZ	-41.0	-31.0	26	104.3	-	-	
	-40.0	-27.9	24	107.4	-	-	
	-48.0	-27.6	24	107.8	-	-	Hydrate -6.3°C
	-47.0	-20.5	(22)	189.1	-	-	
	-	-33.7	27	121.2	-	-	
	-	-44.0	(28)	96.7	-	162.4	
	-40.0	-25.4	23	122.6	-	-	
	-69.0	-53.0	?	111.1	-	-	
	-60.0	-53.3	?	111.4	-	-	
E90	-	?-42.0	-	?104.1	-	-	
QUARTZ	-	?-2.0	-	121.1	-	Not diss at 282°	
	-	-22.5	22	-	-	-	
	-31.5	-12.0	16	-	-	-	
	-	-47.3	29	235.2	-	-	
	-	-42.3	28	>282	-	-	
	-	-	-	188.8	-	-	
	-	-14.3	17	101.4	-	-	

AREA: MOUNT FITCH DEPOSIT
(PREFIX MF ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
MF2	-	-38.2	27	294.5	-	-	V:L 1:3
MAGNESITE	-	-37.9	27	167.3	-	-	"mixed"
	-47.6	-18.6	21	-	-	-	froze at -60
	-53.5	-20.0	22	195.2	-	-	"-70
	-	-	-	140.2	-	-	
	-	-	-	126.3	-	-	
	-65.0	-32.2 (-56.9 & -54.5)	?26	67.8	Hydrate?	-	Bubble Disappeared
	-	-		149.9	-	-	
	-73.0	-58.3	?	140.3	?	-	
MF3	-	-	-	139.7	-	-	
QUARTZ	-55.0	-40.1	28	101.0	-	√	
	-54.5	-40.1	28	101.0	-	-	
	-	-43.5	28	139.7	-	-	
	-	-24.4	23	125.2	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
MF3 (CONT.)	–	-2.3	2	149.1	–	–	Hydrate M.P. +5.7
	-35.7	V Phase at +13.5	?36	141.9	–	–	
		V. Phase at +4.6	– –	142.9	–	–	
	–	–	–	122.0	–	–	Did not freeze
	-46.6	-20.0	2	133.4	–	–	
	–	-24.4	23	107.5	–	–	
	–	–	–	120.0	–	–	
	–	-22.9	22	120.0	–	–	
	-42.4	-25.0	23	115.0	–	–	
MF4 QUARTZ	–	+2.0	–	125.1	–	–	
	–	-2.5	2	115.5	–	–	Bubble popped -20.9
	–	-4.7	4	116.0	–	–	" -7.3
	–	–	–	130.1	–	–	
	–	-4.7	4	–	–	–	" -7.3
	–	+14.5	?	125.2	–	–	
	–	-0.5	0	125.2	–	–	" -1.3
	–	-2.0	2	126.2	–	–	
	-57.5	+1.5	?	125.2	–	–	
	–	-1.3	1	125.2	–	–	
	–	-1.0	1	135.4	–	–	
	-49.6	-3.0	3	125.1	–	–	" -11.1
	–	–	–	119.9	–	–	" -4.7
	–	-1.8	1	126.0	–	–	
	–	-2.8	2	–	–	–	" -10.0
	-54.5	-3.0	3	110.0	–	–	
	–	-2.5	?	125.5	–	–	"-4.2
	–	+3.5	?	125.5	–	–	
	–	+0.9	?	125.5	–	–	
	–	-2.8	2	–	–	–	
MF5 QUARTZ	–	-21.6	22	128.1	–	–	
	–	1.0	–	–	–	–	
	–	-22.0	22	125.0	–	–	
	–	-1.9	1	169.4	–	–	
	–	–	–	186.2	–	–	
	–	-2.6	2	123.1	–	–	
	–	–	–	156.2	–	–	
	-51.4	-24.2	23	115.2	–	–	
MF7 MAGNESITE	–	-21.9	22	112.3	–	–	Rhomb Bubble "shra-nk"
	–	–	–	121.9	–	–	
	–	–	–	101.5	–	–	
	–	–	–	101.5	–	–	
	–	–	–	101.5	–	–	
	–	–	–	104.1	–	–	
	–	–	–	97.8	–	–	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
MF7 (CONT.)	-59.7	-15.3 ✓	18	110.5	-	-	Hydrate -35.8
	-80.2	-41.2	28	103.1	-	-	
	-62.7	-51.9	?	103.8	-	-	
	-62.7	-54.2	?	104.0	-	-	
MF8 (A) MAGNESITE	-	-	-	133.9	-	✓ H	Rhomb Decrep at 280
(B)	-	-	-	138.5	-	✓H	
	-	-	-	123.3	-	✓H	H = Haem-atite
	-	-	-	124.9	-	✓H	
	-	-	-	124.9	-		Rhomb
(C)	-	-	-	98.2	-	✓H	
	-	-	-	121.6	-	-	
	-	-	-	110.1	-	-	
	-	-	-	110.0	-	-	
	-	-	-	100.9	-	✓H	
	-	-	-	111.5	-	✓✓H	
(D)	-	-	-	132.9	-	✓H	
	-	-	-	130.5	-	✓✓✓✓H	
	-	-	-	112.8	-	-	
	-	-	-	118.0	-	-	
	-	-	-	116.9	-	-	
	-	-	-	120.0	-	-	
	-	-	-	128.4	-	-	
	-	-	-	128.3	-	-	
	-	-	-	124.8	-	-	
	-	-	-	116.6	-	✓H	
	-	-	-	114.4	-	✓H	
	-	-	-	110.0	-	-	
	-	-	-	109.9	-	-	
(D)	-	-	-	113.2	-	-	
	-	-	-	113.8	-	-	
	-	-	-	112.8	-	✓H	
	-	-	-	105.5	-	✓H	
	-	-	-	107.8	-	✓H	
	-	-	-	111.2	-	✓H	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
AREA: DYSONS DEPOSIT (PREFIX DY ...)							
DY1 (A)	-37.0	+0.3	0	136.0	-	-	Rhomb.
MAGNESITE	-	+8.2	?	142.6	-	-	
	-	+0.5	?	140.2	-	-	
	-	-8.0	12	121.4	-	-	
	-	-3.3	3	143.8	-	-	
	~-36.0	-3.2	3	137.7	-	-	
(B)	-	-	-	132.4	-	-	
	-	-8.2	12	132.4	-	-	
	-	-	-	144.7	-	-	
	-	-3.5	3	153.6	-	-	
	-	-2.8	2	153.5	-	-	
	-	-2.7	2	154.3	-	-	
(C)	-	-	-	126.8	-	-	(Assoc
	-	-	-	268.3	-	-	with
	-	-	-	262.6	-	-	Py)
DY 3	-55.0	-25.0	-	147.8	-	-	These
QZ	-55.0	-25.7	-	148.0	-	-	M.P.'S
	-	-29.5	-	119.9	-	-	may be
	-	-30.0		141.9	-	-	a
	-	-	-	132.8	-	-	little
	-	-29.5		148.0	-	-	too low
	-	-38.0	-	-	-	-	due to
	-	-38.0	-	-	-	-	diffi-
	-	-23.2		135.8	-	-	culty
	-66.6	-39.0		105.0	-	-	with
	-69.5	-44.1		110.9	-	-	hydr-
	-69.0	-43.2		95.5	-	-	ates
	-	-	-	119.2	-	-	Hydrate MP -26.7
	-69.0	-32.8	-	107.0	-	-	
	-70.0	-44.1	-	124.9	-	√	
	-	-36.0	-	118.3	-	√	
	-	-26.7	-	233.0	-	√	
	-	-20.6	-	225.0	-	√	
DY 4	-	-2.0	-	134.0	-	-	Most
QZ.	-	-2.0	-	134.0	-	-	M.P.
	-42.0	+0.2	-	148.0	-	-	could
	-	+0.2	-	148.0	-	-	be
	-	-1.0	-	157.2	-	-	Hyd-
	-	+3.6	-	135.0	-	-	rates
	-	+20.0 √	-	142.2	-	-	∴
	-	-	-	135.5	-	-	Sali-
	-	0.0	-	163.8	-	-	nity
	-	+30.0√	-	139.5	-	-	would
	-	+5.5	-	245.5	-	-	be high
	-	+0.2	-	157.9	-	-	i.e.
	-42.8	+6.4	-	137.8	-	-	>30

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
DY4 (A)	-	-22.9	-	162.6	-	-	
	?-20.0	-14.9	-	102.9	-	-	
	-48.2	-	-	146.7	-	-	
	-48.2	-	-	132.2	-	-	
	-	-	-	122.3	-	-	
	-34.0	-26.3	-	145.5	-	-	Hydrate
	-45.4	-26.3	-	126.3	-	-	"
	-46.7	-28.5	-	100.0	-	-	M.P.
							-7.0
	-	-	-	108.0	-	-	
	-	-24.7	-	178.9	-	-	?-12.7
(B)	-	-	-	163.3	-	-	
	-	-26.4	-	140.6	-	-	
	-40.0	-25.9	-	138.5	-	-	
	-	-25.9	-	142.6	-	-	
	-	-26.0	-	140.5	-	-	Hydrate
							M.P.
							-17.1
	-35.0	-	-	152.1	-	-	
	-	-	-	147.5	-	-	QZ
	-	-	-	151.0	-	-	Intra-
	-	-	-	205.5	-	-	angular
	-	-	-	230.4	-	-	QZ
	-	-	-	236.5	-	-	Grains
(C)	-	-	-	208.0	-	-	with
	-11.4	-2.6	-	161.0	-	D.M.	carbon-
	-	-4.7	-	156.4	-	-	aceous
	-13.2	-5.0	-	149.3	-	-	"shale"
	-	-24.8	-	137.8	-	-	+ Py-
	-	-25.5	-	141.2	-	-	rite
	-	-27.9	-	135.0	-	-	for (A)
	-	-1.7	-	-	-	-	& (D).
	-45.3	-27.9	-	135.0	-	-	(B) &
	-6.0	-2.5	-	153.0	-	-	(C) the
	-	-17.5	-	165.9	-	DM	QZ
	-	-2.5	-	167.3	-	-	appears
	-	-2.2	-	166.5	-	-	more
	-	-	-	133.0	-	-	like
	-	-	-	136.7	-	-	vein
	-	-	-	143.6	-	-	QZ. QZ
	-	-	-	196.1	-	-	shows
	-	-	-	211.0	-	-	growth
	-	-	-	216.5	-	-	zoning,
	-	-	-	219.7	-	-	with
	-	-	-	250.3	-	-	bands
							of
							F.I.S
							para-
							llel to
							zones
(D)	-23.0	-5.3	-	170.2	-	-	?
							Hydrate
	-	-	-	179.3	-	-	
	-	-26.0	-	165.0	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(D)	-57.8	?-29.5	-	198.7	-	-	Hydrate
(CONT.)	-48.0	-7.4	-	163.0	-	-	-23.0
	-	-	-	100.0	-	-	
	-59.4	?-37.3		116.0	-	-	
	-	-	-	116.5	-	-	
	-	-	-	154.6	-	-	
	-	-	-	~240.0	-	-	
	-	-	-	~285.0	-	-	

AREA: WHITES DEPOSIT
(PREFIX WO ...)

WO1 (A)	-	-	-	178.7	-	-	Bladed
MAGNESITE	~-45.0	-10.2	14	171.6	-	-	
	~-45.0	-10.6	14	173.5	-	-	
	-	-	-	174.9	-	-	
	-	-	-	175.0	-	-	
	-	-	-	167.2	-	-	
	-	-	-	167.2	-	-	
	-	-	-	167.8	-	-	
	-	-	-	168.9	-	-	
	-	-	-	175.2	-	-	
	-	-	-	166.9	-	-	
	-	-	-	169.4	-	-	
(B)	-	-4.6	4	197.3	-	-	
	-	-5.0	6	169.9	-	-	
	-	-	-	153.9	-	-	
	-	-	-	178.6	-	-	
	-	-5.2	6	140.3	-	-	
	-45.5	-7.9	10	152.8	-	-	
(C)	-	-4.0	4	189.8	-	-	
	-	-6.3	8	137.2	-	-	
	-	-3.0	3	139.0	-	-	
	-	-4.6	4	143.0	-	-	
	-	-5.6	6	144.0	-	-	
	-	-4.6	4	154.8	-	-	
	-	-	-	188.2	-	-	
	-	-	-	150.7	-	-	
	-	-	-	152.6	-	-	
	-	-	-	183.2	-	-	
	-	-	-	195.7	-	-	
	-	-	-	155.8	-	-	
	-	-	-	195.7	-	-	
WO2	~-7.0	-3.0	3	156.0	-	-	"mixed"
MAGNESITE	-	-1.0	1	178.5	-	-	
	-	-2.6	2	142.6	-	-	Assoc
	-	-4.0	4	142.0	-	-	with
	-26.0	-2.5	2	146.4	-	-	Quartz
	-	-3.5	3	142.0	-	-	
	-	-23.1	23	156.8	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
WO2	-	-23.1	23	143.1	-	-	
(CONT.)	?-47.5	+3.8 √	36?	117.4	-	-	Hydrate ?
	-	-0.1	0	147.5	-	-	
	-	-1.1	1	142.6	-	-	
	-	-	-	148.9	-	-	
	-	-1.1	1	150.4	-	-	
WO3	-	-65.8	?	328.5	-	-	
QUARTZ	-	+4.5√	36?	>360.0	-	-	Hydrate
(ASSOC WITH	-	-4.0?		>360.0	-	-	
MAGNESITE,	-	-	-	125.0	-	-	
CARB. SHALE	-	-	-	115.4	-	√	
& PYRITE)	-	-	-	125.4	-	-	
	-	-	-	125.2	-	-	Hydrate
	-	-	38?	112.5	-	-	at -55 M.P. +11.0
	-	-	-	233.8	-	-	
	-	-	-	-	Hydrate M.P. -0.5		Decrep ~275

AREA: BROWNS DEPOSIT
(PREFIX BR ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
BR1	-7.0	-1.5	1	149.1	-	-	Bladed
MAGNESITE	-7.4	-1.8	1	? 280	-	-	
	-	-1.9	1	359.9	-	-	
	-	-1.2	1	175.6	-	-	
	-23.0	-6.4	8	188.9	-	-	
BR2 (A)	-	-	-	288.8	-	-	Bladed
	-	-11.8	15	251.1	-	-	
	-	-	-	170.5	-	-	
	-	-	-	277.2	-	-	
	-26.7	-8.1	12	214.0	-	-	
	-	-2.8	1	135.5	-	-	
(B)	-	-5.8	6	185.2	-	-	
	-	-6.2	8	173.8	-	-	
	-	-5.6	6	220.0	-	-	
	-	-	-	175.0	-	-	
	-	-	-	214.6	-	-	
	-	-	-	285.9	-	-	
	-	-	-	347.4	-	-	
	-34.0	-5.0	6	344.4	-	-	
	-	-	-	199.2	-	-	
	-	-	-	271.4	-	√-	Decrep before D.M. dis-solved
	-	-4.0	4	138.3	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(C)	-	-7.1	10	139.5	-	-	
	-	-		182.4	-	-	
	-	-6.0	8	168.0	-	-	
	-	-3.4	2	145.0	-	-	
	-	-2.4	1	148.0	-	-	
BR4	-	-	-	369.9	-	-	Rhomb
MAGNESITE	-49.0	-17.6	20	104.8	-	-	
	-51.5	-6.9	8	137.5	-	-	
	-50.0	-18.2	(21)	115.2	-	√Diss	
			-			at 270°C	
	-	-	-	123.9	-	-	
	-	-	-	113.1	-	-	
	-63.0	-34.9	27	136.9	-	-	Lge x-tal has T_F-26.9
	-63.0	-29.2	25	139.1	-	-	
	-	-	-	130.2	-		
	-	-	-	125.0	-	√	
	-	-	-	123.3	-	√	
	-60.0	-30.0	26	-	-	-	No v. phase
	-	-	-	114.4	-	-	
	-	-	-	124.7	-	-	
	-70.0	-31.5	(26)	>400	-	-	CO_2 - vapour phase
	-	-6.6	8	139.0	-	-	
	-70.0	-30.0	(26)	>400	-	-	CO_2 - vapour phase
	-60.0	-4.5	4	122	-	-	
	-	-	-	121	-	-	
	-	-	-	120.7	-	-	
	-	-	-	115	-	-	
	-	-	-	112.4	-	-	
	-	-	-	125	-	-	
	-	-	-	124.6	-	-	
BR5	-	-	-	132.0	-	-	Rhomb (Assoc with Carb. Shale 50:50)
MAGNESITE	-	-	-	110.0	-	-	
	-	-	-	114.6	-	-	
	-	-	-	146.2	-	-	
	-37.2	-1.3√	1	L only	-	-	
	-45.8	-9.3	13	138.3	-	-	V at -32
	-45.9	-7.3	10	133.5	-	-	"

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
AREA: WOODCUTTERS PROSPECT (PREFIX WC ...)							
WC1 - M MAGNESITE	-54.0	-10.7	14	128.4	-	-	Tm = -11°C
	-50.0	-19.6	(21)	130.0	-	√-	"mixed"
	-50.0	-18.1	21	109.6	-	-	
	-60.0	-12.0	16	132.5	-	-	
	-52.0	-11.6	15 (34)	129.7	-	-	Hydrate -11°C
	-50.0	-25.4	23	131.1	-	-	
	-40.0	-25.1	23	127.4	-	-	
	-	-	-	148.0	-	-	
	-	-	-	150.0	-	-	
	-	-	-	130.0	-	-	
	-	-	-	158.4	-	-	
	-	-	-	173.6	-	-	
	-50.0	-11.5	15	129.9	-	-	Froze at -65 bubble reapp-eared at -32
	-	-	-	209.4	-	-	
	-	-	-	166.1	-	-	
	-	-	-	155.7	-	-	
	-	-	-	184.2	-	-	
	-	-	-	197.5	-	-	
	-50.0	-4.3	5	161.7	-	-	Froze at -50
	-	-5.1	6	324.8	-	-	V:L 1:2
	-	-	-	272.2	-	-	V:L 1:3
	-	-	-	297.7	-	-	V:L 1:3
	-45	-6.8	8	180.9	-	-	V:L 1:7
	-	-	-	356.8	-	-	V:L 1:2
	-	-	-	360.3	-	-	"
	-	-	-	237.1	-	-	V:L 1:5
WC2 (A) MAGNESITE	-	-29.6	25	168.8	-	-	Bladed
	-	-29.8	25	168.0	-	-	
	-	-30.0	26	164.3	-	-	
	-	-	-	198.7	-	-	
	-	-	-	168.6	-	-	
	-	-	-	178.8	-	-	
	-	-	-	216.5	-	-	
(B)	-	-	-	235.2	-	-	
	-	-	-	181.4	-	-	
	-	-	-	188.0	-	-	
	-	-	-	189.1	-	-	
	-	-	-	168.0	-	-	
	-	-	-	192.0	-	-	
	-	-	-	188.7	-	-	
	-	-	-	189.8	-	-	
	-	-	-	192.5	-	-	
	-	-	-	192.1	-	-	
	-	-	-	191.6	-	-	
	-	-	-	195.3	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(C)	~-60.0	-38.1	27	172.0	-	-	
	-	-	-	209.0	-	-	
	-	-	-	163.1	-	-	
	-	-	-	166.1	-	-	
	~-60.0	-25.8	23	125.0	-	-	
WC5	-	-	-	138.9	-	-	
QZ	-	-24.6	-	123.4	-	-	
(grains	-	-23.2	-	132.4	-	-	Hydrate
within	-64.7	-28.0	32	141.0	-	-	MP -33
mag.)	-	-	-	113.3	-	-	
	-49.2	-23.0	23	141.7	-	-	
	-55.5√	-23.8	23	141.7	-	-	
	-60.1	-38.5√	27	115.7	-	-	
	-65.7	-33.9	27?	131.5	-	-	Hydrate
	-49.2	-23.8	27	145.9	-	-	
	-	-40.2	-	-	-	-	-
	-46.8	-23.2	23	132.4	-	-	
	-49.0	-24.8	23	-	-	-	
WC6	-	-	-	154.4	-	-	Mixed
MAGNESITE	-	-	-	162.2	-	-	
	-38.0	-	-	157.1	-	- √	
	-	-	-	184.9	-	-	
	-40.0	-21.2	22	135.6	-	-	
	-	-21.0	22	153.9	-	-	
	-	-21.0	22	154.4	-	-	
	-39.2	-		155.4	-	-	
	-	-	-	178.8	-	-	
	-	-21.9	22	157.1	-	-	
	-40.6	-20.4	22	-	-	-	
	-	-22.5	22	162.2	-	-	
	-39.6	-22.1	22	163.1	-	-	
	-	-21.0	22	170.7	-	-	
	-	-21.0	22	-	-	-	
	-	-21.0	22	-	-	-	
	-	-	-	170.7	-	-	
	-	-	-	152.9	-	-	
	-	-	-	157.8	-	-	
	-	-	-	159.9	-	-	
	-	-21.5	22	157.8	-	-	
WC7	-	-	-	177.5	-	-	Bladed
MAGNESITE	-	-	-	178.1	-	-	
	-	-27.8	24	172.1	-	-	
	-	-28.0	(25)	180.7	-	√	
	-	-28.0	25	172.7	-	-	
	-	-27.8	24	180.2	-	-	
	-	-	-	184.1	-	-	
	-	-33.7	27	173.8	-	-	
	-	-	-	173.1	-	-	
	-	-31.0	26	178.8	-	-	
	-	-	-	188.1	-	-	
	-	-	-	174.9	-	-	
	-	-	-	168.7	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
WC7	-	-	-	173.5	-	-	
(CONT.)	-	-	-	165.9	-	-	
	-	-	-	166.6	-	-	
	-	-	-	170.9	-	-	
WC8	-65.0	-35.4	27	147.0	-	-	
QZ	-	-	-	170.0	-	-	
	-	-	-	147.0	-	-	
	-	-	-	172.0	-	-	or Hyd?
	-	-	-	180.9	-	-	
	-	-	-	181.5	-	-	
	-57.8	-24.9	23	125.1	-	-	
	-	-25.9	23	182.8	-	-	Hydrate
	-45.0	-22.8	34	150.1	-	-	-17.9 (M.P.)
	-48.9	-25.5√√	23	139.0	-	-	Hydrate
	-44.8	-24.9	36	146.0	-	-	-12.4
	-	-24.6	23	149.0	-	-	Hydrate
	-69.0	-24.6	36	163.1	-	-	-12.4
	-42.0	-23.0	-	147.0	-	-	Hydrate
	?-39.0	-22.0	37	186.0	-	-	-7.0
	-48.7	-19.6	36	163.0	-	-	Hydrate -12.0
	-54.7	-18.3	36	131.5	-	-	Hydrate -12.0
WC10	-65.1	-28.1	25	127.0	-	-	Rhomb
MAGNESITE	-62.4	-33.0	27	158.0	-	-	
	-	-26.0	24	128.0	-	-	
	-64.6	-23.1	(23)	-	-	?-	
	-	-33.0	27	-	-	-	
	-66.9	-29.0	(25)	-	-	?-	
	-	-25.5	(23)	117.2	-	1?-	Daw-sonite?
	-	-33.0	27	-	-	-	
	-57.4	-26.3	24	143.4	-	-	
	-57.4	-23.7	(23)	158.0	-	?-	
	-57.4	-23.0	(23)	-	-	?-	
	-57.4	-23.0	(23)	137.1	-	?-	
WC11 (A)	-55.0	-26.3	24	134.3	-	-	Rhomb
MAGNESITE	-55.0	-26.2	24	152.5	-	-	
	~-55.0	-25.0	23	142.1	-	-	
	-50.0	-26.0	24	144.7	-	-	
	-55.0	-26.9	24	135.1	-	-	
	-50.0	-26.0	24	157.4	-	-	
	-50.0	-27.4	24	162.7	-	-	
	-	-	-	211.3	-	-	
	-	-	-	173.8	-	-	
	-	-	-	171.4	-	-	
	-	-3.8	2	126.5	-	-	
	-	-27.7	24	143.2	-	-	
	-	-24.7	23	145.4	-	-	
	-	-26.3	24	143.8	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(B)	-	-28.1	25	173.5	-	-	
	-	-28.0	25	175.2	-	-	
	-	-26.0	24	137.0	-	-	
	~-60.0	-24.9	23	156.9	-	-	
	-	-	-	120.5	-	-	
	~-60.0	-28.1	25	138.5	-	-	
(C)	~-60.0	-28.7	25	207.7	-	-	
	~-60.0	-28.2	25	152.0	-	-	
	~-50.0	-22.8	22	150.7	-	-	
	~-50.0	-28.2	25	128.5	-	-	

AREA: MOUNT MINZA DEPOSIT (PREFIX WM ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
WM1 A MAGNESITE	~-65.0	-30.0	26	128.0	-	-	Rhomb
	-	-		147.1	-	-	
	-	-		137.2	-	-	
	-	-		118.7	-	-	
	-	-		168.0	-	-	
	-	-		129.8	-	-	
	~-25.0	-7.7	(10)	130.0		√√-red	
	~-65.0	-5.7	6	-	-	-	L phase only
(B)	-	-2.5	1	129.0	-	-	
	~-50.0	-32.9	26	121.0	-	-	
	-	-	-	140.8	-	-	
	-	-	-	125.2	-	-	
	-	-	-	115.8	-	-	
	-	-	-	136.5	-	-	
	~-50.0	-29.0	25	126.0	-	-	
(C)	~-50.0	-21.3	22	121.4	-	-	
	-	-	-	145.8	-	-	
	-	-	-	145.6	-	-	
	-	-	-	145.6	-	-	
	-	-	-	145.6	-	-	
	~-56.0	-35.5	(35)	122.0	-	-	Hydrate -3.8 Melt -2.9
	~-52.0	-32.5	26	122.0	-	-	

AREA: BALCANOONA, S. AUS. (PREFIX BALC. ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
BALC (A) MAGNESITE	-40.0	-30.0 or-12	-	332	-	-	Bladed
	-	-	-	286	-	-	
	-	-	-	322.7	-	-	

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
(B)	-	-	-	285	-	-	
	-	-26.2	24	-	-	-	
	-	-	-	297.1	-	-	
	-	-	-	385.7	-	-	
	-	-	-	390.0	-	320	
	-	-	-	-	-	246	

AREA: KHARIDUNGA, NEPAL
(PREFIX N ...)

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
N1 (A)	-	-22.6	22	-	-	-	Bladed
MAGNESITE	-52.8	-33.7	(27)	-	32.3	-	
	-	-	-	346.2	32.8	-	
	-	-	-	220.3	-	-	
	-	-	-	223.3	-	-	
	{ -54.7(V) CO_2 -33.7(L) }						
		-11.7	?-	-	29.4	-	
	-	-	-	-	23.2	-	
	-	-	-	-	23.6	-	
	-	-	-	-	25.8	-	
	-	-	-	230.6	-	-	
	-	-	-	236.7	-	-	
	-	-	-	224.4	-	-	
	-	-	-	227.7	-	-	
(B)	-	-	-	263.0	-	-	
	-	-	-	263.5	-	-	
	-64.5	-23.0	23	210.0	-	-	
	-	-	-	271.9	-	-	
	-	-	-	241.0	24.0	-	2 V.P. 11.8
	-60.0	-55.3	?	278.6	24.2	-	2 V phases at 11.7°C
(C)	-	-	-	259.5	-	-	
	-	-	-	261.9	-	-	
	-	-	-	-	-	-	Decrep 295.9
	-	-	-	349.4	-	-	
	-50.0	~16.0	?	264.6	-	-	?hyd. -16
	-	-17.8	20	292.1	-	-	
	-	-18.9	21	239.5	-	-	
	-	-	-	292.1	-	-	
	-	-	-	348.5	-	-	
	-	-	-	265.2	-	-	
N2 (A)	-	-21.7	22	-	-	-	
MAGNESITE	-	-24.0	23	257.4	-	-	Hydrate M.P. +5.0

SAMPLE No MINERAL	FIRST MELTING °C	FINAL MELTING °C	SALINITY WT % $CaCl_2$ EQUIV.	T_H °C	CO_2 T_H °C	DAUGHTER MINERAL DATA	REMARKS
N2 (A)	-	-22.7	22	260.9	-	-	
(CONT.)	-	-21.7	22	-	-	-	
(B)	-	-21.7	22	253.0	-	-	
	-	-	-	301.5	-	-	
	~-30.0	-20.1	22	-	-	-	Hydrate M.P. 0.0
	-	-20.0	22	301.9	-	-	
N3 (A)	-	-	-	348.2	-	-	
MAGNESITE	-	-	-	348.5	-	-	
	-	-	-	368.6	30.8* (L to V)	-	*
	-	-	-	336.2	-	-	
	-	-	-	341.4	-	-	
	-	-	-	-	-	-	Decrep 289.0
	-45.0(CO_2) -29.4(L)	-12.2 -8.7	-	319.9 ✓✓	31.5 (L to V)	-	Clath
	-	-	-	347.0	-	-	
	-	-	-	340.7✓	-	-	
	-43.0	-34.7 ✓	27	336.0 ✓	-	-	
	(* freeze at ~-30°C)						
(B)	-	-	-	-	-	-	?Clath at +9.6
	-	-	-	-	-	-	" +7.8 Decrep. 306.6
	-34.3	~-10.0	-	-	-	-	?Clath +10.0
	-	-	(34)	265.0	-	-	?Clath M.P. -14.3
	-	-	-	316.5	-	-	
	-	-	-	319.5	-	-	
N8 (A)	-	-14.6	17	250.0	-	-	
MAAGNESITE	-	-	-	114.7	-	-	
ASSOC	-	-9.7 ✓✓	13	261.1	-	-	
WITH	-	-8.6	12	261.1	-	-	
SULPHIDES	-	-15.0	18	278.4	-	-	
	-20.0	-10.9	14	250.0	-	-	
	-	-10.0	14	277.2	-	-	
	~-45.0	-20.1?	-	279.0	-	-	
(B)	-	-	-	232.8	-	-	
ADJ TO	-	-14.5	10	-	-	-	
po	-	-	-	245.6	-	✓	
	-	-	-	240.0	-	-	
	-	-13.7	16	247.0	-	-	
	-22.0	-9.8	13	298.0	-	-	
	-	-11.3	15	245.0 (into V)	-	-	
	-	-13.4	16	230.0	-	-	
	-	-	-	242.6	-	-	
	-	-16.0	19	250.6 (into V)	-	-	
	-	-	-	245.0	-	-	

APPENDIX 3

Geochemical Data

This appendix consists of two parts. The first part contains electron microprobe analyses performed by the author. The second part is a compilation of relevant analyses performed by other workers. These latter analyses are presented for comparison purposes.

A.1 Electron Microprobe Analyses

The electron microprobe analyses were performed on the JEOL 733 Superprobe, in the Electron Optical Centre at the University of Adelaide. The machine is equipped with three wavelength - dispersive spectrometers (WDS) utilizing LiF, PET, STE and TAP crystals and a KEVEX 7000 series energy - dispersive Si (Li) spectrometer (EDS). It is controlled by a PDP-11/34 mini-computer. The operating programs are written in FORTRAN IV. Standard procedures were used for full matrix (ZAF) corrections.

Polished blocks or polished thin sections were prepared from selected samples. These were carbon coated and then analysed using a surface electron beam of 1 um diameter, and accelerating voltages of 15 kV (for the carbonate program DY1 : S18A:DAT) and 25 kV (for the sulfide program DY1 : MS19 : DAT). The probe current was maintained as near as possible to 20 nA.

Primary standards used were a range of pure elements and simple compounds. Detection limits were calculated for each mineral, and are presented for both the 95% and the 99% confidence level. It is the 95% confidence level figure that has been employed in the analyses presented.

Calculations were made according to the equation:

$$\text{detection limit} = \text{variance}^{\text{unk.}} \times \frac{\text{concentration}^{\text{unk}}}{\text{c.p.s.}^{\text{std.}}} \times \frac{\text{ZAF}^{\text{std.}}}{\text{ZAF}^{\text{unk.}}} \times 2(3)$$

If the value recorded on the computer printout was less than the detection limit the value has been presented as "N.D." i.e. not detected. However, the recorded figures were tallied to give the totals, and so many totals appear to be higher than the sum of the concentrations in the elements detected.

Detection limits were not available for the analyses presented in the second part.

The carbonate programme determined F and Cl as oxides, and so they have been presented as such.

APATITE

Detection limits as for magnetite.

Formation	Coomalie Dolomite			Balcanoona, S.A.
Sample No.	E28(a)	E28(b)	E28(c)	BALC.
Element/Oxide				
FeO	0.13	0.14	0.26	0.44
CuO	N.D.	0.19	N.D.	-
PbO	0.53	0.48	1.38	-
ZnO	N.D.	0.11	N.D.	-
MnO_2	N.D.	N.D.	N.D.	N.D.
SiO_2	0.06	0.21	N.D.	0.17
Al_2O_3	0.09	N.D.	N.D.	0.08
MgO	6.15	10.06	21.12	N.D.
CaO	51.03	39.91	33.54	55.65
Na_2O	0.11	0.03	N.D.	0.01
P_2O_5	34.41	33.77	24.22	- (+)
TOTAL	92.53	95.83	80.56	-

CHLORITE

detection limits as for sericite

Formation	Celia Dolomite	Coomalie Dolomite		Coomalie Dolomite/ Whites Formation	Balcanoona, S. Aust.			
Sample No.	C49	E19(a)	E19(b)	RJ 13	BALC(a)	BALC(b)	BALC(c)	BALC(d)
Element/Oxide								
FeO	18.02	1.39	1.68	11.67	2.181	1.75	1.88	2.06
SO_2	N.D.	-	-	N.D.	N.D.	-	-	-
CoO	N.D.	-	-	N.D.	N.D.	-	-	-
NiO	N.D.	-	-	N.D.	N.D.	-	-	-
PbO	N.D.	-	-	N.D.	N.D.	-	-	-
ZnO	N.D.	-	-	N.D.	N.D.	-	-	-
UO_2	N.D.	-	-	N.D.	N.D.	-	-	-
MnO_2	N.D.	0.05	N.D.	0.33	N.D.	N.D.	N.D.	N.D.
SiO_2	40.00	31.36	29.90	27.06	30.36	29.28	29.24	29.37
TiO_2	0.10	-	-	N.D.	N.D.	-	-	-
Al_2O_3	17.02	20.25	19.99	21.32	21.80	21.59	21.78	21.57
MgO	13.82	34.09	32.89	23.73	31.06	32.99	32.91	32.50
CaO	0.01	0.04	N.D.	N.D.	N.D.	N.D.	0.01	0.01
Na_2O	0.02	0.03	0.09	0.08	0.07	0.05	0.01	0.05
K_2O	0.02	0.05	0.02	N.D.	0.01	0.02	N.D.	N.D.
F_2O	0.13	-	-	0.21	0.48	-	-	-
Cl_2O	N.D.	-	-	N.D.	N.D.	-	-	-
P_2O_5	N.D.	-	-	N.D.	N.D.	-	-	-
TOTAL	89.33	87.26	84.58	84.60	86.12	86.77	85.84	85.56

B.H.P. SURFACE SAMPLES - CHLORITE

(CHLORITE within MAGNESITE)

Electron microprobe analyses - wt%.

Sample No. / Element as Oxide	1	2	3	4	5
SiO_2	34.03	33.41	23.94	29.43	31.13
Al_2O_3	14.90	14.76	22.64	17.15	17.44
FeO	0.34	0.31	1.07	4.02	2.27
MnO	-	N.D.	-	-	-
MgO	34.49	33.69	22.53	31.32	33.88
CaO	N.D.	N.D.	0.59	N.D.	N.D.
Na_2O	-	-	0.41	-	-
TOTAL	83.76	82.17	71.18	81.92	84.72

Data kindly supplied by C.F. Blain, of B.H.P.

B.H.P. SURFACE SAMPLES - CHLORITE

(CHLORITE within MAGNESITE)

Electron microprobe analyses - wt%.

Sample No.	6	7	8	9	10
Element as Oxide					
SiO_2	28.41	28.77	26.83	30.83	30.87
Al_2O_3	22.35	20.71	14.09	18.15	19.52
FeO	0.44	1.13	4.73	3.58	1.62
MnO	-	-	-	-	-
MgO	33.70	33.68	28.09	33.11	33.63
CaO	N.D.	-	-	-	-
Na_2O	-	-	-	-	-
TOTAL	84.91	84.29	73.91	85.66	85.64

DOLOMITE

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element/Oxide	Detection limit wt. % 95% confidence level	99%
FeO	.04	.07
SO_2	.02	.02
CoO	.05	.08
NiO	.06	.09
PbO	.11	.17
ZnO	.10	.15
UO_2	.06	.09
MnO_2	.05	.07
SiO_2	.01	.01
TiO_2	.07	.10
Al_2O_3	.01	.01
MgO	.01	.01
CaO	.01	.02
Na_2O	.01	.02
K_2O	.01	.02
F_2O	.11	.16
Cl_2O	.03	.04
P_2O_5	.01	.01

DOLOMITE

Formation	Celia Dolomite	Whites Formation					
Sample No.	C34	G03(a)	G03(b)	G07	MF2(a)	MF2(b)	MF2(c)
Element/Oxide							
FeO	N.D.	5.42	9.02	0.32	0.86	0.14	1.95
SO_2	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	2.45	3.97	0.12	0.15	0.18	0.29
SiO_2	0.02	0.01	3.08	0.12	N.D.	N.D.	N.D.
TiO_2	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Al_2O_3	0.04	0.02	1.95	0.07	0.01	0.01	0.01
MgO	24.19	16.36	13.49	21.37	21.03	20.47	19.23
CaO	34.34	29.00	24.84	29.51	29.91	30.16	28.68
Na_2O	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	0.01
K_2O	-	0.06	0.03	0.01	N.D.	N.D.	N.D.
F_2O	-	0.12	0.12	0.19	N.D.	N.D.	N.D.
Cl_2O	N.D.	0.07	N.D.	0.03	N.D.	N.D.	N.D.
P_2O_5	-	0.04	0.03	0.05	0.02	0.04	0.04
TOTAL	58.79	53.62	56.65	51.79	52.15	51.07	50.37

BUREAU MINERAL RESOURCES DRILLING PROGRAM

DOLOMITE

X.R.F. analyses - wt% (elements as ppm)

Formation	Celia Dolomite/Coomalie Dolomite				
Sample	42	9	21	22	24
Element/Oxide					
SiO_2	28.59	15.14	17.96	19.67	22.24
TiO_2	0.21	0.11	0.01	0.19	0.25
Al_2O_3	4.83	2.13	0.15	3.11	4.11
Fe_2O_3	0.59	0.27	0.08	0.28	0.46
FeO	1.69	1.49	0.94	0.82	1.33
MnO	0.03	0.36	0.10	0.10	0.10
MgO	18.04	16.44	17.10	16.00	16.95
CaO	16.58	24.04	24.23	21.93	24.21
Na_2O	0.02	0.02	0.01	0.03	0.06
K_2O	0.03	0.62	0.03	1.55	1.76
P_2O_5	0.15	0.07	0.11	0.07	0.08
H_2O^+	3.24	0.40	0.30	1.10	2.31
H_2O^-	0.10	0.10	0.10	0.10	0.10
CO_2	25.80	37.73	38.73	35.04	25.12
Rest	0.16	0.05	0.02	0.11	0.20
TOTAL	99.96	98.87	99.77	100.00	99.18
Ba	31	63	3	79	128
Sr	32	46	89	37	65
U	2	1	1	1	1
Co	5	6	2	3	10
Ni	13	3	2	8	22
B	32	44	48	42	28
F	640	140	100	480	980

Data kindly supplied by G. Ewers, B.M.R.

BUREAU MINERAL RESOURCES DRILLING PROGRAM

DOLOMITE

X.R.F. analyses - wt% (elements as ppm)

Formation	Coomalie Dolomite					
Sample	26	34	35	36	37	42
Element/Oxide						
SiO_2	0.01	16.46	25.97	23.30	29.94	28.59
TiO_2	0.01	0.02	0.20	0.24	0.34	0.21
Al_2O_3	0.09	0.32	4.00	4.71	6.10	4.83
Fe_2O_3	0.01	0.09	0.30	1.38	2.42	0.59
FeO	0.23	0.67	0.63	0.86	1.45	1.69
MnO	0.05	0.11	0.08	0.26	0.13	0.03
MgO	24.16	17.57	15.01	7.27	7.10	18.04
CaO	27.17	25.86	19.99	28.15	23.35	16.58
Na_2O	0.02	0.02	0.02	0.05	0.04	0.02
K_2O	0.01	0.05	1.15	2.04	2.65	0.03
P_2O_5	0.01	0.15	0.15	0.10	0.10	0.15
H_2O^+	0.10	0.10	0.75	0.86	0.87	3.24
H_2O^-	0.10	0.10	0.10	0.10	0.10	0.10
CO_2	47.18	36.67	30.89	28.79	24.27	25.80
Rest	0.02	0.02	0.10	0.15	0.32	0.16
TOTAL	98.95	98.01	99.24	98.16	99.08	99.96
Ba	3	4	18	316	1427	31
Sr	74	46	59	53	59	32
U	1	1	1	1	1	2
Co	2	2	2	8	9	5
Ni	2	2	5	17	18	13
B	26	40	335	43	45	32
F	100	100	160	480	760	640

Data kindly supplied by G. Ewers, B.M.R.

ILLITE

Detection limits as for sericite.

Formation	Crater Formation	
Sample No.	D02(a)	D02(b)
Element/Oxide		
FeO	0.42	0.22
SO_2	N.D.	N.D.
CoO	N.D.	N.D.
NiO	N.D.	N.D.
PbO	N.D.	N.D.
ZnO	N.D.	N.D.
UO_2	N.D.	N.D.
MnO_2	N.D.	N.D.
SiO_2	62.76	68.45
TiO_2	N.D.	N.D.
Al_2O_3	19.38	14.88
MgO	0.32	N.D.
CaO	N.D.	N.D.
Na_2O	0.25	0.16
K_2O	14.13	12.56
F_2O	N.D.	N.D.
Cl_2O	N.D.	N.D.
P_2O_5	N.D.	N.D.
TOTAL	97.46	96.39

LIMONITE

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element/Oxide	Detection limit wt. %	
ELEMENT	95% confidence level	99%
FeO	.04	.06
SO_2	.02	.03
CoO	.05	.07
NiO	.06	.08
PbO	.13	.19
ZnO	.09	.13
UO_2	.08	.13
MnO_2	.04	.06
SiO_2	.01	.01
TiO_2	.05	.07
Al_2O_3	.01	.01
MgO	.01	.02
CaO	.02	.03
Na_2O	.02	.03
K_2O	.02	.02
F_2O	.05	.07
Cl_2O	.03	.05
P_2O_5	.01	.02

LIMONITE

Formation	Crater Formation
Sample No.	D03
Element/Oxide	
FeO	72.12
SO_2	N.D.
CoO	0.21
NiO	N.D.
PbO	N.D.
ZnO	N.D.
UO_2	N.D.
MnO_2	N.D.
SiO_2	1.75
TiO_2	N.D.
Al_2O_3	N.D.
MgO	0.02
CaO	N.D.
Na_2O	0.02
K_2O	0.01
F_2O	N.D.
Cl_2O	N.D.
P_2O_5	0.04
TOTAL	74.31

MAGNESITE

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element/Oxide	Detection limit wt. %	
OXIDE	95% confidence level	99%
FeO	.05	.07
SO_2	.02	.02
CoO	.05	.08
NiO	.06	.09
PbO	.10	.15
ZnO	.10	.15
UO_2	.12	.18
MnO_2	.05	.07
SiO_2	.01	.01
TiO_2	.06	.09
Al_2O_3	.01	.01
MgO	.01	.01
CaO	.02	.04
Na_2O	.01	.01
K_2O	.01	.02
F_2O	.07	.11
Cl_2O	.03	.05
P_2O_5	.01	.01

MAGNESITE

Formation

Celia Dolomite / Coomalie Dolomite

Sample No.	C34(a)	C34(b)	E28(a)	E28(b)	E28(c)
Element/Oxide					
FeO	0.71	0.76	0.45	0.57	0.33
SO_2	-	-	-	N.D.	-
CoO	-	-	-	N.D.	-
NiO	-	-	-	N.D.	-
PbO	N.D.	N.D.	2.05	0.11	N.D.
ZnO	N.D.	0.20	N.D.	N.D.	0.10
UO_2	-	-	-	-	-
MnO_2	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	0.06	0.09	N.D.	0.01	0.09
TiO_2	-	-	-	N.D.	-
Al_2O_3	N.D.	0.19	N.D.	N.D.	N.D.
MgO	48.02	47.82	48.27	40.54	47.63
CaO	0.06	0.06	0.06	0.38	0.73
Na_2O	N.D.	N.D.	N.D.	N.D.	N.D.
K_2O	-	-	-	N.D.	N.D.
F_2O	-	-	-	N.D.	-
Cl_2O	-	-	-	N.D.	-
P_2O_5	0.05	N.D.	0.02	0.06	0.02
TOTAL	49.04	49.32	51.03	41.76	49.12
CuO	0.05	N.D.	0.10		0.19
BaO	0.09	0.06	N.D.		N.D.
SrO	N.D.	0.14	N.D.		N.D.

MAGNESITE

Formation Coomalie Dolomite / Whites Formation

Sample No.	BR4	BR5	MF80/06	MF80/06
Element/Oxide				
FeO	7.19	5.34	3.99	5.65
SO_2	N.D.	N.D.	0.22	N.D.
CoO	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	0.12
MnO_2	0.52	0.41	0.34	0.28
SiO_2	N.D.	0.02	0.03	N.D.
TiO_2	N.D.	0.07	0.07	N.D.
Al_2O_3	0.03	N.D.	0.01	0.01
MgO	37.68	37.19	40.83	40.55
CaO	0.20	0.15	N.D.	N.D.
Na_2O	N.D.	0.01	N.D.	N.D.
K_2O	N.D.	0.01	N.D.	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	0.03	N.D.
P_2O_5	0.01	0.02	0.02	0.01
TOTAL	45.81	43.32	45.47	46.69

MAGNESITE

Location Kharidunga, Nepal

Sample No.	N1(a)	N1(b)	N1(c)	N1(d)	N2(a)	N3(a)
Element/Oxide						
FeO	0.58	0.82	0.93	0.74	0.59	0.23
SO_2	N.D	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	-
PbO	0.11	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	N.D.	0.05	N.D.	N.D.	N.D.
SiO_2	0.01	0.02	0.03	0.02	0.05	0.01
TiO_2	N.D.	N.D.	N.D.	0.07	N.D.	N.D.
Al_2O_3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MgO	45.09	44.20	43.19	42.79	44.60	40.08
CaO	0.03	0.14	0.18	0.14	N.D.	0.05
Na_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
K_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	0.08	N.D.	0.03
P_2O_5	0.03	0.03	0.10	0.02	0.01	0.01
TOTAL	45.94	45.42	44.62	44.05	45.38	40.53

A92

MAGNESITE

Location Kharidunga, Nepal

Sample No.	N3(b)	N3(c)	N7(a)	N7(b)	N8(a)	N8(b)
Element/Oxide						
FeO	0.33	0.85	4.42	1.64	1.78	0.80
SO_2	N.D.	N.D.	N.D.	N.D.	0.02	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	-	-	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	N.D.	0.05	N.D.	N.D.	N.D.
SiO_2	0.02	0.02	0.05	0.03	0.03	0.03
TiO_2	N.D.	N.D.	N.D.	0.06	N.D.	N.D.
Al_2O_3	N.D.	N.D.	0.02	N.D.	N.D.	N.D.
MgO	48.17	42.41	39.36	40.02	39.77	41.78
CaO	0.04	0.41	0.06	0.17	0.06	0.07
Na_2O	N.D.	N.D.	N.D.	0.01	0.02	N.D.
K_2O	N.D.	0.02	0.01	N.D.	0.01	0.01
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.	0.04	0.05
P_2O_5	0.01	N.D.	0.02	0.01	N.D.	0.01
TOTAL	48.69	43.75	44.12	42.16	41.79	42.89

B.H.P. Percussion Drilling Program

MAGNESITE

X.R.F. analyses - wt.%

FORMATION Coomalie Dolomite / Celia Dolomite

DRILLHOLE NO.	2A	3	4a	4b	5	8	12	16a
Element/Oxide								
Al_2O_3	0.34	0.32	0.17	0.97	0.55	1.44	0.33	0.14
SiO_2	1.00	12.0	4.05	7.88	4.37	2.15	5.18	3.82
CaO	0.73	0.33	0.26	0.23	0.35	0.90	0.53	0.40
MgO	46.0	41.3	45.6	43.8	44.5	44.8	43.9	46.1
Fe_2O_3	1.28	0.80	0.87	1.26	0.86	1.26	0.43	0.36
C	13.64	11.99	13.14	11.82	13.44	13.00	13.18	13.21
H_2O^{+110}	0.33	0.37	0.46	1.16	0.35	0.92	0.45	0.43
TiO_2	0.02	0.01	0.01	0.04	0.03	0.05	0.01	0.01
H_2O^{-110}	0.39	0.42	0.39	0.45	0.53	0.40	0.30	0.44
K_2O		0.01		0.01	0.03	0.02	0.01	0.01
NiO_2	0.01		0.01					
P_2O_5	0.02					0.09		
S		0.05		0.20			0.01	0.01
SrO								

BaO, BeO, Cr_2O_3, CuO, K_2O, NiO, Rb_2O, S, SrO_2, V_2O_5, ZnO, ZrO_2 all less than 0.01% in all specimens unless indicated.

Na_2O, P_2O_5 are less than 0.02% in all specimens unless indicated.

B.H.P. Percussion Drilling Program

MAGNESITE

X.R.F. analyses - wt.%

FORMATION Celia Dolomite

DRILLHOLE NO.	16b	16c	16d	16e	17a	17b	18a	18b
Element/Oxide								
Al_2O_3	0.14	0.09	0.15	0.18	0.29	0.15	0.51	0.42
SiO_2	3.64	2.69	5.76	3.35	6.02	4.24	5.00	7.02
CaO	0.86	0.57	0.60	0.68	0.25	0.63	0.74	0.43
MgO	46.0	46.5	45.5	46.0	45.0	45.3	44.3	44.8
Fe_2O_3	0.42	0.38	0.37	0.41	0.65	0.70	0.71	0.68
C	13.19	13.47	12.70	13.30	12.71	13.21	12.92	12.48
H_2O^{+110}	0.46	0.35	0.66	0.35	0.61	0.14	0.35	0.67
TiO_2	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
H_2O^{-110}	0.54	0.36	0.44	0.46	0.38	0.57	0.45	0.40
K_2O	0.01							
NiO_2								
P_2O_5	0.04	0.02	0.06	0.05	0.04	0.03	0.20	0.08
S	0.01						0.02	0.01
SrO_2								

B.H.P. Percussion Drilling Program

MAGNESITE

X.R.F. analyses - wt.%

FORMATION Celia Dolomite

DRILLHOLE NO.	20	21	22a	22b	22c	23a	23b	24a
Element/Oxide								
Al_2O_3	0.56	0.89	0.80	0.73	0.49	1.10	1.28	0.29
SiO_2	5.33	10.5	11.40	8.40	4.05	11.6	4.30	7.48
CaO	0.41	0.17	0.35	0.34	0.30	0.39	0.29	0.44
MgO	45.4	42.5	43.5	44.9	46.3	41.7	43.2	43.3
Fe_2O_3	0.59	0.71	0.31	0.32	0.34	0.41	0.45	0.45
C	12.83	12.12	11.16	11.70	12.78	11.59	10.61	12.67
H_2O^{+110}	0.57	0.63	1.56	1.35	0.67	1.20	1.82	0.43
TiO_2	0.02	0.03	0.02	0.02	0.01	0.04	0.04	0.01
H_2O^{-110}	0.50	0.43	0.49	0.37	0.45	0.25	0.47	0.46
K_2O		0.01	0.02	0.02	0.02	0.01	0.02	0.01
NiO_2			0.01				0.01	
P_2O_5	0.09		0.08	0.05				0.03
S		0.01	0.02	0.02	0.01	0.02	0.02	0.01
SrO_2								

B.H.P. Percussion Drilling Program

MAGNESITE

X.R.F. analyses - wt.%

FORMATION Celia Dolomite

DRILLHOLE NO.	24b	24c	24d	25a	25b	26a	26b
Element/Oxide							
Al_2O_3	0.57	0.42	0.17	1.56	0.18	0.74	0.46
SiO_2	7.85	5.94	12.9	12.7	13.6	7.01	10.3
CaO	0.42	0.71	0.28	4.4	10.4	0.42	0.57
MgO	44.4	44.4	43.5	36.2	31.6	44.8	44.3
Fe_2O_3	0.40	0.43	0.43	1.87	1.08	0.53	0.43
C	12.25	12.83	11.33	11.11	11.56	12.20	11.56
H_2O^{+110}	0.82	0.52	0.97	0.99	0.08	1.09	1.00
TiO_2	0.02	0.01	0.01	0.34	0.01	0.02	0.01
H_2O^{-110}	0.47	0.34	0.39	0.28	0.32	0.46	0.57
K_2O	0.01	0.01	0.01	0.01		0.01	0.01
NiO_2	0.01						
P_2O_5	0.04	0.04		0.08			
S		0.01	0.01	0.01	0.02	0.01	0.01
SrO_2					0.01		

B.H.P. SURFACE SAMPLES. - MAGNESITE

X.R.F. anlyses - wt.%.

Sample No.	Al_2O_3	SiO_2	Fe_2O_3	CaO	MgO	TOTAL
CM1	0.70	9.9	5.00	0.34	39.5	55.44
2	0.65	6.7	1.60	0.19	42.2	51.36
3	0.25	2.6	1.15	0.35	45.2	49.55
4	0.35	6.0	1.00	0.44	43.8	51.59
5	0.10	4.2	0.55	0.29	45.2	50.64
6	0.40	2.9	0.50	0.22	45.1	49.12
7	0.20	2.0	0.40	0.50	46.4	49.50
8	0.20	3.5	0.40	0.41	44.5	49.05
9	0.10	14.0	0.35	0.34	40.7	55.49
10	0.55	10.0	0.30	0.43	42.7	53.98
11	0.55	12.0	0.30	0.38	41.3	54.53
12	0.85	12.1	0.30	0.37	41.6	55.22
13	0.20	8.3	0.35	0.38	43.4	52.63
14	0.25	6.0	0.35	0.39	44.8	51.79
15	0.65	4.7	0.35	0.50	44.4	50.60
16	0.35	5.1	0.40	0.24	45.1	51.19
17	0.45	5.8	0.30	0.39	44.3	51.24
18	0.25	4.1	0.55	0.32	45.2	50.42
19	0.50	8.3	0.20	0.35	43.5	52.85
20	0.10	7.9	0.60	0.62	43.9	53.12
21	0.20	4.1	0.70	0.37	45.8	51.17
22	0.25	4.0	0.65	0.45	45.1	50.45
23	0.10	5.4	0.60	0.45	42.6	49.15
24	0.10	4.1	1.00	0.23	44.2	49.63
25	0.10	2.3	0.95	0.13	45.5	48.98
26	3.65	2.2	1.10	0.40	44.8	51.15
27	0.10	7.3	0.85	0.19	43.7	52.14
28	0.70	2.7	1.10	0.31	45.5	50.31
29	0.25	1.7	1.50	0.33	45.2	48.98

BUREAU MINERAL RESOURCES DRILLING PROGRAM

MAGNESITE

X.R.F. analyses - wt% (elements as ppm)

Formation	Coomalie Dolomite							
Sample	2	5	27	32	33	44	62	69
Element/Oxide								
SiO_2	0.93	1.50	1.41	16.33	1.02	2.92	1.66	0.15
TiO_2	0.02	0.02	0.01	0.01	0.03	0.03	0.01	0.02
Al_2O_3	0.26	0.39	0.07	0.36	0.54	0.55	0.01	0.37
Fe_2O_3	0.01	0.10	0.01	0.09	0.14	0.15	0.01	0.24
FeO	0.51	1.49	0.71	1.10	1.84	0.47	0.55	0.84
MnO	0.03	0.06	0.04	0.09	0.08	0.27	0.04	0.07
MgO	48.02	45.97	44.95	35.09	43.20	46.95	47.32	47.42
CaO	0.21	1.05	2.42	5.51	3.19	0.42	0.42	0.26
Na_2O	0.06	0.04	0.02	0.02	0.03	0.04	0.05	0.03
K_2O	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01
P_2O_5	0.01	0.01	0.02	0.01	0.09	0.02	0.20	0.02
H_2O^+	0.28	0.30	0.10	0.10	0.26	0.80	0.23	0.34
H_2O^-	0.10	0.10	0.10	0.10	0.10	0.10	0.16	0.15
CO_2	50.14	49.69	49.88	41.24	48.39	47.08	49.51	50.43
Rest	0.05	0.01	0.01	0.01	0.03	0.07	0.05	0.01
TOTAL	100.52	100.64	99.53	99.86	98.84	99.77	100.20	100.35
Ba	3	5	3	3	3	3	3	3
Sr	2	9	9	30	19	2	5	4
U	3	1	1	1	1	1	1	1
Co	2	3	2	2	2	8	1	2
Ni	6	2	2	5	6	13	5	7
B	260	45	60	38	51	34	72	33
F	170	100	100	100	110	420	300	100

Data kindly supplied by G. Ewers, B.M.R.

VAVDOS MAGNESITE DEPOSITS, NORTHERN GREECE (DABITZIAS, 1980)

Electron Microprobe Analyses wt.%.

	Magnesite					Dolomite		
Wt %	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)
SiO_2	2.84	1.12	0.37	1.15	0.52	0.21	3.57	0.06
Al_2O_3	0.19	0.00	0.00	0.28	0.08	0.03	0.14	0.01
TiO_2	0.00	0.00	0.00	0.03	0.00	0.00	0.17	0.00
Cr_2O_3	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00
FeO	0.12	0.00	0.00	0.16	0.02	0.12	0.00	0.00
MgO	45.84	46.01	46.08	44.78	46.90	21.30	23.25	22.83
MnO	00.00	0.07	0.32	0.32	0.18	0.00	0.03	0.00
CaO	0.16	0.86	1.27	2.51	0.03	30.01	26.01	29.24
Na_2O	0.42	0.81	0.50	0.40	0.51	0.50	0.42	0.61
K_2O	0.05	0.00	0.00	0.00	0.02	0.00	0.00	0.00
CO_2	50.23	51.04	51.49	51.14	51.33	46.87	45.81	47.86
TOTAL	99.85	99.91	100.03	100.77	99.59	99.04	99.51	100.61

A COMPARISON OF MAGNESITE ANALYSES (FROST, 1982)

Analyses as wt. fractions

	1	2	3	4	5
Mg	0.2827	0.2850	0.2856	0.2917	0.2726
Ca	0.0028	0.0025	0.0015	0.0015	0.0008
Fe	0.0050	0.0020	0.0145	0.0002	0.0159
Mn	0.0000	0.0001	0.0008	0.0000	0.0009
MgO	0.4738	0.4749	0.4736	0.4838	0.4521
CaO	0.0039	0.0035	0.0020	0.0021	0.0011
FeO	0.0072	0.0029	0.0187	0.0003	0.0204
MnO	0.0000	0.0002	0.0011	0.0000	0.0012
Total	1.0022	1.0014	1.0066	1.0040	0.9954

1, Magnesite from Mundallio Creek, South Australia; 2, magnesite from Copley, South Australia; 3, magnesite from Balcanoona Station, South Australia (the Fe/Mg ratio varies over the sample and can be double the figure quoted); 4, magnesite from Young, New South Wales (ultramafic) 5, a typical magnesite from Main Creek, Savage River (metasomatic).

MAGNETITE

Detection limits as for limonite

Formation	Beestons Formation			
Sample No.	B07(a)	B07(b)	B07(c)	B07(d)
Element/Oxide				
FeO	87.48	87.89	89.55	88.74
SO_2	N.D.	N.D.	N.D.	N.D.
CoO	0.12	0.05	0.11	0.09
NiO	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	0.13	N.D.
MnO_2	N.D.	N.D.	N.D.	N.D.
SiO_2	0.29	0.02	0.07	0.13
TiO_2	N.D.	0.05	0.11	N.D.
Al_2O_3	0.07	0.1	0.06	0.06
MgO	N.D.	N.D.	N.D.	0.02
CaO	N.D.	N.D.	N.D.	N.D.
Na_2O	N.D.	N.D.	N.D.	N.D.
K_2O	N.D.	N.D.	N.D.	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.
P_2O_5	0.01	0.01	N.D.	0.03
TOTAL	88.11	88.17	90.08	89.18

A102

MARCASITE

detection limits as for pyrite

Formation Coomalie Dolomite / Whites Formation

Sample No.	WO-Cpl(a)	WO-Cpl(b)	WO-Cpl(c)	WO-Cpl(d)	BR4
Element					
Fe	46.05	46.19	43.00	46.32	45.55
S	51.55	51.79	44.96	48.40	52.58
Co	0.07	0.08	0.08	0.03	0.05
Ni	0.03	0.02	0.02	0.07	0.03
Cu	1.50	0.72	7.21	0.04	N.D.
Pb	0.27	0.48	0.36	0.28	0.30
Zn	N.D.	N.D.	N.D.	N.D.	N.D.
V	N.D.	N.D.	N.D.	N.D.	N.D.
U	0.08	0.12	0.08	0.09	N.D.
Cr	N.D.	0.01	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	0.07	N.D.
As	N.D.	N.D.	N.D.	N.D.	0.29
Sb	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	0.05	N.D.
Bi	N.D.	0.14	N.D.	N.D.	N.D.
Ag	N.D.	N.D.	N.D.	0.04	N.D.
Au	N.D.	N.D.	N.D.	N.D.	N.D.
Mn	0.01	N.D.	0.01	0.01	N.D.
TOTAL	99.65	99.58	95.82	95.54	98.89

PYRITE

Electron Microprobe Detection Limits.

Program file name DY1 : MS19 : DAT

Element	Detection limit wt. % 95% confidence level	99%
Fe	.01	.02
S	.01	.02
Co	.01	.02
Ni	.01	.02
Cu	.02	.02
Pb	.10	.20
Zn	.02	.03
V	.01	.01
U	.06	.09
Cr	.01	.02
Se	.05	.07
As	.14	.20
Sb	.04	.05
Sn	.03	.04
Bi	.10	.15
Ag	.04	.06
Au	.06	.09
Mn	.01	.02

PYRITE

Formation	Crater Formation				Coomalie Dolomite	
Sample No.	D10(a)	D10(b)	D10(c)	D10(d)	E28(a)	E28(b)
Element						
Fe	44.13	42.83	45.37	42.48	46.98	45.97
S	54.21	53.14	53.55	52.89	47.42	44.87
Co	0.05	0.05	0.07	0.07	0.06	0.07
Ni	N.D.	0.06	0.02	0.04	0.02	0.03
Cu	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pb	0.23	0.22	0.16	0.14	0.15	0.17
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	N.D.	N.D.	N.D.	0.01	0.01	N.D.
U	0.09	N.D.	N.D.	0.15	0.06	0.07
Cr	N.D.	N.D.	N.D.	N.D.	N.D.	0.01
Se	N.D.	0.06	N.D.	N.D.	N.D.	0.05
As	6.32	1.66	0.29	0.90	N.D.	0.03
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	0.02	N.D.	0.03	0.05
Bi	0.13	N.D.	N.D.	N.D.	N.D.	0.11
Ag	N.D.	N.D.	0.06	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	N.D.	0.06	0.08
Mn	0.02	N.D.	0.01	N.D.	N.D.	N.D.
TOTAL	105.19	98.16	99.62	96.81	94.81	91.63

PYRITE

Formation Whites Formation

Sample No.	G04	G108(a)	G108(b)	G108(c)	G108(d)	G950W-650S(a)	G950W-650S(b)	G950W-650S(c)
Element								
Fe	46.14	47.10	47.06	47.20	47.36	46.75	46.95	46.85
S	52.75	54.72	55.25	55.10	55.20	46.73	46.62	52.72
Co	0.27	0.08	0.08	0.08	0.08	0.05	0.05	0.03
Ni	0.43	0.35	0.33	0.24	0.15	0.02	N.D.	0.07
Cu	0.02	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	0.03
Pb	0.19	0.27	0.15	0.15	0.17	0.35	0.38	0.11
Zn	N.D.	N.D.	N.D.	0.02	N.D.	N.D.	N.D.	N.D.
V	0.02	0.01	0.01	0.01	0.01	N.D.	N.D.	0.01
U	N.D.	N.D.	N.D.	N.D.	0.07	0.11	N.D.	N.D.
Cr	N.D.	N.D.	0.01	0.01	0.02	N.D.	0.01	N.D.
Se	N.D.	N.D.	N.D.	0.07	0.11	N.D.	0.06	N.D.
As	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.22
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	0.21	0.13	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	N.D.	N.D.	ND.	0.09	N.D.
Mn	N.D.	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	99.91	103.15	103.80	103.01	103.17	94.27	94.29	100.10

PYRITE

Formation Whites Formation

Sample No.	G950W-650S(d)	G950W-650S(e)	G950W-650S(f)	G950W-740S(a)	G950W-740S(b)	G950W-740S(c)	G950W-820S(a)	G950W-820S(b)
Element								
Fe	46.23	46.09	46.48	44.03	45.15	44.98	44.82	45.82
S	53.34	53.00	53.27	53.44	53.78	53.64	50.32	52.73
Co	0.39	0.16	0.08	1.48	0.05	0.06	0.07	0.06
Ni	N.D.	N.D.	0.03	0.04	0.02	0.02	0.03	0.22
Cu	N.D.	N.D.	N.D.	N.D.	0.02	N.D.	0.11	N.D.
Pb	0.30	0.19	0.11	0.27	0.12	0.17	0.22	0.23
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	0.01	0.01	N.D.	0.02	N.D.	N.D.	0.01	0.02
U	N.D.	N.D.	0.07	0.06	N.D.	N.D.	N.D.	0.09
Cr	0.01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Se	N.D.	0.06	N.D.	N.D.	N.D.	N.D.	0.07	N.D.
As	0.23	1.13	N.D.	N.D.	N.D.	N.D.	3.69	1.07
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	0.02	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	0.10	N.D.	N.D.	0.13
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	0.07	0.06	N.D.	0.07	N.D.	N.D.	N.D.
Mn	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	N.D.
TOTAL	100.62	100.79	100.22	100.45	99.41	98.90	99.43	100.45

PYRITE

Formation Whites Formation

Sample No.	G1050W-690S(a)	G1050W-690S(b)	G1050W-690S(c)	G1050W-770S(a)	G1050W-770S(b)	G1050W-770S(c)	G1050W-770S(d)
Element							
Fe	46.64	46.39	46.27	46.26	46.94	46.92	45.96
S	50.82	50.77	53.03	55.95	55.17	55.15	53.66
Co	0.05	0.05	0.03	0.05	0.04	0.05	0.12
Ni	0.06	0.13	0.06	0.04	0.08	0.03	0.17
Cu	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pb	0.25	0.20	0.23	0.21	0.28	0.12	0.19
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.02
V	0.01	0.01	N.D.	0.01	N.D.	N.D.	N.D.
U	0.11	N.D.	0.08	0.07	0.07	0.07	N.D.
Cr	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.
Se	0.10	N.D.	0.08	N.D.	N.D.	N.D.	N.D.
As	0.15	N.D.	N.D.	7.24	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	0.04	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	0.10	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	0.08	N.D.	N.D.	N.D.	N.D.	N.D.
Mn	N.D.	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	98.25	97.86	99.88	109.89	102.65	102.47	100.36

PYRITE

Formation: Coomalie Dolomite / Whites Formation

Sample No.	WO-Py3(a)	WO-Py3(b)	WO-Cp1(a)	WO-Cp1(b)	WO-Cp1(c)	WO-Cp(d)	WO-Cp(e)	WO-Cp1(f)
Element								
Fe	47.29	44.82	44.78	44.89	46.60	45.41	46.21	45.79
S	54.81	50.90	52.17	52.44	53.09	49.97	51.32	48.28
Co	0.09	0.05	0.09	0.06	0.07	0.10	0.02	0.10
Ni	0.10	0.07	0.02	0.02	0.02	N.D.	0.03	0.04
Cu	0.03	N.D.	3.44	0.24	1.56	2.47	0.43	0.39
Pb	0.11	0.17	1.09	4.60	0.19	0.25	0.29	0.19
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	0.01	0.01	0.01	0.01	0.01	N.D.	N.D.	N.D.
U	0.10	N.D.	0.11	0.07	N.D.	N.D.	0.08	0.09
Cr	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	0.01	0.02
Se	N.D.	0.08	N.D.	N.D.	N.D.	N.D.	0.06	N.D.
As	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.08	N.D.
Mn	N.D.	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.
TOTAL	102.66	96.22	102.39	102.95	102.16	98.37	98.58	94.93

PYRITE

Formation: Coomalie Dolomite / Whites Formation

Sample No.	WO-Py1	WO-RJ13(a)	WO-RJ13(b)	WO-RJ13(c)	WO-KF 92W(a)	WO-KF 92W(b)	IN-KF 91(a)	IN-KF 91(b)
Element								
Fe	46.92	46.40	46.06	45.59	46.48	46.67	45.13	45.93
S	54.02	51.21	50.84	51.88	49.08	49.94	54.21	54.66
Co	0.06	0.03	0.07	0.04	0.04	0.05	0.06	0.05
Ni	0.10	N.D.	0.01	N.D.	N.D.	0.45	N.D.	0.01
Cu	N.D.	N.D.	0.02	0.02	N.D.	N.D.	N.D.	N.D.
Pb	0.26	0.13	0.30	N.D.	0.13	0.15	0.37	0.23
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	0.01	0.01	0.01	0.02	0.01	N.D.	0.01	0.01
U	N.D.	N.D.	0.06	0.09	N.D.	N.D.	N.D.	N.D.
Cr	N.D.	N.D.	N.D.	0.01	0.02	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
As	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	0.06	N.D.	0.16
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	N.D.	N.D.	0.07	N.D.	N.D.
Mn	0.32	0.01	N.D.	N.D.	0.01	N.D.	0.01	N.D.
TOTAL	101.90	97.99	97.48	97.75	95.95	97.45	99.86	101.25

PYRITE

Formation Coomalie Dolomite / Whites Formation

Sample No.	DY4(a)	DY4(b)	DY7(a)	DY7(b)	DY7(c)	DY7(d)	DY7(e)	DY7(f)
Element								
Fe	47.12	46.65	47.11	46.37	46.24	46.04	45.83	46.11
S	54.26	54.01	48.90	51.74	50.76	53.24	53.42	53.41
Co	0.05	0.06	0.07	0.07	0.06	0.05	0.04	0.06
Ni	N.D.	0.12	0.02	0.02	0.03	N.D.	N.D.	0.03
Cu	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pb	0.18	0.13	0.37	0.24	0.18	0.20	0.26	0.13
Zn	0.02	N.D.	N.D.	N.D.	0.02	N.D.	N.D.	N.D.
V	N.D.	0.01	0.01	N.D.	0.02	0.01	0.01	N.D.
U	N.D.	0.09	0.07	0.06	N.D.	0.08	0.10	N.D.
Cr	N.D.	0.01	0.01	N.D.	0.01	N.D.	N.D.	N.D.
Se	N.D.	N.D.	0.06	N.D.	0.05	N.D.	N.D.	0.08
As	0.74	1.56	N.D.	0.76	0.80	0.45	0.35	0.63
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	0.07	0.06	N.D.	N.D.	0.01	0.12	0.11	0.09
Ag	N.D.	N.D.	-	-	-	N.D.	N.D.	N.D.
Au	0.06	N.D.	-	-	-	N.D.	0.10	N.D.
Mn	N.D.	N.D.	-	-	-	N.D.	N.D.	N.D.
TOTAL	102.59	102.86	97.45	99.41	98.27	100.23	100.26	100.60

PYRITE

Formation: Coomalie Dolomite / Whites Formation

Sample No.	DY8(a)	DY8(b)	BR4(a)	BR4(b)	BR4(c)	BR5	MF80/06(a)	MF80/06(b)
Element								
Fe	45.51	46.40	45.84	47.57	45.86	43.88	44.65	46.22
S	51.52	49.83	54.23	54.44	53.21	51.63	50.92	50.69
Co	0.04	0.04	0.06	0.09	0.19	0.08	0.67	0.05
Ni	0.04	0.05	0.07	0.05	0.02	0.03	0.79	N.D.
Cu	N.D.	0.02	0.05	N.D.	0.02	N.D.	0.42	0.15
Pb	0.26	0.20	0.15	0.12	0.16	0.13	0.24	0.11
Zn	N.D.	N.D.	0.44	N.D.	0.02	N.D.	N.D.	N.D.
V	0.01	N.D.	N.D.	0.01	N.D.	N.D.	0.01	0.01
U	N.D.	0.07	0.09	N.D.	N.D.	N.D.	0.06	0.09
Cr	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.D.	N.D.
Se	N.D.	0.05	N.D.	0.06	N.D.	N.D.	N.D.	N.D.
As	N.D.	N.D.	0.74	0.87	0.79	0.52	0.27	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	0.03	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	0.04	0.01	0.07	N.D.	0.07	0.15
Ag	N.D.	0.05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	0.08	N.D.	N.D.	0.06	N.D.	N.D.	0.06	N.D.
Mn	N.D.	N.D.	N.D.	N.D.	0.02	0.01	N.D.	N.D.
TOTAL	97.53	96.81	101.73	103.32	100.41	96.40	98.22	97.56

PYRITE

Formation	Balcanoona, S.A.			Kharidunga, Nepal		
Sample No.	BALC.(a)	BALC.(b)	BALC.(c)	N1	N8(a)	N8(b)
Element						
Fe	46.94	46.94	47.57	44.80	44.90	44.69
S	53.03	53.91	55.62	52.61	53.32	50.95
Co	0.11	0.09	0.07	0.03	0.30	0.42
Ni	0.17	0.04	0.05	0.02	N.D.	N.D.
Cu	N.D.	N.D.	N.D.	0.02	N.D.	N.D.
Pb	N.D.	N.D.	0.15	0.28	0.19	N.D.
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	-
V	0.06	0.01	N.D.	N.D.	0.02	0.02
U	N.D.	N.D.	0.07	N.D.	N.D.	N.D.
Cr	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
As	N.D.	N.D.	N.D.	1.48	1.06	0.85
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	-	N.D.	N.D.	N.D.	N.D.	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	0.06	N.D.	0.06
Mn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	100.52	101.25	103.68	99.47	99.90	97.23

LIMONITE

Electron Microprobe Detection Limits.

Program file name DY1 : MS19 : DAT

Element	Detection limit wt. % 95% confidence level	99%
Fe	.01	.01
S	.02	.04
Co	.01	.02
Ni	.01	.02
Cu	.01	.02
Pb	.13	.19
Zn	.01	.02
V	.01	.01
U	.04	.07
Cr	.01	.01
Se	.04	.06
As	.16	.24
Sb	.01	.01
Sn	.02	.04
Bi	.08	.12
Ag	.03	.04
Au	.05	.08
Mn	.01	.02

PYRITE → LIMONITE

(also detection limits as for pyrite, where appropriate)

Formation	Coomalie		Dolomite			
Sample No.	E28(a) →	E28(b) →	E28(c) →	E28(d) →	E28(e) ←	E28(f)
Element						
Fe	46.98	50.86	51.94	54.74	11.54	45.97
S	47.42	0.12	0.13	0.09	N.D.	44.87
Co	0.06	0.09	0.12	0.14	0.04	0.07
Ni	0.02	0.03	0.03	0.04	0.02	0.03
Cu	N.D.	N.D.	0.01	N.D.	0.01	N.D.
Pb	0.15	N.D.	N.D.	N.D.	N.D.	0.17
Zn	N.D.	N.D.	N.D.	0.01	0.01	N.D.
V	0.01	0.01	0.01	N.D.	N.D.	N.D.
U	0.06	0.06	0.07	0.11	N.D.	0.07
Cr	N.D.	N.D.	N.D.	N.D.	0.01	0.01
Se	N.D.	N.D.	0.05	0.07	0.05	0.05
As	N.D.	0.19	N.D.	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	0.02	N.D.
Sn	0.03	N.D.	N.D.	0.02	N.D.	0.05
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	0.11
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	0.07
Au	0.06	N.D.	N.D.	N.D.	N.D.	0.08
Mn	N.D.	0.01	N.D.	N.D.	0.02	N.D.
TOTAL	94.81	51.44	52.50	55.44	11.79	91.63

PYRITE → LIMONITE

(also detection limits as for pyrite, where appropriate)

Formation		Whites	Formation					
Sample No.	G04(a)→	G04(b)	G108(a)→	G108(b)→	G108(c)	G950W-650S(a)→	G950W-650S(b)←	G950W-650S(c)
Element								
Fe	46.16	51.12	47.10	49.96	50.64	47.31	46.85	43.56
S	52.75	1.36	54.72	0.14	1.59	0.04	52.72	N.D.
Co	0.27	0.34	0.08	0.10	0.09	0.11	0.03	0.08
Ni	0.43	0.36	0.35	0.04	0.06	0.08	0.07	0.03
Cu	0.02	0.01	0.02	N.D.	N.D.	0.05	0.03	0.03
Pb	0.19	N.D.	0.27	N.D.	N.D.	N.D.	0.11	N.D.
Zn	N.D.	0.02	N.D.	N.D.	0.02	0.03	N.D.	N.D.
V	0.02	0.01	0.01	0.01	0.01	N.D.	0.01	0.03
U	N.D.	N.D.	N.D.	N.D.	0.05	N.D.	N.D.	0.06
Cr	N.D.	N.D.	N.D.	0.02	N.D.	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.04
As	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.22	0.28
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.04
Sn	N.D.	0.03	N.D.	N.D.	N.D.	0.03	N.D.	N.D.
Bi	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	0.06	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Mn	N.D.	0.07	0.50	N.D.	N.D.	0.02	N.D.	0.01
TOTAL	99.91	53.54	103.15	50.61	52.50	47.84	100.10	44.16

PYRITE → LIMONITE

(also detection limits as for pyrite, where appropriate)

Formation	Whites	Formation	/	Balcanoona, S. AUST.				
Sample No.	G950W-650S(d) →	G950W-650S(e) →	G950W-650S(f) ←	G950W-650S(g)	BALC(a) →	BALC(b) →	BALC(c) →	BALC(d)
Element								
Fe	46.75	52.62	51.95	46.23	46.94	46.94	47.51	52.17
S	46.73	0.04	0.02	53.34	53.03	53.91	55.62	0.07
Co	0.05	0.08	0.09	0.39	0.11	0.09	0.07	0.35
Ni	0.02	N.D.	0.05	N.D.	0.17	0.04	0.05	0.03
Cu	N.D.	0.01	0.08	N.D.	N.D.	N.D.	0.08	N.D.
Pb	0.35	N.D.	N.D.	0.30	N.D.	N.D.	0.15	N.D.
Zn	N.D.	N.D.	0.03	N.D.	N.D.	N.D.	N.D.	0.13
V	N.D.	N.D.	0.01	0.01	0.06	0.01	N.D.	1.53
U	0.11	0.04	N.D.	N.D.	N.D.	N.D.	0.08	N.D.
Cr	N.D.	0.01	N.D.	0.01	N.D.	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
As	N.D.	0.59	0.45	0.23	N.D.	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	0.21	N.D.	N.D.	N.D.	0.08	N.D.	N.D.	N.D
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.06
Mn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	94.27	53.58	52.81	100.62	100.52	101.25	103.68	53.07

PYRRHOTITE

Program file name DY1 : MS19 : DAT

Element	Detection limit wt. %	
ELEMENT	95% confidence level	99%
Fe	.02	.02
S	.01	.02
Co	.01	.02
Ni	.01	.02
Cu	.02	.03
Pb	.09	.14
Zn	.02	.02
V	.01	.01
U	.06	.10
Cr	.01	.02
Se	.05	.07
As	.12	.18
Sb	.03	.05
Sn	.03	.05
Bi	.10	.15
Ag	.04	.06
Au	.06	.09
Mn	.01	.02

PYRRHOTITE

Formation Kharidunga, Nepal

Sample No.	N7(a)	N7(b)	N7(c)	N8(a)	N8(b)	N8(c)
Element						
Fe	58.84	59.06	59.74	56.71	59.28	60.21
S	37.40	37.19	36.44	35.76	36.67	35.99
Co	0.07	0.06	0.07	0.04	0.06	0.08
Ni	N.D.	0.01	N.D.	0.01	0.01	N.D.
Cu	N.D.	N.D.	N.D.	N.D.	0.03	N.D.
Pb	0.22	0.14	0.33	0.14	N.D.	0.21
Zn	0.02	N.D.	N.D.	0.02	N.D.	N.D.
V	N.D.	0.01	0.01	0.01	0.01	0.01
U	0.16	N.D.	N.D.	0.07	0.07	0.07
Cr	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Se	N.D.	N.D.	N.D.	N.D.	N.D.	0.09
As	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	N.D.	0.16	N.D.	N.D.	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Au	N.D.	N.D.	N.D.	N.D.	0.09	N.D.
Mn	0.03	N.D.	N.D.	0.01	0.01	N.D.
TOTAL	96.80	96.54	96.80	92.94	96.29	96.70

QUARTZ

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element as oxide OXIDE	Detection limit wt. % 95% confidence level	99%
FeO	.05	.07
SO_2	.02	.03
CoO	.05	.08
NiO	.06	.09
PbO	.12	.18
ZnO	.10	.15
UO_2	.08	.12
MnO_2	.05	.07
SiO_2	.01	.01
TiO_2	.06	.10
Al_2O_3	.01	.01
MgO	.01	.01
CaO	.01	.02
Na_2O	.01	.01
K_2O	.01	.02
F_2O	.10	.15
Cl_2O	.03	.05
P_2O_5	.01	.02

QUARTZ

Formation Beestons Formation

Sample No.	B06	B07(a)	B07(b)	B07(c)	B09(a)	B09(b)
Element/Oxide						
FeO	0.09	N.D.	0.44	0.22	0.42	N.D.
SO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	0.15	N.D.	0.12	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	97.8	98.98	98.44	98.28	92.37	98.58
TiO_2	N.D.	N.D.	N.D.	N.D.	0.09	N.D.
Al_2O_3	0.02	N.D.	0.01	N.D.	1.40	N.D.
MgO	N.D.	N.D.	N.D.	N.D.	0.28	N.D.
CaO	0.01	0.02	N.D.	0.01	0.01	N.D.
Na_2O	N.D.	N.D.	N.D.	N.D.	0.08	N.D.
K_2O	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	98.03	99.25	99.12	98.85	94.67	98.66

QUARTZ

Formation: Celia Dolomite

Sample No.	C17	C43	C45(a)	C45(b)	C48(a)	C48(b)
Element/Oxide						
FeO	N.D.	N.D.	0.34	0.09	0.16	0.39
SO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	99.26	101.21	100.29	100.13	100.54	97.74
TiO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Al_2O_3	0.01	0.10	0.05	0.01	0.01	0.87
MgO	N.D.	0.02	0.08	N.D.	N.D.	2.02
CaO	N.D.	N.D.	N.D.	0.01	N.D.	N.D.
Na_2O	N.D.	N.D.	N.D.	N.D.	N.D.	0.01
K_2O	0.03	N.D.	N.D.	N.D.	N.D.	N.D.
F_2O	N.D.	N.D.	N.D.	0.12	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	99.54	101.38	100.99	100.46	100.82	101.13

QUARTZ

Formation	Celia Dolomite			Crater Formation			
Sample No.	C49(a)	C49(b)	C49(c)	D02	D03(a)	D03(b)	D03(c)
Element/Oxide							
FeO	0.12	0.20	0.11	0.33	N.D.	0.05	N.D.
SO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	100.68	95.73	99.50	93.44	100.22	100.65	100.03
TiO_2	N.D.	N.D.	N.D.	0.19	N.D.	N.D.	0.07
Al_2O_3	0.01	N.D.	0.03	3.82	N.D.	N.D.	N.D.
MgO	0.02	1.65	N.D.	0.25	N.D.	N.D.	N.D.
CaO	0.01	N.D.	N.D.	0.05	N.D.	N.D.	0.01
Na_2O	N.D.	0.01	N.D.	0.03	N.D.	N.D.	N.D.
K_2O	N.D.	0.05	0.01	1.46	N.D.	0.01	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	0.04	N.D.	N.D.	N.D.	N.D.	N.D.	0.08
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	100.91	98.85	99.80	99.60	100.37	100.81	100.30

QUARTZ

Formation	Whites Formation				
Sample No.	G03	G04(a)	G04(b)	G07	G950W-740S
Element/Oxide					
FeO	0.17	1.11	0.29	N.D.	0.53
SO_2	N.D.	N.D.	N.D.	N.D.	0.12
CoO	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	0.14
MnO_2	N.D.	0.10	N.D.	N.D.	N.D.
SiO_2	101.16	87.58	96.99	100.44	89.83
TiO_2	N.D.	0.21	N.D.	0.07	N.D.
Al_2O_3	0.16	6.82	1.94	0.14	2.54
MgO	0.01	0.92	0.15	0.20	0.98
CaO	0.11	0.06	0.07	0.10	1.07
Na_2O	0.01	0.03	0.02	N.D.	0.02
K_2O	0.06	2.38	0.67	N.D.	0.91
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	101.89	99.93	100.30	101.05	96.23

QUARTZ

Formation	Coomalie Dolomite / Whites Formation						
Sample No.	WO-RJ13	WO-KF 92W(a)	WO-KF 92W(b)	WO-KF 92B	IN-KF 91	DY7	BR5
Element/Oxide							
FeO	0.48	0.13	N.D.	0.15	0.32	-	-
SO_2	0.02	N.D.	N.D.	N.D.	0.02	0.02	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	-	N.D.
PbO	N.D.	0.12	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	-	-
SiO_2	100.57	99.42	98.50	100.12	99.21	95.35	99.22
TiO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Al_2O_3	N.D.	0.49	0.36	N.D.	N.D.	N.D.	0.01
MgO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CaO	N.D.	0.02	N.D.	0.01	N.D.	N.D.	N.D.
Na_2O	N.D.	N.D.	N.D.	N.D.	N.D.	0.01	N.D.
K_2O	N.D.	N.D.	0.02	N.D.	N.D.	0.01	N.D.
F_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	0.05	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	101.26	100.29	99.05	100.49	99.70	95.57	99.32

SERICITE

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element as oxide	Detection limit wt. %	
ELEMENT .	95% confidence level	99%
FeO	.04	.07
SO_2	.02	.03
CoO	.05	.08
NiO	.06	.09
PbO	.10	.15
ZnO	.10	.15
UO_2	.08	.11
MnO_2	.05	.07
SiO_2	.01	.01
TiO_2	.06	.09
Al_2O_3	.01	.01
MgO	.01	.01
CaO	.01	.02
Na_2O	.01	.01
K_2O	.01	.02
F_2O	.09	.13
Cl_2O	.07	.10
P_2O_5	.01	.02

SERICITE

Formation Beestons Formation

Sample No.	B06(a)	B06(b)	B06(c)	B06(d)	B06(e)	B07(a)	B07(b)	B07(c)
Element/Oxide								
FeO	4.22	3.58	3.20	3.79	3.04	3.89	3.73	5.17
SO_2	N.D.	0.03	N.D.	N.D.	0.04	N.D.	N.D.	0.02
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	0.13	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	40.43	38.19	41.76	42.90	43.96	45.42	44.72	44.25
TiO_2	0.62	0.49	0.58	0.56	0.63	0.41	0.46	0.58
Al_2O_3	28.31	27.22	30.81	29.50	31.27	31.26	31.07	30.24
MgO	1.10	5.46	1.14	1.28	1.03	1.20	1.02	1.09
CaO	N.D.	0.05	N.D.	0.01	0.06	0.01	0.01	0.01
Na_2O	0.24	0.19	0.24	0.22	0.92	0.25	0.26	0.26
K_2O	9.05	8.72	9.83	9.18	9.76	9.71	9.44	9.25
F_2O	N.D.	0.29	0.28	0.26	N.D.	0.11	0.33	0.27
Cl_2O	N.D.	N.D.	N.D.	N.D.	0.48	N.D.	N.D.	N.D.
P_2O_5	N.D.	0.07	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	84.13	84.48	87.88	87.85	91.35	92.36	91.10	91.27

SERICITE

Formation	Celia Dolomite			Whites Formation
Sample No.	C17(a)	C17(b)	C49	G04
Element/Oxide				
FeO	3.84	3.54	3.96	7.79
SO_2	0.02	N.D.	N.D.	0.02
CoO	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	0.34
SiO_2	47.39	42.02	43.18	38.83
TiO_2	N.D.	0.08	0.42	0.48
Al_2O_3	31.41	30.29	31.10	27.08
MgO	0.82	1.27	6.96	5.99
CaO	0.01	0.01	0.01	0.04
Na_2O	0.18	0.19	0.16	0.11
K_2O	10.33	9.72	5.77	6.68
F_2O	0.18	0.17	0.09	0.18
Cl_2O	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	0.01	N.D.
TOTAL	94.37	87.48	91.89	87.64

SERICITE

Formation Coomalie Dolomite / Whites Formation

Sample No.	WO-RJ7	WO-RJ10	WO-RJ30(a)	WO-RJ30(b)	BR4
Element/Oxide					
FeO	-	6.86	0.41	0.43	2.16
SO_2	0.11	1.97	0.03	0.04	0.11
CoO	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	0.95	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	-	N.D.	N.D.	N.D.	N.D.
SiO_2	43.96	44.05	48.15	47.90	46.07
TiO_2	1.01	0.29	0.72	0.60	0.38
Al_2O_3	31.52	21.60	30.85	31.32	28.31
MgO	1.65	2.47	2.06	1.75	6.02
CaO	0.01	0.01	0.02	N.D.	0.02
Na_2O	0.17	0.08	0.13	0.18	0.14
K_2O	9.28	6.28	9.58	9.76	9.02
F_2O	0.16	0.09	0.10	N.D.	0.11
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	89.12	83.80	92.21	92.09	92.39

TALC

Detection limits as for sericite

Formation	Whites		Kharidunga,	Nepal		
Sample No.	G04	N1(a)	N1(b)	N1(c)	N1(d)	N1(e)
Element/Oxide						
FeO	5.22	0.18	0.24	0.20	0.22	0.19
SO_2	N.D.	0.05	0.04	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	0.11	N.D.	N.D.	N.D.
UO_2	0.08	N.D.	N.D.	N.D.	N.D.	N.D.
MnO_2	0.16	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	82.17	58.70	56.20	57.27	66.01	58.46
TiO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Al_2O_3	4.61	0.18	0.17	4.20	0.22	0.24
MgO	4.12	27.45	26.73	27.96	31.96	29.34
CaO	0.02	0.03	0.03	0.02	0.01	N.D.
Na_2O	0.01	0.05	0.05	0.01	0.02	0.03
K_2O	0.01	0.02	0.01	N.D.	N.D.	0.01
F_2O	0.18	0.41	0.38	0.64	0.64	0.68
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	0.03	N.D.	N.D.	N.D.
TOTAL	96.60	87.26	84.12	90.44	99.21	89.08

TOURMALINE

Electron Microprobe Detection Limits.

Program file name DY1 : S18A : DAT

Element as oxide	Detection limit wt. %	
ELEMENT	95% confidence level	99%
FeO	.04	.07
SO_2	.02	.03
CoO	.05	.08
NiO	.06	.09
PbO	.11	.17
ZnO	.10	.15
UO_2	.08	.12
MnO_2	.05	.07
SiO_2	.01	.01
TiO_2	.06	.09
Al_2O_3	.01	.01
MgO	.01	.01
CaO	.03	.05
Na_2O	.02	.03
K_2O	.01	.02
F_2O	.10	.15
Cl_2O	.03	.05
P_2O_5	.01	.02

TOURMALINE

Formation: Beestons Formation

Sample No.	B09(a)	B09(c)→	B09(d)→	B09(e)↔	B09(f)←	B09(g)←	B09(h)
Element/Oxide							
FeO	5.85	6.83	6.90	6.73	6.80	6.47	6.71
SO_2	N.D.	N.D.	0.02	0.02	N.D.	0.03	N.D.
CoO	N.D.	0.05	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	36.60	34.52	35.05	34.62	33.81	33.44	34.60
TiO_2	0.60	0.45	0.55	0.45	0.44	0.48	0.48
Al_2O_3	31.74	31.49	31.10	32.05	31.70	31.03	31.13
MgO	7.23	6.38	6.43	6.34	6.07	6.09	5.87
CaO	0.43	0.42	0.45	0.46	0.40	0.41	0.43
Na_2O	2.05	1.99	2.00	1.96	1.87	1.90	1.79
K_2O	0.01	0.04	0.05	0.04	0.03	0.02	0.02
F_2O	0.39	0.17	0.11	0.10	0.16	N.D.	0.16
Cl_2O	N.D.	0.04	N.D.	N.D.	N.D.	N.D.	0.03
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	84.94	82.45	82.74	82.88	81.41	80.07	81.43

TOURMALINE

Formation	Beestons Formation			Celia Dolomite		
Sample No.	B06(a)	B06(b)	B09(b)	C52(a)→	C52(b)→	C52(c)→
Element/Oxide						
FeO	7.32	7.37	4.49	5.48	2.69	2.62
SO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	0.06	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	0.08
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	36.61	36.93	53.57	33.52	37.15	36.36
TiO_2	0.52	8.32	0.28	0.36	0.22	0.18
Al_2O_3	29.89	26.40	23.77	28.21	32.37	32.01
MgO	7.93	1.09	4.46	8.77	9.08	9.14
CaO	1.08	0.03	0.30	0.34	0.53	0.71
Na_2O	1.96	0.17	1.23	1.96	22.5	2.19
K_2O	0.03	8.28	0.02	N.D.	0.02	0.02
F_2O	0.62	N.D.	N.D.	0.28	N.D.	N.D.
Cl_2O	N.D.	0.06	N.D.	0.05	N.D.	0.04
P_2O_5	N.D.	0.03	N.D.	0.02	N.D.	N.D.
TOTAL	86.13	88.87	88.28	79.08	84.51	83.46

TOURMALINE

Formation Celia Dolomite

Sample No. →C52(d)→C52(e)↔C52(f)←C52(g)←C52(h)←C52(i)←C52(j)

Element/Oxide

Element/Oxide	C52(d)	C52(e)	C52(f)	C52(g)	C52(h)	C52(i)	C52(j)
FeO	2.83	3.02	2.64	3.45	3.21	3.20	3.06
SO_2	N.D.	N.D.	1.14	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	0.24	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	36.93	37.77	30.78	36.51	37.22	37.05	37.06
TiO_2	0.37	0.61	0.64	0.89	0.74	0.68	0.50
Al_2O_3	31.59	31.85	21.28	29.91	31.01	31.06	31.67
MgO	9.19	9.25	7.69	9.54	9.32	9.30	9.18
CaO	0.77	0.87	4.23	1.24	0.94	1.03	0.81
Na_2O	2.21	2.26	8.90	2.17	2.16	2.19	2.20
K_2O	0.03	0.03	0.86	0.04	0.03	0.02	0.03
F_2O	0.12	0.22	0.43	0.13	0.23	0.22	0.25
Cl_2O	N.D.	N.D.	2.20	0.09	N.D.	N.D.	N.D.
P_2O_5	N.D.	N.D.	0.97	N.D.	N.D.	N.D.	N.D.
TOTAL	84.09	85.96	82.06	84.03	84.99	84.96	84.81

TOURMALINE

Formation Celia Dolomite

Sample No.	C52(k)	C52(l)	D03	D09(a)←	D09(b)←	D09(c)	D09(d)
Element/Oxide							
FeO	3.11	2.92	2.23	0.28	0.32	0.94	0.62
SO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.12
ZnO	N.D.	N.D.	N.D	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	0.08	N.D.	0.09
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	36.88	36.94	38.23	38.19	37.52	37.65	37.68
TiO_2	0.51	0.48	0.26	N.D.	0.07	0.13	0.11
Al_2O_3	31.33	31.62	33.81	34.98	34.59	34.61	32.64
MgO	9.09	9.09	8.59	9.37	9.50	8.67	10.92
CaO	0.79	0.78	0.25	0.08	0.05	0.13	0.14
Na_2O	2.23	2.21	2.66	2.20	2.24	2.83	2.52
K_2O	0.03	0.04	0.05	0.02	0.03	0.03	N.D.
F_2O	0.26	0.17	0.18	0.04	0.15	N.D.	N.D.
Cl_2O	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0.05
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	84.35	84.29	86.47	85.30	84.64	85.07	84.91

TOURMALINE

Formation Crater Formation

Sample No.	D09(e)←	D09(f)←	D09(g)←	D09(h)+	D09(i)	D09(j)
Element/Oxide						
FeO	1.46	1.14	2.32	0.67	2.21	5.46
SO_2	N.D.	N.D.	N.D.	N.D.	0.13	N.D.
CoO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	0.05
SiO_2	38.21	38.40	37.56	38.60	38.17	33.83
TiO_2	0.17	0.06	0.28	0.26	0.33	0.40
Al_2O_3	32.20	32.96	32.26	33.84	32.50	29.20
MgO	10.02	9.87	9.70	9.61	9.72	8.23
CaO	0.10	0.05	0.37	0.29	0.62	0.40
Na_2O	2.13	2.12	2.73	2.77	2.33	2.23
K_2O	N.D.	N.D.	0.02	0.02	0.02	0.02
F_2O	0.16	0.13	0.28	0.26	0.22	0.17
Cl_2O	N.D.	N.D.	N.D.	0.03	N.D.	N.D.
P_2O_5	N.D.	N.D.	0.01	N.D.	N.D.	N.D.
TOTAL	84.53	84.79	85.65	86.47	86.39	80.15

TOURMALINE

Formation	Crater Formation						Coomalie Dolomite/ Whites Formation
Sample No.	D09(k)	D09(l)	D09(m)	D09(n)	D09(o)	D09(p)	WO-KF 92B
Element/Oxide							
FeO	0.75	0.46	0.75	7.99	8.19	31.59	0.36
SO_2	N.D.	0.02	N.D.	N.D.	N.D.	0.06	N.D.
CoO	N.D.	N.D.	N.D.	0.06	N.D.	N.D.	N.D.
NiO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PbO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
ZnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
UO_2	N.D.	N.D.	N.D.	0.08	N.D.	N.D.	N.D.
MnO	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SiO_2	35.99	37.03	37.51	33.54	32.84	23.36	36.64
TiO_2	N.D.	N.D.	0.14	0.12	0.10	0.28	0.32
Al_2O_3	33.78	34.28	34.14	32.37	32.56	21.15	32.08
MgO	9.51	9.42	9.47	8.20	8.28	7.56	10.76
CaO	0.10	0.03	0.11	0.14	0.15	0.27	2.11
Na_2O	1.53	1.35	1.46	2.71	2.76	1.94	1.35
K_2O	N.D.	0.02	0.02	N.D.	0.02	N.D.	0.02
F_2O	N.D.	N.D.	N.D.	N.D.	0.10	N.D.	0.56
Cl_2O	N.D.	N.D.	0.03	0.05	N.D.	0.03	N.D.
P_2O_5	N.D.	N.D.	N.D.	N.D.	N.D.	0.04	N.D.
TOTAL	81.83	82.72	83.76	85.31	85.07	86.50	84.23

PYRITE

Villamaninite - Bravoite Series.

Program file name DY1 : MS19 : DAT

Element	Detection limit wt. %	
ELEMENT	95% confidence level	99%
Fe	.01	.02
S	.03	.05
Co	.01	.02
Ni	.01	.02
Cu	.02	.03
Pb	.10	.15
Zn	.02	.03
V	.01	.01
U	.06	.09
Cr	.01	.02
Se	.05	.07
As	.17	.26
Sb	.06	.09
Sn	.04	.05
Bi	.10	.17
Ag	.04	.06
Au	.07	.10
Mn	.01	.02

VILLAMANINITE - BRAVOITE SERIES (+ FUKUCHILITE) PLUS SIEGENITE

Formation Coomalie Dolomite / Whites Formation

Sample No.	MF80/06 (a)	MF80/06 (b)	MF80/06 (c)	MF80/06 (d)	MF80/06 (e)	MF80/06 (f)
Element						
Fe	13.16	12.03	37.50	26.51	33.96	42.22
S	37.46	35.77	44.55	34.16	46.23	50.17
Co	13.29	15.69	1.90	2.84	3.69	3.42
Ni	14.91	18.42	0.14	3.27	0.31	0.59
Cu	14.91	10.80	15.70	30.76	0.83	0.80
Pb	0.61	0.25	0.25	0.14	0.25	0.42
Zn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
V	N.D.	N.D.	N.D.	0.01	N.D.	N.D.
U	0.09	N.D.	0.09	0.10	N.D.	0.07
Cr	N.D.	N.D.	0.01	0.01	0.01	N.D.
Se	N.D.	N.D.	N.D.	0.05	N.D.	N.D.
As	N.D.	N.D.	N.D.	N.D.	N.D.	0.22
Sb	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bi	0.47	N.D.	0.12	N.D.	0.10	N.D.
Ag	N.D.	N.D.	N.D.	N.D.	N.D.	0.04
Au	0.04	0.04	N.D.	0.09	0.11	N.D.
Mn	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TOTAL	94.96	93.08	100.34	98.06	90.50	97.98

VILLAMANINITE - BRAVOITE SERIES (+ FUKUCHILITE) PLUS SIEGENITE

Formation	Coomalie Dolomite / Whites Formation			
Sample No.	MF2 (a)	MF2 (b)	WO-PY1	WO-RJ7
Element/Oxide				
Fe	36.38	35.06	0.14	0.48
S	52.13	52.67	40.51	36.41
Co	9.38	7.57	34.57	24.84
Ni	1.07	4.09	21.01	24.52
Cu	N.D.	0.05	1.72	0.42
Pb	0.25	0.21	0.64	11.66
Zn	N.D.	N.D.	0.02	0.02
V	0.01	0.01	0.01	N.D.
U	0.07	N.D.	N.D.	N.D.
Cr	0.01	N.D.	N.D.	N.D.
Se	0.22	0.14	0.05	N.D.
As	0.95	0.47	N.D.	N.D.
Sb	N.D.	N.D.	N.D.	N.D.
Sn	N.D.	N.D.	N.D.	N.D.
Bi	N.D.	0.13	N.D.	0.14
Ag	N.D.	N.D.	0.04	N.D.
Au	N.D.	N.D.	N.D.	0.07
Mn	N.D.	N.D.	0.31	N.D.
TOTAL	100.57	100.42	99.09	98.60

APPENDIX 4

EXPLORATION PROGRAMME

4.1 Pace and Compass Survey

Rum Jungle, N.T. E.L. 1349 M300

Data Acquisition

1. Pace and compass surveys

The standard pace and compass 3 point method was used to map the outcrop areas. Periodic checks were made in order to maintain a 1 metre pace, vegetation and terrain making this difficult at times. The outcrops were plotted directly on to graph paper and sequentially numbered (Figs 16-22).

The following parameters were predominantly observed visually, by clambering over, under and around each outcrop when possible.

2. Grain size

A visual estimate of the percentage of grains of size 0.5mm, 0.5-2mm, 2-5mm and 5mm was made, and appropriately allocated as fine (F), medium (M), coarse (C) and very coarse (V.C.). The maximum grain size was measured to the nearest 5mm.

3. Bedding

A measurement was taken where it was confidently felt that the layering seen represented primary bedding. Where stratiform stromatolites (now silicified) were present some good readings were obtained, and a note made of their likely accuracy (G). Cross-cutting relationships and complex and or domal stromatolites complicated interpretation in many instances.

4. Orientation of grains

The orientation of the grains in reference to bedding if possible or otherwise to veining was noted.

5. Types of veins

The concordant or discordant nature of the veins in relation to "bedding" was noted. Where possible age relationships were noted.

6. Height

Height of individual outcrops was a visual estimate only, using self as scale. Both the maximum and the average were estimated in this manner.

7. Colour

Visual only.

8. Distinct Morphology present

A visual estimate of the percentage of bladed or rhomb type morphology present was made. For large outcrops, this consisted of assessing discrete areas and then averaging (this also applied to 2, 6, 7, 9 and 10).

9. Type of morphology

Taking the obtained morphology figure, this was then split into a bladed component and a rhomb component. It is likely that the rhomb figure contains a secondary recrystallised magnesite component.

10. Talc/quartz

A visual estimate of the percentage of talc and/or quartz present was made. This figure consists of that visible to the naked eye, i.e. does not include the intra-grain and grain-boundary material readily seen in thin section.

Comments

It must be emphasised that the majority of the data was acquired by visual estimate only. This is a subjective method and consequently should be treated as such, although all reasonable care was taken to ensure that the figures recorded were accurate.

4.2 Geochemical Soil Survey Drilling Programme

Rum Jungle, N.T. E.L. 1349 M300

Aim:- The aim of the drilling programme was to sample the weathered material immediately above unweathered bedrock, and to analyses this material for Cu, Pb, Zn, Co, Ni and Mo. A radiometric survey of the drilled holes was the secondary aim.

Type:- rotary - Edson truck-mounted rig using a 3" 3 blade tungsten carbide bit.

Location:- Rum Jungle, N.T. E.L. 1349. Surveyed grid, holes indicated on accompanying map. (Fig. 107).

Time:- November 19th - December 13th inclusive (1979).

Hole Statistics:-	number	251	
	metreage :	total	1864
		average	7.4
		range	0.5 - 24.4

Sampling:- Unless stated otherwise on the log sheet all samples were taken from the bottom of the hole. Drilling was stopped when fresh bedrock chips were encountered in the weathered return. All samples were taken in duplicate and placed in separate envelopes; (i) for retention in Darwin and (ii) to be sent to Australian Laboratory Services, held for analyses. These latter samples were dried, pulverised and sieved to -80 mesh.

The envelopes were numbered:-

(i) the complete grid co-ordinates plus sample number prefixed by M300.

(ii) sample number prefixed by M300.

Every 10th hole a duplicate was included (consecutive sample numbers) in the batch to be sent for analyses. A large sample was prepared of No. 116 (2,000E - 5505) and inserted into the batch for analyses - as every 25th sample, as a replicate. Such numbers were recorded on the log sheets.

Contamination of samples is considered to have occurred for most holes - from rig, surface, boots, down-hole etc.

Comments

Mechanical breakdowns, access difficulties and bad weather slowed progress, so that the programme was not completed. River gravels (related to Coomalie (k) and silicified and/or ferruginised bands encountered within the Coomalie Dolomite were frequently impenetrable, or at best severely slowed down the drilling rate. It was apparent within a few days that the programme would not be completed within the allotted time, so it was decided to drill so that there was good coverage of the contact between the Coomalie Dolomite and the (?) unconformably overlying Masson Formation. Strategic grid lines were also drilled to cover the entire Coomalie Dolomite sequence, plus the top of the underlying Crater Formation.

4.2.1 Radiometric Survey

Rum Jungle, N.T. E.L. 1349 M300

Aim:- To probe each drill hole upon completion.

Equipment:- (i) Austral Mini Borchole Logger (multi-channel)
(ii) Austral S.G.1.a scintillometer

Comments:- The equipment was located on the passenger seat of the Moke, thus enabling it to be positioned immediately over the hole, via an outrigger pulley. Readings were charted both down and up-hole, but correlation was not good. Frequent problems eventuated with the chart recorder, culminating in its eventual complete failure, whereupon readings were taken from the visual output and recorded. Finally the Logger failed totally.

At this stage, the hand held scintillometer was substituted - holding it directly over the hole and also over the individual cuttings heaps and recording the maximum reading. The scintillometer gave constantly low readings, but checking it with radio-active material (pitchblende) indicated that it was functioning. Lack of time precluded checking this latter instrument against holes probed with the Mini Logger.

4.3 Radiometric Survey

Conclusions Rum Jungle, N.T. E.L. 1349 M300.

From the limited data available, five anomalous areas (> 95% percentile) can be delineated, with one other area that could be interesting. Three of the anomalous areas straddle the Coomalie-Masson contact.

1. Grid lines 600W - 1000W.

The highest reading, 600 c.p.s., was obtained at hole 600W - 900S. It was unfortunate that the Mini Logger broke down so that there are no down-hole readings (except 2) for lines 1000 and 1200W. Hole 1200W - 200S was notable inasmuch as a fluctuating surface reading (approximately 5m E of hole) of up to 1,000 c.p.s. was obtained, using the hand-held scintillometer, although the hole itself and the cuttings gave normal background readings.

No drilling could be done on line 400W further S than 650. 700 and 750S straddled the quarry powder magazine, and 800S was up a steep inaccessable ridge. However, lines 600W (last 2 pegs missing - see field notes) and 800W - 1400W could be extended further S, especially as the B.M.R. traverse 3A bisects this area. (see Radiometric Survey - Contour Plan).

2. Grid line 00E (00N-350S).

This anomaly is probably a thorium one, and related to the Crater

Formation. This line is sited within the drainage pattern of the Crater Formation ridge to the N. It also has Coomalie Ck as its southern extent.

3. Grid lines 200E - 00E - 200W.

This linear anomaly abutts the quarry workings, and so the immediately south positions cannot be drilled, but it may be worth picking them up further S if possible.

4. Grid line 800E.

This anomaly has a small high, but a broader lower order areal extent. Suggest that a request be made to the B.M.R. for the data for their traverse that cuts our line 600E, for this and the previous anomaly. The B.M.R. also drilled (and cored for geochem) 10 holes on this traverse.

5. Grid line 1600E.

This is a one hole only (750S) anomaly.

6. Grid lines 1800 and 2000E.

The southern section of these lines could just possibly represent the outer extent of an anomaly lying further S.

It may be worth further investigating the southern portions of the lease that were not incorporated in the present grid. Indeed, it is strongly recommended that further drilling south of anomaly one be undertaken, and that a single-channel scintillometer be used for probing the holes. Also suggest that water samples be taken (where available, and if rotary drilling employed) and forwarded to Angela Giblin (C.S.I.R.O., North Ryde) for future work. Would also recommend a request be made to the B.M.R. for a copy of <u>all</u> their data from their 1979 programme. There were 4 or 5 traverses, similar to 3A, across the lease. A soil and rock sampling team were also encountered (in August, 1979), under the leadership of Peter Scott, on the lease, plus further geochem. was to be done by Greg Ewers.

Bone, Y. (1983). Interpretation of magnesites at Rum Jungle, N.T., using fluid inclusions. *Journal of the Geological Society Of Australia*, 30(3/4), 375-381.

NOTE: This publication is included in the print copy of the thesis held in the University of Adelaide Library.