CRA EXPLORATION PTY LIMITED

WILD COW CREEK EL 6571

PARTIAL SURRENDER REPORT FOR PERIOD ENDING 30 JANUARY 1992

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CRAE Report Number 17864

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1. SUMMARY

EL 6571 Wild Cow Creek comprising 484 blocks was granted to CRA Exploration Pty Limited on 31 January 1990 for a period of six years. A voluntary surrender of the southern 242 blocks was made on 11 January 1991, towards the end of its first year of tenure. The northern half of the tenement was retained and was the focus for continued base metal exploration during the 1991 field season. A further statutory surrender of 168 blocks was implemented on the second anniversary of tenure of this tenement. This report summarises exploration undertaken within the 168 relinquished blocks during the preceding two years of tenure up to 30 January 1992.

CRA Exploration applied for EL 6571 to allow it to prospect the northern portion of the Cambrian Georgina Basin and the Proterozoic Carrara Range Inlier for base metal and precious metal mineralization and diamondiferous kimberlites.

During the first year of tenure, prospecting within Wild Cow Creek EL largely concentrated on evaluating the potential of the tenement to host diamondiferous kimberlites. The results of this prospecting within the relinquished portions of EL 6571 were not encouraging and no further exploration for diamonds was considered to be warranted. Limited prospecting for precious metal and base metal mineralization was also carried out during the year. Although the results of this work were largely negative it was recommended that further evaluation of the base metal potential of the Carrara Range Inlier be carried out in the second year of tenure. Exploration results for the first year of tenure for EL 6571 are fully documented in the first annual report by Root and Agnew, CRAE Report 17114, January 1991. A final report on the area surrendered in January 1991 is detailed

in CRAE Report 17115 by Agnew (1991).

During the second year of tenure CRAE carried out base metal assays on the slimes from diamond samples collected previously by CRAE within the tenement. The results of this assaying, incorporated with previous CRAE and competitor stream sediment sampling, failed to outline any areas of base metal anomalism within the relinquished portions of EL 6571. In addition, these parts of EL 6571 are underlaid by extensive black soil plains of the northern Barkly Tableland. It was therefore decided that further prospecting for base metals, precious metals or diamonds in these areas was not warranted. Tenement was partially surrendered.

2. INTRODUCTION

Exploration Licence 6571, Wild Cow Creek, comprising 484 blocks, was granted to CRA Exploration Pty Limited (CRAE) on 31 January 1990 for a period of six years. A voluntary partial surrender of the southern half of the tenement (242 blocks) was made, effective from 11 January 1991. A statutory reduction of a further 168 blocks at the end of the second year of tenure became effective from 31 January 1992. A map of the tenement area, including surrendered and retained areas, is shown on Plan NTd 5328.

EL 6571 is located 350km east-northeast of Tennant Creek and 300km northwest of Mt Isa on the Mitchiebo and Carrara 1:100,000 sheets, Mt Drummond 1:250,000 sheet. Vehicular access to the EL is via the Camooweal-Galipoli-Highland Plains road and thence via station tracks west to the Carrara Ranges.

CRA Exploration applied for EL 6571 to allow it to prospect the northern portion of the Cambrian Georgina Basin and the Proterozoic Carrara Range Inlier for base metal and precious metal mineralization and diamondiferous kimberlites.

During the first year of tenure an open file literature review and interpretation of open file aeromagnetic data was carried out. Reconnaissance gravel and stream sediments samples were collected and processed for the detection of kimberlitic indicator minerals and microdiamonds. Stream sediment sampling for precious metals and base metals was also undertaken. The results of the diamond sampling were not encouraging and no further exploration for diamonds was considered to be warranted. Although the initial base metal and precious metal sampling failed to outline any anomalous areas, it was recommended that further evaluation of the base metal potential of the Carrara Range Inlier be carried out in the second year of tenure in the light of the discovery of the Century Zn-Pb deposit 70 kms to the east.

During the second year of tenure CRAE carried out base metal assays on the slimes from diamond samples collected previously by CRAE within Wild Cow Creek EL. Competitor company and CRAE stream sediment sampling was also compiled and assessed.

This report summarises exploration undertaken during the period 31 January 1990 to 30 January 1992 in the portion of EL 6571 relinquished at the end of year two of tenure.

3. CONCLUSIONS AND RECOMMENDATIONS

Exploration by CRAE for diamonds and base metals-precious metals has failed to delineate any targets for further work within the relinquished portion of EL 6571. This prospecting has been hampered by the presence of thick and extensive black soil plains and the absence of any exposures of the target lithologies. No further prospecting is considered to be warranted within this part of the tenement.

Following recommendations for relinquishment, the southwestern portion (168 blocks) of EL 6571 was surrendered at the end of the second period of tenure as part of the statutory requirements of the Northern Territory Mining Act 1980.

4. GEOLOGY

Much of Wild Cow Creek EL, including that relinquished portion of the EL which is the subject of this report, is covered by extensive black soil plains of the Barkly Tableland. The Proterozoic Carrara Range Inlier is exposed in the northeastern corner of Wild Cow Creek EL and presumably underlies the black soil plains in the western two thirds of the tenement. In the southeast corner of the EL the black soil plains are underlain by carbonate facies of the northern portion of the Cambrian Georgina Basin.

The east-west striking Little Range Fault, which juxtaposes the northern margin of the Georgina Basin and the Carrara Range Inlier, is exposed in the eastern half of Wild Cow Creek EL. To the west in the area relinquished, this fault disappears beneath the black soil plains.

No base metal mineralization has been recorded within Wild Cow Creek EL although iron occurrences have been noted in the Carrara Ranges Inlier by the BMR. Minor uranium mineralization has also been detected within the basement Murphy Metamorphics to the east of the EL.

5. PREVIOUS WORK

The area covered by EL 6571 was mapped by BMR geologists during 1959-60 as part of their Mt Drummond 1:250,000 sheet mapping program. The areas covered by Wild Cow Creek EL were subsequently re-mapped by the BMR/GSQ in 1978-79 as part of their geological 1;100,000 mapping programme of the Carrara Range Region.

The Carrara Ranges have been sporadically explored for base metals, uranium, phosphate and diamonds since 1958.

MIM employed prospectors in 1958 to prospect the volcanics in the Carrara Range Formation. No indications of mineralization were discovered.

Anaconda in 1966 undertook a phosphate search of the South Nicholson Group Mullera Formation. Results were negative.

CRA Exploration carried out a stream sediment survey and airborne scintillometer survey for base metal mineralization in 1972 in PA 3392. No significant radiometric or base metal anomalies were detected in the area and the tenement

was relinquished.

Stream sediment surveys have been undertaken within Wild Cow Creek EL by CRAE in 1972 and Afmeco in 1979 without detecting any significant base metal mineralization. Similarly both Australian Geophysical in 1967 and Anaconda in 1982 carried out rock chip sampling programmes in the area without detecting any base metal mineralization.

6. EXPLORATION UNDERTAKEN BY CRAE

6.1. DIAMOND EXPLORATION

Within the relinquished portion of EL 6571 CRAE collected 4 gravel samples. These samples were processed and observed for kimberlitic indicator minerals and microdiamonds at CRAE's Belmont laboratory. Sample locations are shown on plan NTm 35 and results are tabulated in Appendix 1. One sample returned a positive result:

#1080819 - 1 microdiamond (0.40mm x 0.35mm).

Microdiamonds are known to be widely distributed throughout the region and isolated occurrences unsupported by other kimberlitic indicator minerals are not considered to be significant.

The entire area of EL 6571 was covered by a detailed aeromagnetic survey flown in 1985 by Ashton Mining. The 1:25,000 scale residual magnetic profiles, magnetic contours and flight path maps were acquired from the N.T.G.S. open file reports. Radiometric data and the digital records of the magnetic data were not available. Ashton delineated four magnetic features within the EL which they thought may reflect kimberlitic sources. However, follow-up sampling of these features by Ashton produced negative results. Re-evaluation of the data by CRAE located no new anomalies. Given that drill testing of similar magnetic features in an adjacent

tenement also failed to give encouragement it was decided that further follow-up of the Ashton anomalies was not justified.

6.2. BASE METAL AND PRECIOUS METAL EXPLORATION

An open file literature review was carried out to assess the extent and effectiveness of previous exploration within the Carrara Range Inlier and surrounds. Stream sediment surveys covering areas within EL 6571 have been undertaken by Afmeco in 1979 and by CRAE in 1972. Both surveys were directed towards base metals and uranium. No precious metal assays were performed. Both surveys failed to outline any anomalous drainage systems within the relinquished portion of EL 6571.

CRAE collected four -80# stream sediment samples within the relinquished portion of EL 6571, three of which were collected at the reconnaissance gravel sample sites. All samples were analysed for Ag, As, Au, Ba, Co, Cr, Cu, F, Fe, Mg, Mn, Mo, Ni, Pb, Pd, Pt, U and V by a combination of assay techniques including ICP, FA/AAS and ICP/MS analysis at Analabs' Darwin laboratory. Molybdenum assays should be disregarded as the laboratory reported that the samples were accidentally contaminated. Assay results are presented in Appendix 2 and sample number locations are shown on plan Ntm 35. The only anomalous result obtained from this sampling was #1080806 - 32.2 ppb Au. Sample #1080806 was not followed up because of access problems. Detailed follow-up of similar anomalies within the retained portion of EL 6571 could not duplicate the anomalous gold assays. This follow-up sampling included both additional -80# stream sediment sampling and bulk leach extractable gold (BLEG) sampling. It was concluded from this that the initial -80# sampling was contaminated either during sample collection or during laboratory preparation of the samples.

During the second year of tenure the slimes from the four -2mm gravel samples

collected previously by CRAE as part of its diamond sampling programme within the relinquished portion of EL 6571 were subjected to multi-element analysis. These slimes represent the fine fractions (-40#) retained after processing the -2mm gravel samples for diamonds and kimberlitic indicator minerals. Limited orientation sampling of slimes from gravel samples collected around the Century Zn-Pb deposit confirmed that the slimes were a potentially reliable indicator of proximity to base metal mineralization. The slimes were assayed for Ag by low level AAS determination and for Cu, Pb, Zn, Fe,Mn, and As by ICP. Geochemical ledgers for this sampling are compiled in Appendix 3 and the sample locations are shown on Plan Ntm 35. No anomalous areas were outlined by this sampling. Assay results are all very low with maximum assays of 8 ppm Cu, <3 ppm Pb, 4 ppm Zn and 0.02 ppm Ag.

7. REHABILITATION

No rehabilitation was required as no surface disturbance was necessary in the tenement area. All fieldwork conducted within the relinquished portions of EL 6571 during the two years of tenure was helicopter-supported.

8. REFERENCES

Afmeco Pty. Ltd.	1980	EL 2112, Carrara Range, N.T. Annual Report, 1979. N.T.G.S. CR80/096. (unpub).
Agnew P.D.	1991	EL 6571 Wild Cow Creek, N.T., Annual Report for Year Ended 30 January 1991. CRAE unpublished Report No. 17114.
Agnew P.D.	1991	EL 6571 Wild Cow Creek, N.T., Final Report on Area Surrendered for period ending 11th January 1991. CRAE Report No. 17115 (N.T.G.S. CR91/180)
Ashton Mining Ltd.	1986	Annual Report EL 4374, 9 December 1984 to 8 December 1985. N.T.G.S. CR86/013.

		(unpub).
Ehrenberg K.M.	1972	Mt Drummond - PA 3392 N.T., Final Report. CRAE unpublished Report No. 3985.
Smith J.W. & Roberts H.G.	1963	1:250,000 Geological Series Explanatory Notes; Mt Drummond, N.T. SE 53-12. BMR Publication.
Sweet I.P.,	1984	1:100,000 Geological Map Commentary, Carrara Range Region, N.T. BMR Publication.

LOCATION

Mt Drummond	SE 53-12	1:250 000 Sheet

KEYWORDS

Cambrian, Proterozoic, lead, zinc, geochem-drainage, geochem-rockchip, Carrara Range Inlier, Georgina Basin, Little Range Fault.

LIST OF DPO'S

37695, 49064, 49066, 49067, 49068, 49182, 52004,

LIST OF APPENDICES

Appendix 1	Reconnaissance Gravel Sampling Results
Appendix 2	Reconnaissance -80# Stream Sediment Sample Assay Results
Appendix 3	Gravel Sample Slimes Assay Results

LIST OF PLANS

NTd 5328	Wild Cow Creek EL 6571 Tenement Location	1:250 000
NTm 35	Wild Cow Creek EL 6571 Relinquished Area Sample Locations	1:100 000

APPENDIX 1

Reconnaissance Gravel Sampling Results

RECONNAISSAMCE GRAVEL SAMPLE
INDICATOR RESULTS

SAMPLE	DIAMONDS	MICRODIAMONDS	CHROMITES
1080805	0	0	0
1080806	0	0	0
1080819	0	1	0
1080820	0	0	0

APPENDIX 2

Reconnaissance -80# Stream Sediment Sample Assay Results

RECONNAISSANCE -80# STREAM SEDIMENT
RESULTS

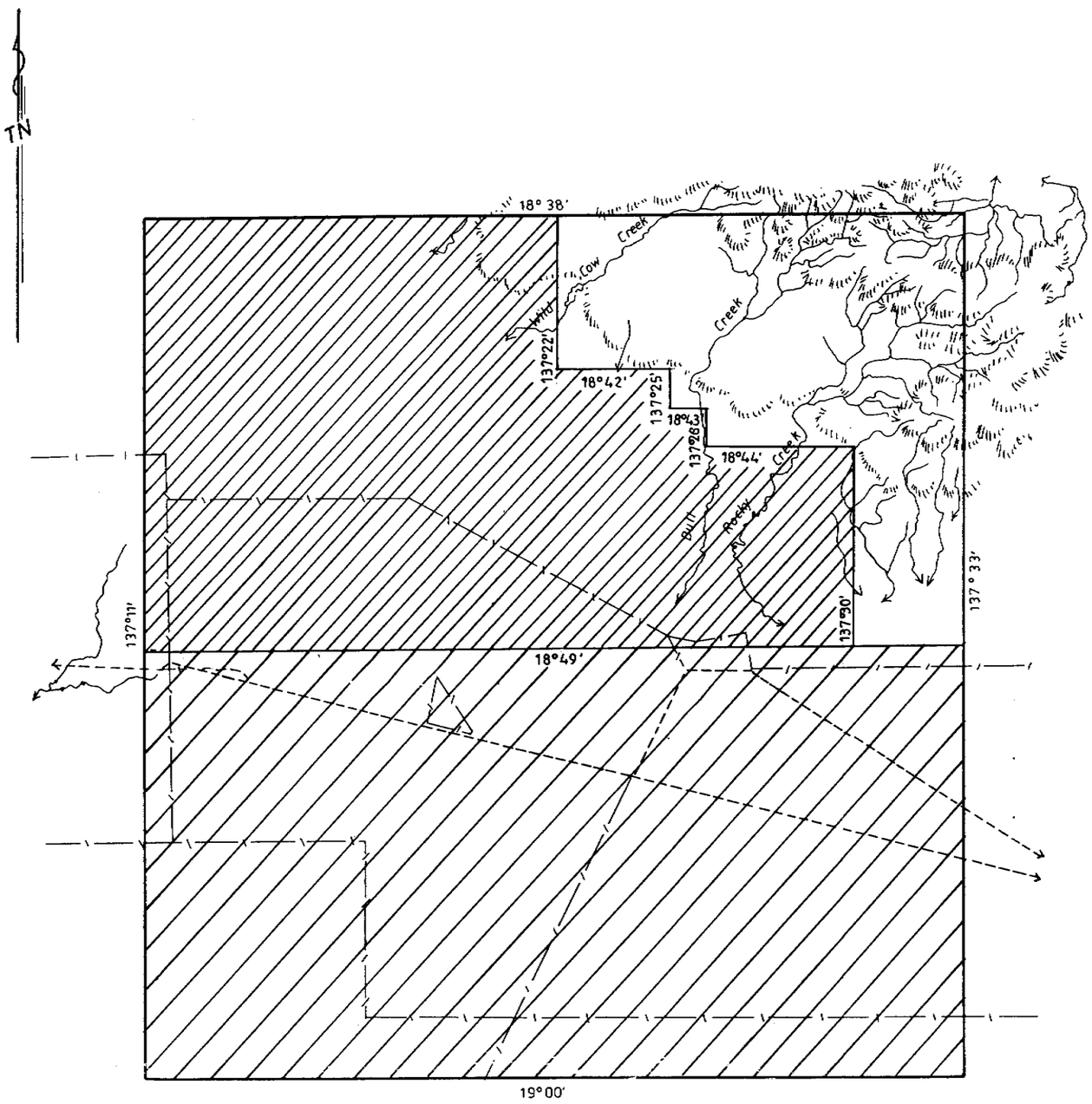
SAMPLE	F ppm	Mg ppm	V ppm	Cr ppm	Mn ppm	Fe%	Co ppm	Ni ppm	Cu ppm	Zn ppm
1080805	90	518	40	39	281	1.69	-5	8	8	2
1080806	-20	719	50	67	369	1.86	6	14	12	2
1080820	-20	1653	70	116	405	3.09	8	24	19	15
2657884		683	35	32	92	1.71	-5	10	5	10

SAMPLE	As ppm	Mo ppm	Pd ppb	Ag ppm	Ba ppm	Pt ppb	Au ppb	Pb ppm	U ppm	Cd ppm	Sb ppm
1080805	-100	18	-0.5	-1	107	-0.5	1.82	-5	-100		
1080806	-100	23	1.28	-100	135	0.93	32.2	-5	-100		
1080820	-100	49	1.48	-1	244	1.3	-1	7	-100		
2657884	5	-10	0.59	0.18	100	-0.5	1.78	5	1.33	0.3	0.19

APPENDIX 3

Gravel Sample Slimes Assay Results

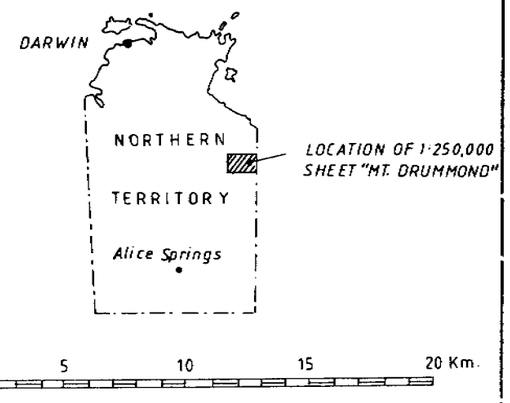
SAMPLE	DPO	SAMPLE TYPE	Cu	Pb	Zn	Fe	Mn	As	Ag
1080805	52004	SLIME	7	-3	3	1.22	85	2	0.02
1080806	52004	SLIME	8	-3	4	0.96	75	2	0.01
1080819	52004	SLIME	5	-3	3	0.71	40	-1	0.01
1080820	52004	SLIME	4	-3	3	1.08	75	2	0.01
		Units	ppm	ppm	ppm	%	ppm	ppm	ppm
		DL	1	3	1	0.01	5	1	0.01
		Scheme	IC2	IC2	IC2	IC2	IC2	IC2	AAS2



SURRENDERED AREA January 1991

SURRENDERED AREA January 1992

AREA TO BE RETAINED
74 blocks
approx. 240 sq. km.



CRA EXPLORATION PTY. LIMITED

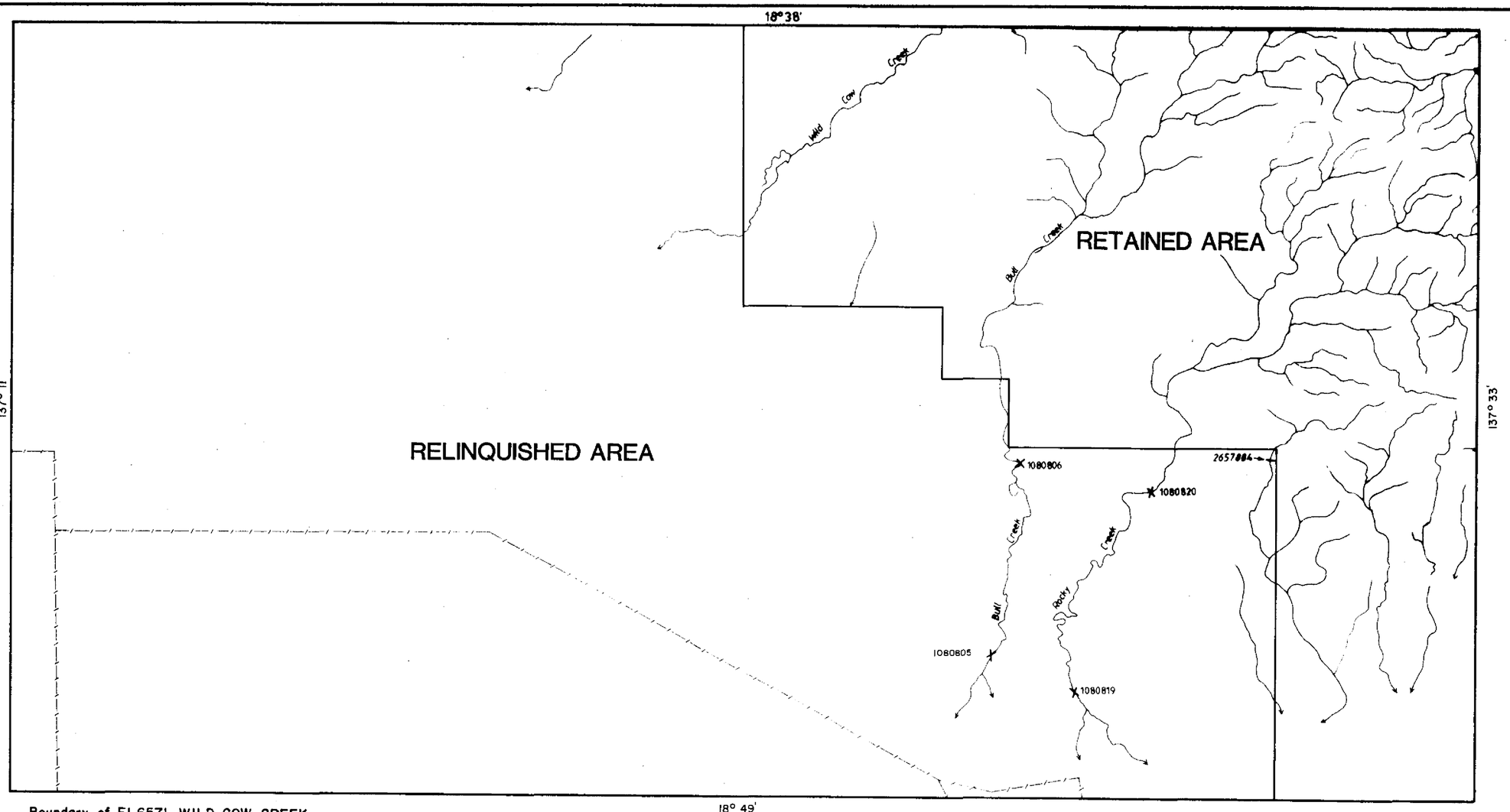
EL 6571

WILD COW CREEK

LOCATION PLAN

January 1992

Ref. SE 53-12 MT. DRUMMOND	
Scale 1:250,000	Drawn SRJ
Author C.L.S.	Report No. 17864.
Date DEC. 1991/JAN.1992.	Plan No. NTd 5328



T N

LEGEND

- Creeks
- Track
- Fence
- Dam
- 1080809 X — Gravel Drainage Sample
- 2657866 — Stream Sediment
- 2657868 (R) — Rock Sample (check field sheet for type)
- 858 (BLEG) — Bulk Leach Extractable Gold Sample

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WILD COW CREEK EL6571

RELINQUISHED AREA SAMPLE LOCATIONS

AUTHOR	DRAWN	DATE	SCALE	REPORT
C. Stegman	A. Perry	17-2-92	1:100000	17864
REF. Mt. Drummond SE53-12	SUB-DIR	PLAN (file) No.	Ntm35	