NTS

BOX 1)
REF. NO. 1469

WINDY CRAGGY CHECK ASSAYS

PN 052 & 034

NTS 114 P/12

J.J. McDougall

Feb/1982

WINDY CRAGGY CHECK ASSAYS

PN 052 & 34

NTS 114 P/12

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INTRODUCTION AND PROCEDURE

One half of the original assay rejects of certain sections of the W.C. 1981 Drill core were obtained from Bondar-Clegg, Whitehorse, and re-assayed by Min En Labs in Vancouver. Portions of Drill Holes #4, #5(b), #7, #8 and #10 were involved, (52 samples), as shown in Fig 40/82 enclosed.

All of the above samples were re-assayed for copper and cobalt. Earlier sampling resulted in "4 or 5 sample"composites which were analyzed for gold, silver and zinc geochemically (AA). Those included in the above have now been individually assayed for gold and silver by fire methods, and some have been analyzed for zinc geochemically. These are also shown on Fig 40/82. The samples were picked to represent both lower and higher grades as well as problematical areas where assays did not correlate too well with drill log observations. Sulphur assays were not rerun at this time as most to date correspond with visual observations and earlier (1965) analyses.

Of the 52 samples re-assayed, 6 were later tested by Acme Labs in Vancouver, and these were also analyzed by Acme's ICP Spectrometer method. The 6 samples were tested for 26 elements, including all earlier noted ones except gold and sulphur. Results of the ACME test are included as a summary in this report (Fig 41/82) and in the Appendix.

CHECK ASSAYS, 1981, WINDY-CRAGGY DRILL PROJECT

PC = Portion (20-25%) represented by composite FIG 40/82

ORIGINAL ASSAYS (upper) Bondar-Clegg (BC) (sample # shown) DIFFERENCE % (relative to BC only)

DRILL HOLE	SAMPLE #	CHECK ASSAYS (lower) Min En (ACME as noted)					Cu	Co	OTHER		
		oz Au(ppb)	oz Ag(ppm)	Cu%	Co%	Zinc(ppm)					
#4/81	28375	PC= L5	PC= L.1	0.44	0.120	PC= 50					
		.002=64	.02=.64	0.198	0.098		-	-			
#5(b)/81	28458	PC= 50	PC= 1.7	0.46	0.170	PC= 105					
		.003=96	.06=1.93	0.390	0.219		-	+			
	28459	PC= 50	PC= 1.7	0.80	0.130	PC= 105					
		.002=64	.15=4.83	0.820	0.147		+	+			
	28461	PC= 50	PC= 1.7	1.80	0.078	PC= 105					
		.002=64	.11=3.54	1.870	0.095		+	+			
	28462	PC= 50	PC= 1.7	1.93	0.066	PC= 105					
		.003=96	.12-3.86	1.890	0.077		-	+			
ACME(Fire&st'd)	28497	.001=32	.09=2.9	1.72	0.08						
BC(Geoch.&st'd)	28497	PC=355	PC= 1.4	1.78	0.073	PC= 40					
MinEn(Geochem)		55	4.0	1.740	0.086		-	+			
MinEn(Fire)		.011=360	.12=3.86								
BC	28498	PC=355	PC= 1.4	2.95	0.083	PC= 40					
MinEn "		40	4.7	3.010	0.096		+	+			
MinEn "		.012=390	.14-4.51								
ACME(Fire&st'd)	28499	.001=32	.07=2.3	3.42	0.07		+	+			
BC(Geoch&st'd)	28499	PC=355	PC= 1.4	3.38	0.063	PC= 40					
MinEn(Geochem)		60	4.4	3.320	0.072		-	+			
MinEn(Fire)		.004-128	.12-3.86								
BC	28500	PC=355	PC= 1.4	2.63	0.060	PC= 40					
MinEn		30	4.0	2.770	0.070		+	+			
MinEn		.010=322	.12=3.86								
#7/81	28567	PC= 5	PC= L.1	0.35	.170	PC= 140					
		.002=64	.05=1.61	0.353	0.190		+	+			
	28568	PC= 5	PC= L.1	0.46	0.180	PC= 140					
		.002=64	.07=2.25	0.468	0.199		+	+			

DRILL HOLE	SAMPLE #	ORIGINAL ASSAYS / CHECK ASSAYS					DIFFERENCE %		OTHER		
		Au(ppb)	Ag(ppm)	Cu%	Co%	Zinc(ppm)	Cu	Co			
#7/81(contd)	28569	PC= 10	PC= L.1	0.33	0.210	PC= 210					
		.002=64	.04=1.28	0.270	0.232		-	+			
	28570	PC= 10	PC= L.1	0.45	0.230	PC= 210					
		.002=64	.06=1.93	0.438	0.227		-	-			
	28571	PC= 10	PC= L.1	0.39	0.190	PC= 210					
		.002=64	.06=1.93	0.330	0.200		-	+			
	28572	PC= 10	PC= L.1	0.72	0.190	PC= 210					
		.010=322	.07=2.25	0.802	0.205		+	+			
	28573	PC= 10	PC= L.1	0.52	0.180	PC= 210					
		.003=94	.06=1.93	0.498	0.196		-	+			
	28574	PC= 10	PC= 0.3	1.09	0.160	PC= 150					
		.002=64	.08=2.57	0.980	0.177		-	+			
ACME(Fire&st'd)		.001=32	.04=1.28	0.92	0.14		-	-			
BC(st'd&Geoch)	28575	PC= 10	PC= 0.3	1.00	0.150	PC= 150					
MinEn(Fire&st'd)		.002=64	.10=3.22	0.617	0.174		-	+			
	28576	PC= 10	PC= 0.3	0.71	0.140	PC= 150					
		.003=96	.09=2.90	0.760	0.146		+	+			
	28577	PC= 10	PC= 0.3	0.60	0.140	PC= 150					
		.003=96	.07=2.25	0.552	0.155		-	+			
	28578	PC= 10	PC= 0.3	0.56	0.150	PC= 150					
		.002=64	.05=1.61	0.497	0.172		-	+			
	28579	PC= 30	PC= 0.1	0.52	0.160	PC= 70					
		.003=96	.06-1.93	0.474	0.182		-	+			

RILL HOLE	SAMPLE #	ORIGINAL ASSAYS / CHECK ASSAYS Au(ppb)	Ag(ppm)	Cu%	Co%	Zinc(ppm)	DIFFERENCE % Cu	Co	OTHER
#7/81(contd)	28580	PC= 30	PC= 0.1	0.56	0.150	PC= 70			
		.001=32	.05=1.61	0.593	0.170		+	+	
	28581	PC= 30	PC= 0.1	0.66	0.130	PC= 70			
		.003=96	.05=1.61	0.620	0.150		-	+	
	28582	PC= 30	PC- 0.1	0.69	0.140	PC= 70			
		.001=32	.05=1.61	0.742	0.162		+	+	
ME		.001=32	.01-.32	0.53	0.15		+	same	
	28583	PC= 30	PC= 0.1	0.47	0.150	PC= 70			
nEn		.005=161	.04=1.28	0.463	0.172		-	+	
	28584	PC= 80	PC= L.1	0.72	0.160	PC= 90			
		.002=64	.04=1.28	0.758	0.170		+	+	
	28585	PC= 80	PC= L.1	0.52	0.150	PC= 90			
		.002=64	.06=1.93	0.522	0.168		+	+	
	28586	PC= 80	PC= L.1	0.42	0.170	PC= 90			
		.002=64	0.6=1.93	0.450	0.190		+	+	
#8/81	28677	PC= 50	PC= 0.2	0.35	0.081	PC= 45			
		.001=32	0.5=1.61	0.355	0.092		+	+	
	28678	PC= 50	PC= 0.2	0.22	0.040	PC= 45			
		.002=64	.03=.96	0.234	0.046		+	+	
	28679	PC= 10	PC= 0.2	0.37	0.071	PC= 70			
		.001=32	.03=.96	0.423	0.086		+	+	
	28680	PC= 10	PC= 0.2	0.52	0.083	PC= 70			
		.001=32	.04=1.28	0.530	0.087		+	+	

RILL HOLE	SAMPLE #	ORIGINAL ASSAYS / CHECK ASSAYS Au(ppb)	Ag(ppm)	Cu%	Co%	Zinc(ppm)		DIFFERENCE % Cu	Co	OTHER
#8/81(contd)	28681	PC= 10	PC= 0.2	0.51	0.059	PC= 70				
		.001=32	.06=1.93	0.752	0.058			+	-	
	28682	PC= 10	PC= 0.2	0.25	0.035	PC= 70				
		.002=64	.02=.64	0.340	0.040			+	+	
	28683	PC=30	PC= 1.2	0.78	0.017	PC=1770				
		.001=32	.12=3.86	0.942	0.018	52		+	+	
	28684	PC= 30	PC= 1.2	0.48	0.019	PC=1770				
		.001=32	.11=3.54	0.860	0.028	40		+	+	
	28685	PC= 30	PC= 1.2	0.52	0.075	PC=1770				
		.002=64	.10=3.22	0.530	0.076	2100		+	+	
	28686	PC= 30	PC= 1.2	0.39	0.050	PC=1770				
		.002=64	.09=2.90	0.393	0.061	6720		+	+	
	28687	PC= L5	PC= 0.1	0.10	0.019	PC= 60				
		.002=64	.03=96	0.080	0.020			-	+	
	28688	PC= L5	PC= 0.1	0.22	0.012	PC= 60				
		.007=225	.03=.96	0.259	0.014			+	+	
	28689	PC= L5	PC= 0.1	0.05	0.006	PC= 60				
		.001=32	.02=.64	0.048	0.002			-	-	
#10/81	28727	PC= 10	PC= 0.4	0.29	0.090	PC= 20				
		.002=64	.06=1.93	0.289	0.103			-	+	
CME		.001=32	.01=.32	0.22	0.11			same	same	
	28728	PC= 10	PC- 0.4	0.22	0.110	PC= 20				
InEn		.007=225	.04=1.28	0.202	0.116			-	+	

ILL HOLE	SAMPLE #	ORIGINAL ASSAYS / CHECK ASSAYS Au(ppb)	Ag(ppm)	Cu%	Co%	Zinc(ppm)		DIFFERENCE % Cu	Co	OTHER		
#10/81	28729	PC= 10	PC= 0.4	0.42	0.140	PC= 20						
		.002=64	05=1.61	0.447	0.143			+	+			
CME		.001=32	.01=.32	0.27	0.12			+	+			
C	28730	PC= 10	PC= 0.4	0.22	0.100	PC= 20						
linEn		.002=64	03=.46	0.285	0.120			+	+			
	28731	PC= 10	PC= 0.4	0.21	0.110	PC= 20						
		.002=64	04=1.28	0.240	0.125			+	+			
	28732	PC= 5	PC= 0.4	0.12	0.081	PC= L5						
		.001=32	03=.96	0.116	0.088			-	+			
	28733	PC= 5	PC= 0.4	0.25	0.120	PC= L5						
		.001=32	03=.96	0.269	0.127			+	+			
	28734	PC= 5	PC= 0.4	0.39	0.150	PC= L5						
		.001=32	04=1.28	0.373	0.167			-	+			
	28736	PC= 5	PC= 0.4	0.38	0.055	PC= L5						
		.001=32	02=.64	0.365	0.060			-	+			
	28737	PC= 5	PC= 0.3	0.16	0.028	PC= 25						
		.001=32	02=.64	0.124	0.030			-	+			

SUMMARY

1) COPPER - Correlation is excellent on 52 samples. Av 0.679% vs 0.685% (+0.88%). Mine En Labs is 0.88% higher than Bondar-Clegg. Min En is higher on 28 of 52 samples = 54%. Greatest discrepency is -55%. Means not calculated.

2) COBALT - Min En cobalt analyses average approximately 10% higher (9.87%) than do the original Bondar-Clegg. Of 52 samples, 48 Min En samples (92%) are higher. The greatest discrepency (found in low value) is 47%. Means not calculated.

3) GOLD - a) AA comparisons - 4 samples only (28497-500) Bondar-Clegg (composite Av = 355ppb, Min En = 46ppb

b) Fire Assay vs AA(Min En only) 45 samples - Average: Fire = 302ppb, AA = 46ppb

c) Average Composite Value (AA) - Bondar-Clegg = 48ppb (52 samples composited). Fire = 99ppb (individual sample averages) Fire assay approximately doubles AA assay. Composites used contain samples not available for individual assay, thus these comparisons over 52 samples not necessarily compatable.

d) In the sections in which all the samples constituting the composite are included (27 samples) the following averages are obtained 1) Composite Average - AA = 80.93ppb, 2) Fire Assay Average = 109.74ppm. Within this interval, fire assay averages are higher than AA averages for gold.

4) SILVER - 1) AA (composite average - 27 samples as per 3(d) above=0.87ppm

2) Fire (same 27 samples) = 4.24ppm.

3) 4 samples (28497-500) were assayed individually (Min En) for AA silver, returning an average 4.02ppm. Silver Composite AA (Bondar-Clegg) for this same group averaged 1.41ppm or a difference of 285%.

5) ZINC - 1) Composites (Bondar-Clegg) of 4 samples (28683-86) averaged 1770 Zn (AA).

2) Individual samples (Min En) of the same group averaged 2263ppm Zn (AA).

FIG 41/82

I.C.P. ASSAYS, WINDY CRAGGY DRILL CORE

(ANOMALOUS RESULTS ONLY)

SAMPLE #	Mo ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Bi ppm	Na %	Fe %	Ca %	K %	As ppm	Cu %
28497	11	56	18	.50	3.4	660	462	.010	33.2	1.60	.04	23	1.62
28499	11	60	22	.25	1.8	575	310	.005	38.3	1.00	.03	?	3.14
28575	17	65	560	.50	23.8	1365	262	.015	53.5	.08	.02	10	0.88
28583	11	42	46	.50	3.2	1330	230	.015	52.5	.18	.05	10	0.50
28728	17	37	19	.50	112.5	925	228	.115	35.5	1.65	.14	6	0.21
28730	11	28	18	.50	209.5	950	172	.145	31.7	2.40	.19	6	0.27

I.C.P. COMPARISONS

I.C.P. is an inexpensive Emission Spectrometer Scan, in this case of 26 elements. The following comparisons and observations are of interest:

1) Lead, which averages 44 ppm in 5 samples, appears more abundant than zinc which averages 24ppm in the same 5 samples. One anomalous zinc sample @ 560ppm (.05%)-not included- does not coincide with an earlier 5 sample composite average of 150ppm, unless it contains most of the zinc for the group. No directly comparitive zinc checks were made.

2) The Molybdenum content, averaging 13ppm for 6 samples, is worth noting.

I.C.P. COMPARISONS (contd)

3) I.C.P. Silver assays are several times less than Min En Fire assays in 5 of 6 cases, and slightly higher in one. Gold assays are not done in I.C.P. (Earlier work suggests that I.C.P. analysis for silver may not be reliable (I.E.). However, in this low range comparisons are probably not valid).
4) Nickel content, which averages 58ppm in the samples checked by I.C.P. (range 1.8 to 209ppm) is low in relation to cobalt with the Ni/Co ratio of the six samples averaging 0.06 (range .003 - 0.22).
5) Cobalt. The average cobalt content (I.C.P.) of six samples is 0.09%, consistently lower than Min-En's average of 0.14%. Interference due high iron is likely.
6) The Bismuth content is apparently anomalous ranging from 172 to 462ppm. It is definately anomalous when compared to the low arsenic and antimony reported. Bismuth is associated with the copper mineralization at the Maid of Erin thus there may be a regional relationship.
7) Sodium values are low relative to rock values earlier obtained as most samples contain very little material other than sulphides.
8) Iron content appears to be in the acceptable range if earlier sulphur determinations were correct. Comparisons are indirect, however, being made against 5 sample composites. Samples of massive sulphide from DDH #3-65(270ft composite) assayed 52% soluble iron,supporting the I.C.P. values listed.

CONCLUSIONS (I.C.P.)

I.C.P. (ACME Labs) is suitable for a general (ballpark) scan of 26 elements if problems due to interference and low concentrations are realized.

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To: Falconbridge Nickel Mines Ltd.,
6415 - 6th St.,
Delta, B.C.
V4K 4E2

File No. 82-0088
Type of Samples Reject
Disposition

ASSAY CERTIFICATE

FA

No.	Sample	Cu%	Ag oz/ton	Co%	Au oz/ton				No.
1	28497	1.72	.09	.08	.001				1
2	28499	3.42	.08	.07	.001				2
3	28575	.92	.04	.14	.001				3
4	28583	.53	.01	.15	.001				4
5	28728	.22	.01	.11	.001				5
6	28730	.27	.01	.12	.001				6
7									7
8									8
9									9
10									10
11									11
12									12
13									13
14									14
15									15
16									16
17									17
18									18
19									19
20									20

DATE SAMPLES RECEIVED Feb. 16, 1982
DATE REPORTS MAILED Feb. 18, 1982
ASSAYER

DEAN TOYE, B.Sc.
CHIEF CHEMIST
CERTIFIED B.C. ASSAYER

ACME ANALYTICAL LABORATORIES LTD.
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ICP ASSAY ANALYSIS

DIGESTION: 1 GRAM AQUA REGIA
FINAL VOLUME: 100 ML
DETERMINATION: DIRECT READING ICP EMISSION SPECTROMETER
RESULTS: IN PPM EXCEPT FOR :FE, CA, P, MG, BA, AL, NA, AND K WHICH AREIN PERCENT.
W IS SUBJECT TO ZN INTERFERENCES
ALL SAMPLES WERE DILUTED 5X. (because very hi Fe)
IS= INTERNAL STANDARD.
:*

Multiply all results 5X

*HO/28497 FALCON BRIDGE FILE# 82-0088 PAGE: END
EGC

BURN # 1 30GE 12:34 18FEB82

IS									
1371									
MO	CU	PB	ZN	AG	NI	CO	MN	FE	AS
2.22	3249	11.4	3.57	.106	.688	132	125	6.63	4.75
U	IS	TH	SR	CD	SB	BI	V	CA	P
2.7	1.13	.630	17.9	1.43	.634	92.5	3.48	.323	.014
LA	CR	MG	BA	TI	B	AL	NA	K	W
.636	.672	.026	.000	.000	1.37	.036	.002	.009	.537

eg: Cu 3244.15 = 16245 ppm
Fe 6635 = 33.15%

*HO/28499
EGC

BURN # 1 30GE 12:36 18FEB82

1371									
2.25	6287	12.0	4.43	.055	.375	115	218	7.66	12
-2.6	.644	.629	10.9	1.62	-.47	62.1	2.46	.209	.021
.514	.504	.039	.000	.000	1.12	.034	.001	.007	1.44

*O/28575
EGC

BURN # 1 30GE 12:37 18FEB82

1371									
3.52	1770	13.0	112	~~.48~~ /	4.78	273	380	10.7	~~2.3~~ 2
.507	.800	.868	.653	.907	.689	52.5	3.96	.017	.015
1.20	.504	.036	.000	.000	1.4	.044	.003	.005	1.1

*O/28583
EGC

BURN # 1 30GE 12:37 18FEB82

1371									
2.30	1011	8.41	9.26	~~.00~~ /	.656	266	184	10.5	~~6.7~~ 2
-.12	.781	.909	1.69	.709	4.22	46.2	3.55	.037	.013
.816	-.34	.056	.000	.000	1.2	.042	.003	.010	2.0

```
 HO/28728
EGC

BURN # 1   30GE      12:39    18FEB82
   IS
  1371
   MO      CU      PB      ZN      AG      NI      CO      MN      FE      AS
 3.47     419    7.40    3.82    -.35 /  22.5     185     128    7.11     1.2
   U      IS      TH      SR      CD      SB      BI       V      CA       P
  .76    1.04    .666    7.85    .836   -8.4 2  45.6    11.9    .331    .028
   LA      CR      MG      BA      TI       B      AL      NA       K       W
 .789    8.90    .141    .001    .004    .308    .286    .023    .029     1.4


*HO/28730
EGC

BURN # 1   30GE      12:40    18FEB82
  1371
 2.12     542    5.76    3.71    -.34 /  41.9     190     121    6.34    3.12
  1.7    .905    .574    7.65    .705    2.34    34.4    9.22    .483    .036
 .519    9.07    .207    .001    .005    .599    .363    .029    .039     1.2


*O/RE: 28575
EGC

BURN # 1   30GE      12:41    18FEB82
  1371
 3.19    1758    16.0     111    -.42 /  4.88     272     378    10.6   -5.4 2
  .62    .751    1.01    .609    1.32    -2.9    28.9    3.62    .017    .015
 1.29    .336    .036    .000    .000     1.1    .042    .001    .005     1.0


*O/STD C-7
EGC

BURN # 1   30GE      12:43    18FEB82
  1371
  226    1652    3372    4131    26.8     526    83.3    95.9    .939     385
  112    -.04    38.7    18.7    19.0     382    48.9     111    .176    .036
  256    44.0    .133    .011    .025     193    .203    .014    .080    92.0


*
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GENERAL SUMMARY AND CONCLUSIONS

1) Coppers Check assayed by two additional labs check out well with the original.
2) Cobalt is slightly (10%) higher using Min En techniques. The extremely high iron content reportedly (J. Borakso) interferes greatly with cobalt determination unless special care is taken to compensate for it, which Min En claims was done.
3) Gold Min En assays are somewhat higher than those obtained by ACME using similar F.A. methods. Again Min En claim problems are due largely to the very high iron content in this low pm range. Fire assays (Min En) are higher by 36 to 100% than AA assays (Bondar-Clegg). Min En's AA determined gold is less than Bondar-Clegg's AA determined gold by a ratio of 46:355. However Min En's fire assays on the same samples are greater than their own AA determined ones by a factor of 302:46, adding to the complication.
4) Silver Silver shows the greatest discrepency in assays with fire methods consistently returning results several times greater than those determined by AA. Both ACME's I.C.P. and fire assay methods for silver result in lower reported results. The sensitivity appears "flat" in this low range.
5) Zinc Geochemically determined zinc assays appear compatible.
6) Other Elements (summarized following Fig 41/82). No assay comparisons using other methods or Labs is possible as elements involved have not been previously analyzed for.

RECOMMENDATIONS

Gold, silver and sulphur assays should only be done on material exhibiting a markedly different character than the usual massive sulphides i.e. qtz veins, high pyrite, etc. on chalcopyrite concentrates. The pm's should be assayed only by fire methods. Min En appears to have better low range detection than ACME on pm's and cobalt and are faster than Bondar-Clegg.