

094247

**2000 SUMMARY REPORT ON THE
BOOT 1 - 22, GO 21, 23-52, 77, 79, 81 Fr, 95, 97-106, 108-109, 125-127 Fr
JACK 1-26 Fr, 28 Fr, 30-33 Fr, WOL 210-244, 246 Fr, 249**

**Located in the Pelly Mountains
Watson Lake Mining District
NTS 105G/8**

**61° 26' North Latitude
130° 07' West Longitude**

Prepared by

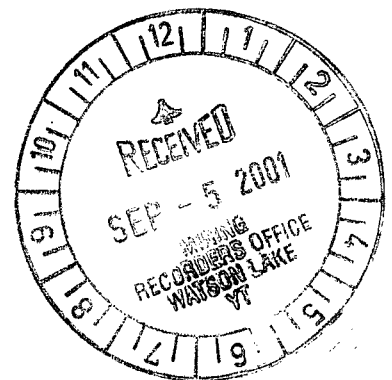
**Robert A. Duncan, M.Sc.
Geoffrey D. Bradshaw, B.Sc.
And
Terry L. Tucker, P.Geo.**

**EXPATRIATE RESOURCES LIMITED
Suite 701 - 475 Howe Street
Vancouver, BC, Canada
V6C 2B3**

August 2001

DATES OF WORK PERFORMED

20 JULY TO 4 NOVEMBER 2000



This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 61,950.

M. B. K.
for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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WOLVERINE DEPOSIT SECTIONS

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1.0 2000 WORK PROGRAM

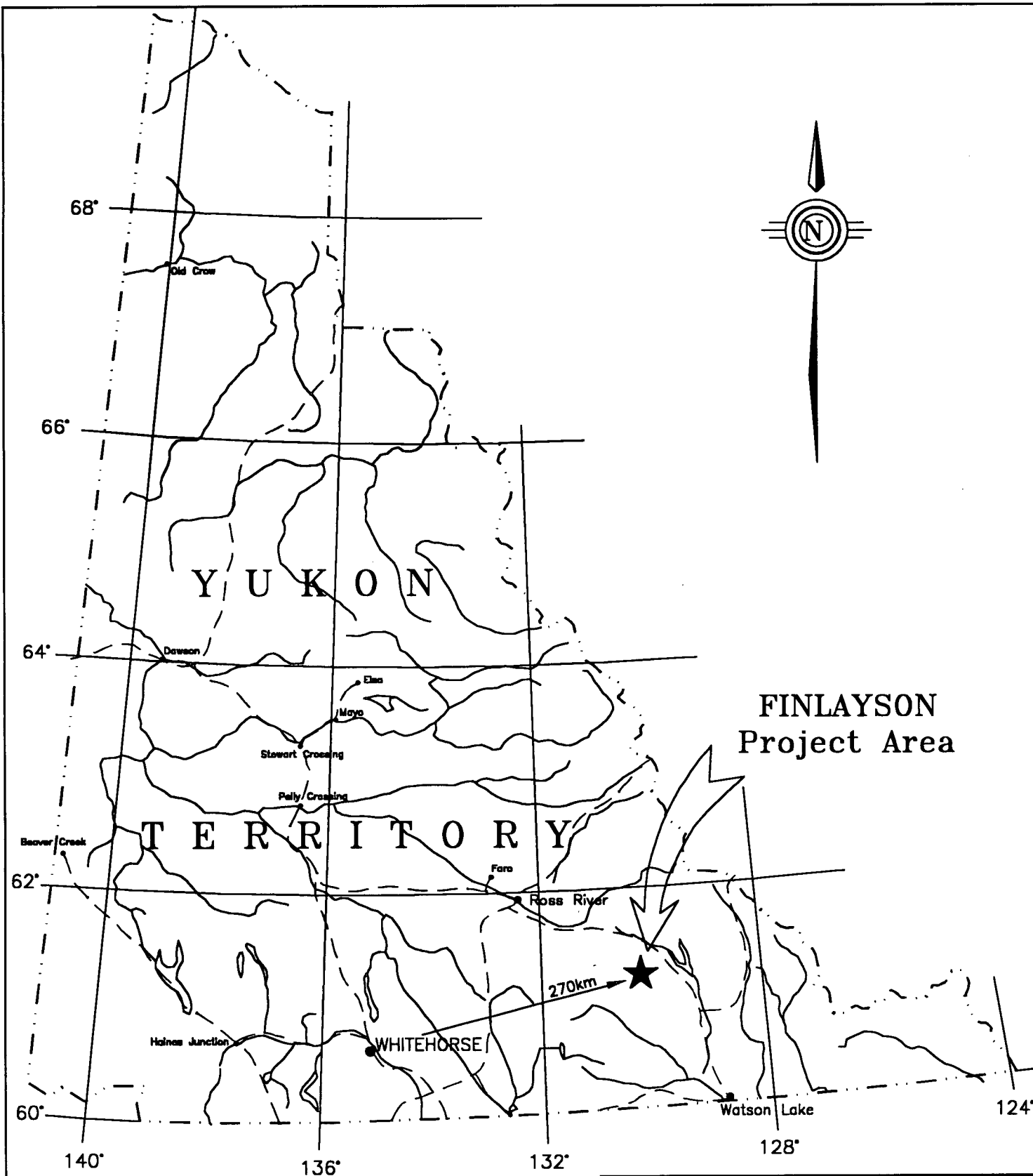
The BOOT, GO, JACK and WOL properties consist of 140 Yukon mineral claims located in the Watson Lake Mining District (figure 1). Figure 2 illustrates the detailed location of the claims.

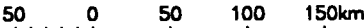
Expatriate Resources Limited carried out a diamond drill program on the Wolverine Deposit during the 2000 exploration season with the objective of expanding the geological resource by intersecting the Wolverine massive sulphide lens down-dip from previous intersections. The data and costs from this program are presented herein.

Mobilization commenced on April 29, 2000, while drilling commenced on May 17, 2000. Drilling continued throughout the summer months until August 10, 2000. During this period, two drill holes were completed on the WOL 219 claim. After a short hiatus, drilling recommenced on October 17, 2000 and continued to November 3, 2000. During this period a third drill hole was completed on the WOL 219 claim. In total, three drill holes were completed for a total of 1664.85 meters.

The program was supported from a base camp on Wolverine Lake that in turn was supported by an airstrip located approximately 5km to the southeast. The camp, the area of the deposit, and the airstrip are all connected by a dirt road (see figure 3). All drill cores are stored at the Wolverine Lake campsite, which is located on the FOOT 39 and 181 claims.

The 2000 work program is summarized in sections 3.0 and 4.0. Drill sections and a Drill hole collar location maps are found in the appendix. Figures 4 and 5 are the drill sections for the Wolverine deposit drill program. Figure 3 illustrates the drill hole collar locations.



	EXPATRIATE RESOURCES LIMITED	
Work By Expatriate	FINLAYSON PROJECT	
Date Drafted Aug. 23, 2001	Project Location Sketch	
Drafted By R. Duncan		
N.T.S. Number		Figure
File Name Wol_loc_Fig1.dwg	Scale 1 : 2 500 000	1.0

2.0 LIST OF CLAIMS

CLAIM No.	GRANT No.	CLAIM No.	GRANT No.	CLAIM No.	GRANT No.
Boot 1	YB47794	Go 15	YB47416	Go 51	YB47782
Boot 2	YB47795	Go 16	YB47417	Go 52	YB47783
Boot 3	YB47796	Go 17	YB47418	Go 53	YB47784
Boot 4	YB47797	Go 18	YB47419	Go 54	YB47785
Boot 5	YB47798	Go 19	YB47420	Go 55	YB47786
Boot 6	YB47799	Go 20	YB47421	Go 56	YB47787
Boot 7	YB47800	Go 21	YB47422	Go 57	YB47788
Boot 8	YB48402	Go 22	YB47423	Go 58	YB47789
Boot 9	YB48403	Go 23	YB47424	Go 59	YB47790
Boot 10	YB48404	Go 24	YB47425	Go 60	YB47791
Boot 11	YB48405	Go 25	YB47426	Go 61	YB47792
Boot 12	YB48406	Go 26	YB47427	Go 62	YB47793
Boot 13	YB48407	Go 27	YB47428	Go 77	YB57781
Boot 14	YB48408	Go 28	YB47429	Go 79	YB57782
Boot 15	YB48409	Go 29	YB47760	Go 81	YB57783
Boot 16	YB48410	Go 30	YB47761	Go 82	YB52227
Boot 17	YB48411	Go 31	YB47762	Go 83	YB52228
Boot 18	YB48412	Go 32	YB47763	Go 84	YB52229
Boot 19	YB84457	Go 33	YB47764	Go 85	YB52230
Boot 20	YB84458	Go 34	YB47765	Go 86	YB52231
Boot 21	YB84459	Go 35	YB47766	Go 87	YB52232
Boot 22	YB84460	Go 36	YB47767	Go 88	YB52233
Go 1	YB47402	Go 37	YB47768	Go 89	YB52234
Go 2	YB47403	Go 38	YB47769	Go 90	YB52235
Go 3	YB47404	Go 39	YB47770	Go 91	YB52236
Go 4	YB47405	Go 40	YB47771	Go 92	YB52237
Go 5	YB47406	Go 41	YB47772	Go 93	YB52238
Go 6	YB47407	Go 42	YB47773	Go 94	YB52239
Go 7	YB47408	Go 43	YB47774	Go 95	YB52240
Go 8	YB47409	Go 44	YB47775	Go 96	YB52241
Go 9	YB47410	Go 45	YB47776	Go 97	YB52242
Go 10	YB47411	Go 46	YB47777	Go 98	YB52243
Go 11	YB47412	Go 47	YB47778	Go 99	YB52244
Go 12	YB47413	Go 48	YB47779	Go 100	YB52245
Go 13	YB47414	Go 49	YB47780	Go 101	YB52246
Go 14	YB47415	Go 50	YB47781	Go 102	YB52247

CLAIM No.	GRANT No.	CLAIM No.	GRANT No.	CLAIM No.	GRANT No.
Go 103	YB52248	Jack 13	YB84473	Wol 18	YB47729
Go 104	YB52249	Jack 14	YB84474	Wol 19	YB47730
Go 105	YB52250	Jack 15	YB84475	Wol 20	YB47731
Go 106	YB52251	Jack 16	YB84476	Wol 21	YB47732
Go 108	YB55779	Jack 17	YB84477	Wol 22	YB47733
Go 109	YB55780	Jack 18	YB84478	Wol 23	YB47734
Go 110	YB52252	Jack 19	YB85305	Wol 24	YB47735
Go 111	YB52253	Jack 20	YB85328	Wol 25	YB47736
Go 112	YB52254	Jack 21	YB85329	Wol 26	YB47737
Go 113	YB52255	Jack 22	YB85330	Wol 27	YB47738
Go 114	YB52256	Jack 23	YB85331	Wol 28	YB47739
Go 115	YB52257	Jack 24	YB85332	Wol 29	YB47434
Go 116	YB52258	Jack 25	YB85333	Wol 30	YB47435
Go 117	YB52259	Jack 26	YB85334	Wol 31	YB47436
Go 118	YB52260	Jack 28	YB85336	Wol 32	YB47437
Go 119	YB52261	Jack 30	YB87487	Wol 33	YB47438
Go 120	YB52262	Jack 31	YB88805	Wol 34	YB47439
Go 121	YB52263	Jack 32	YB88806	Wol 35	YB47440
Go 122	YB52264	Jack 33	YB88807	Wol 36	YB47441
Go 123	YB52265	Wol 1	YB47712	Wol 37	YB47442
Go 124	YB52266	Wol 2	YB47713	Wol 38	YB47443
Go 125	YB89634	Wol 3	YB47714	Wol 39	YB47444
Go 126	YB89635	Wol 4	YB47715	Wol 40	YB47445
Go 127	YB89636	Wol 5	YB47716	Wol 41	YB48801
Jack 1	YB84461	Wol 6	YB47717	Wol 42	YB48802
Jack 2	YB84462	Wol 7	YB47718	Wol 43	YB48803
Jack 3	YB84463	Wol 8	YB47719	Wol 44	YB48804
Jack 4	YB84464	Wol 9	YB47720	Wol 45	YB48805
Jack 5	YB84465	Wol 10	YB47721	Wol 46	YB48806
Jack 6	YB84466	Wol 11	YB47722	Wol 47	YB48807
Jack 7	YB84467	Wol 12	YB47723	Wol 48	YB48808
Jack 8	YB84468	Wol 13	YB47724	Wol 49	YB48809
Jack 9	YB84469	Wol 14	YB47725	Wol 50	YB48810
Jack 10	YB84470	Wol 15	YB47726	Wol 51	YB48811
Jack 11	YB84471	Wol 16	YB47727	Wol 52	YB48812
Jack 12	YB84472	Wol 17	YB47728	Wol 53	YB48813

CLAIM No.	GRANT No.		CLAIM No.	GRANT No.		CLAIM No.	GRANT No.
Wol 54	YB48814		Wol 90	YB48850		Wol 126	YB48886
Wol 55	YB48815		Wol 91	YB48851		Wol 127	YB48887
Wol 56	YB48816		Wol 92	YB48852		Wol 128	YB48888
Wol 57	YB48817		Wol 93	YB48853		Wol 129	YB48889
Wol 58	YB48818		Wol 94	YB48854		Wol 130	YB48890
Wol 59	YB48819		Wol 95	YB48855		Wol 131	YB48891
Wol 60	YB48820		Wol 96	YB48856		Wol 132	YB48892
Wol 61	YB48821		Wol 97	YB48857		Wol 133	YB48893
Wol 62	YB48822		Wol 98	YB48858		Wol 134	YB48894
Wol 63	YB48823		Wol 99	YB48859		Wol 135	YB48895
Wol 64	YB48824		Wol 100	YB48860		Wol 136	YB48896
Wol 65	YB48825		Wol 101	YB48861		Wol 137	YB48897
Wol 66	YB48826		Wol 102	YB48862		Wol 138	YB48898
Wol 67	YB48827		Wol 103	YB48863		Wol 139	YB48899
Wol 68	YB48828		Wol 104	YB48864		Wol 140	YB48900
Wol 69	YB48829		Wol 105	YB48865		Wol 141	YB48901
Wol 70	YB48830		Wol 106	YB48866		Wol 142	YB48902
Wol 71	YB48831		Wol 107	YB48867		Wol 143	YB48903
Wol 72	YB48832		Wol 108	YB48868		Wol 144	YB48904
Wol 73	YB48833		Wol 109	YB48869		Wol 145	YB48905
Wol 74	YB48834		Wol 110	YB48870		Wol 146	YB48906
Wol 75	YB48835		Wol 111	YB48871		Wol 147	YB48907
Wol 76	YB48836		Wol 112	YB48872		Wol 148	YB48908
Wol 77	YB48837		Wol 113	YB48873		Wol 149	YB48909
Wol 78	YB48838		Wol 114	YB48874		Wol 150	YB48910
Wol 79	YB48839		Wol 115	YB48875		Wol 151	YB48911
Wol 80	YB48840		Wol 116	YB48876		Wol 152	YB48912
Wol 81	YB48841		Wol 117	YB48877		Wol 153	YB48913
Wol 82	YB48842		Wol 118	YB48878		Wol 154	YB48914
Wol 83	YB48843		Wol 119	YB48879		Wol 155	YB48915
Wol 84	YB48844		Wol 120	YB48880		Wol 156	YB48916
Wol 85	YB48845		Wol 121	YB48881		Wol 164	YB55784
Wol 86	YB48846		Wol 122	YB48882		Wol 165	YB55785
Wol 87	YB48847		Wol 123	YB48883		Wol 166	YB55786
Wol 88	YB48848		Wol 124	YB48884		Wol 167	YB55787
Wol 89	YB48849		Wol 125	YB48885		Wol 168	YB55788

CLAIM No.	GRANT No.	CLAIM No.	GRANT No.	CLAIM No.	GRANT No.
Wol 169	YB55789	Wol 206	YB55403	Wol 243	YB70145
Wol 170	YB55790	Wol 207	YB55404	Wol 244	YB70146
Wol 171	YB55791	Wol 208	YB55405	Wol 246	YB70148
Wol 172	YB55792	Wol 209	YB55406	Wol 249	YB70151
Wol 173	YB55793	Wol 210	YB55407		
Wol 174	YB55794	Wol 211	YB55408		
Wol 175	YB55795	Wol 212	YB55409		
Wol 176	YB55796	Wol 213	YB55410		
Wol 177	YB55797	Wol 214	YB55411		
Wol 178	YB55798	Wol 215	YB55412		
Wol 179	YB55799	Wol 216	YB55413		
Wol 180	YB55800	Wol 217	YB55414		
Wol 181	YB55378	Wol 218	YB55415		
Wol 182	YB55379	Wol 219	YB55416		
Wol 183	YB55380	Wol 220	YB55417		
Wol 184	YB55381	Wol 221	YB55418		
Wol 185	YB55382	Wol 222	YB55419		
Wol 186	YB55383	Wol 223	YB55420		
Wol 187	YB55384	Wol 224	YB55421		
Wol 188	YB55385	Wol 225	YB55422		
Wol 189	YB55386	Wol 226	YB55423		
Wol 190	YB55387	Wol 227	YB55424		
Wol 191	YB55388	Wol 228	YB55425		
Wol 192	YB55389	Wol 229	YB55426		
Wol 193	YB55390	Wol 230	YB55427		
Wol 194	YB55391	Wol 231	YB55428		
Wol 195	YB55392	Wol 232	YB55429		
Wol 196	YB55393	Wol 233	YB55430		
Wol 197	YB55394	Wol 234	YB55431		
Wol 198	YB55395	Wol 235	YB55432		
Wol 199	YB55396	Wol 236	YB55433		
Wol 200	YB55397	Wol 237	YB55434		
Wol 201	YB55398	Wol 238	YB55435		
Wol 202	YB55399	Wol 239	YB55436		
Wol 203	YB55400	Wol 240	YB70142		
Wol 204	YB55401	Wol 241	YB70143		
Wol 205	YB55402	Wol 242	YB70144		

3.0 DRILL HOLE SUMMARY

Hole	Location	Grid East	Grid North	UTMEast	UTMNorth	Elev.	T.D. (m)	Azm	Dip	Claim	Cost
WW-00-01	Wolverine	16253	17209	439835.6	6811491.1	1512.7	463.3	180	-90	WOL 219	\$47,943
WW-00-02	Wolverine	16253	17209	439835.6	6811491.1	1512.7	684.58	0	-65	WOL 219	\$70,842
WW-00-03	Wolverine	16300	17190	439864.01	6811449.4	1515	516.94	0	-78	WOL 219	\$53,494
Totals							1665				\$172,279

4.0 DATES OF WORK

Hole	Location	Claim	Start Date	End Date
WW-00-01	Wolverine	WOL 219	07-Jun	17-Jun
WW-00-02	Wolverine	WOL 219	18-Jun	10-Jul
WW-00-03	Wolverine	WOL 219	17-Oct	03-Nov

5.0 DRILL CORE STORAGE

All Wolverine Deposit drill cores are stored at the Wolverine Lake campsite, which is located on the FOOT 39 and 181 claims.

6.0 STATEMENT OF EXPENDITURES

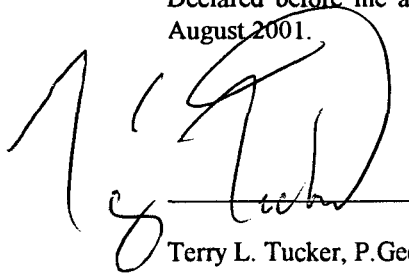
I, Terry L. Tucker as agent for Expatriate Resources Limited, #701-475 Howe Street, Vancouver, B.C. do solemnly declare that a program consisting of diamond drilling was carried out on the WOL 219 claim between 7 June, 2000 and 3 November, 2000.

The following expenses were incurred during the course of this project:

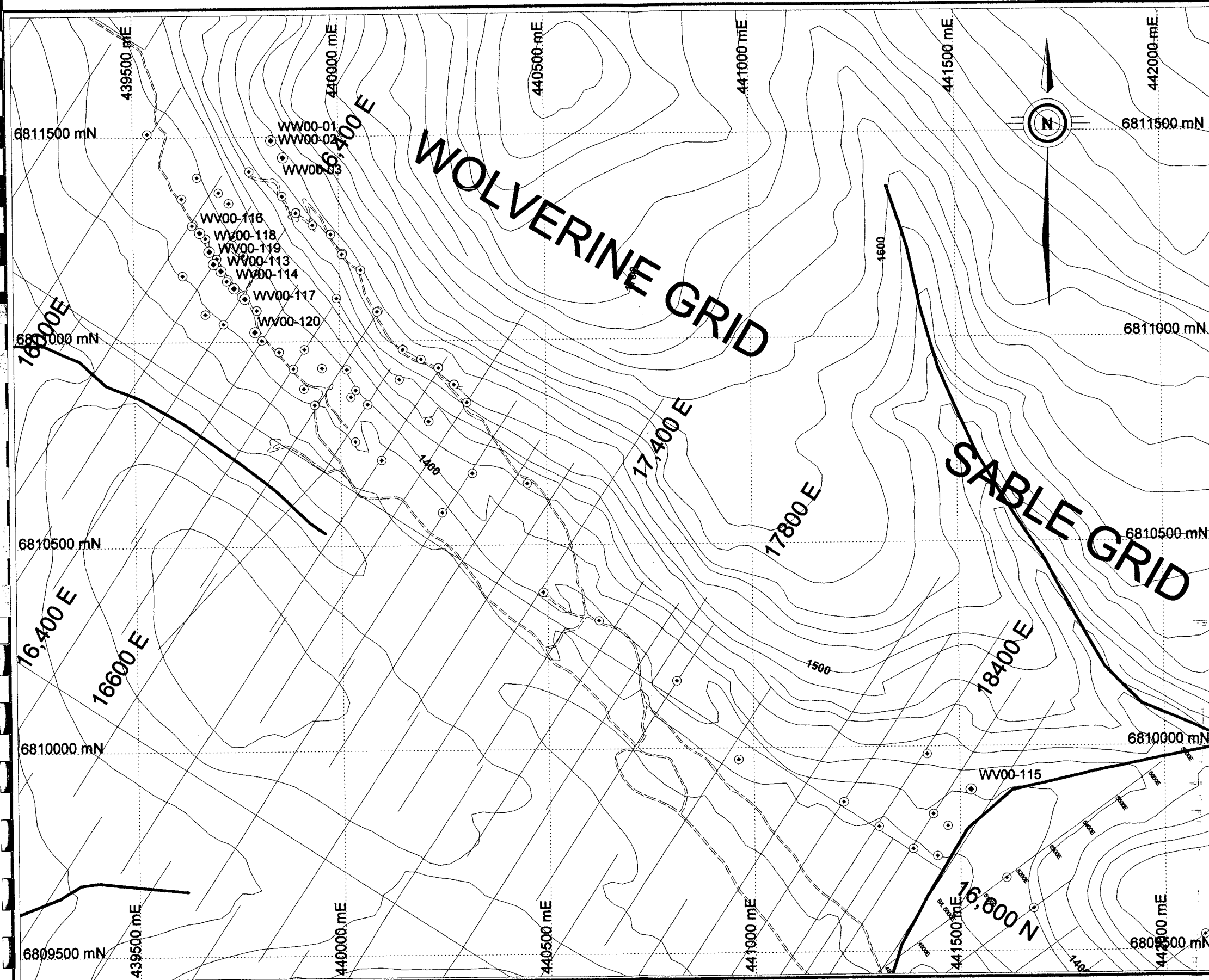
Diamond Drilling on the Wol 219 claim - \$172,278.66

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at Vancouver in the Province of British Columbia this 31 day of August 2001.


Terry L. Tucker, P.Geo, Project Geologist





LEGEND

- 2000 Drill Hole Collars
- 1995-1997 Drill Hole Collars
- Streams, Rivers
- Drill Roads
- Geophysical/Drill Grids



Expatriate Resources Ltd.

Fig. 3

Date: 23/08/2001

Author: R. Duncan

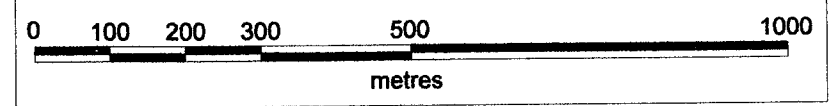
Office: Vancouver

Drill Hole Location Map

Scale: 1:10,000

Projection: UTM Zone 9 (NAD 27 for Canada)

Scale: 1:10,000

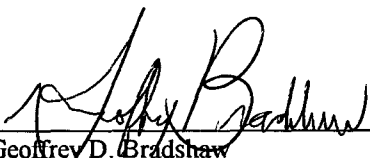


7.0 STATEMENT OF QUALIFICATIONS

I, Geoffrey D. Bradshaw of #201, 2390 West 1st Avenue, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geologist in the employ of Expatriate Resources Limited with offices at #701-475 Howe Street, Vancouver, British Columbia.
2. THAT I have practiced my profession with various mining companies in British Columbia, Yukon Territory and Chile for six years.
3. THAT I am a graduate of the University of British Columbia (1996) and hold a Honours Bachelor of Science Degree in Geology.
4. THAT I am registered as a Professional Geoscientist in Training with the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) since 1996.
5. THAT this report is based upon work on the property that I have either personally conducted or supervised between May 23 and August 10, 2000.
6. THAT I have no direct interest in the property described herein, nor do I expect to receive any interest.

DATED at Vancouver, British Columbia this 31 day of August, 2001.

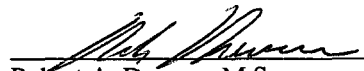


Geoffrey D. Bradshaw
Geologist

I, Robert A. Duncan of 3399 Quesnel Drive, Vancouver in the Province of British Columbia, DO
HEREBY CERTIFY:

1. THAT I am a Geologist in the employ of Expatriate Resources Limited with offices at #701-475 Howe Street, Vancouver, British Columbia.
2. THAT I have practiced my profession with various mining companies in North West Territories, Nunavut, Manitoba, Saskatchewan, British Columbia, Yukon Territory, and the United States of America, for ten years.
3. THAT I am a graduate of the University of British Columbia and hold a Honours Bachelor of Science in Geology (1996) and a Master of Science in Geology (1999).
4. THAT this report is based upon work on the property that I have either personally conducted or supervised between May 23 and August 10, 2000 and October 17th and November 3rd 2000.
5. THAT I have no direct interest in the property described herein, nor do I expect to receive any interest.

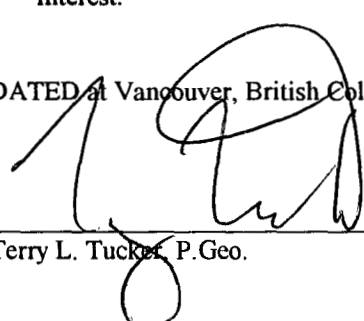
DATED at Vancouver, British Columbia this 31 day of August, 2001.


Robert A. Duncan, M.Sc.

I, Terry L. Tucker of 1541 Mahon Avenue, North Vancouver in the Province of British Columbia, DO
HEREBY CERTIFY:

1. THAT I am a Geologist in the employ of Expatriate Resources Limited with offices at #701-475 Howe Street, Vancouver, British Columbia.
2. I am a graduate of the University of Alberta (B.Sc. Specialization Geology, 1989)
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, an Associate of the Geological Association of Canada, a member of the Canadian Institute of Mining and Metallurgy, a member of the Society of Economic Geologists, a member of the BC and Yukon Chamber of Mines, and a member of the Prospectors and Developers Association of Canada.
4. I have practiced my geological profession since 1986 in many parts of Canada, Europe, United States, Mexico, Africa, Australia and Papua New Guinea.
5. THAT this report is based upon work on the property that I have either personally conducted or supervised between May 23 and August 10, 2000 and October 17th and November 3rd 2000.
6. THAT I have no direct interest in the property described herein, nor do I expect to receive any interest.

DATED at Vancouver, British Columbia this 31 day of Aug, 2001.


Terry L. Tucker, P. Geo.



**2000 SUMMARY REPORT ON THE
BOOT 1 - 22, GO 21, 23-52, 77, 79, 81 Fr, 95, 97-106, 108-109, 125-127 Fr
JACK 1-26 Fr, 28 Fr, 30-33 Fr, WOL 210-244, 246 Fr, 249**

8.0 DRILL LOGS

DRILL LOG

PROJECT WOLVERINE / WOL	GROUND ELEV.
HOLE NO. WW-00-01	BEARING
LOCATION	DIP 90
	TOTAL LENGTH 463.30
LOGGED BY G. D. BRADSHAW	HORIZONTAL PROJECT
DATE JUNE 9 / 2000	VERTICAL PROJECT
CONTRACTOR DJ	ALTERATION SCALE 
CORE SIZE HQ	TOTAL SULPHIDE SCALE 
DATE STARTED June 7 / 2000	
DATE COMPLETED June 17 / 2000	
DIP TESTS	
COMMENTS - First hole on WOL claims, aiming to hit SSMS 100m downdip of WV-96-64 - Hit massive sulphide 426.54 - 432.58 m. (6.04m). Uniform polymetallic msu. sulphide w/ above avg. Cu grade and ~ avg. Zn. Grade. (core angle = 65°) - Stringer Zone - 432.58 - 434.16 w/ strong chl and carbonate altn + Cu and Zn mineralization. - Overall geology very similar to WV-96-64. - 16m of feldspar porphyry intrusion in footwall. - Hole completed from 1380' to bottom.	LEGEND

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Sr A	Ch B	Co C	Si D	Mt. E		
50				ARWK (cont.) (49.87 - 49.94 → 7 cm interbed of green fine grained andesitic tuff.)							
52											
54											
56											
58				(58.04 - 58.38 → white qtz veins)							
60				(60.30 - 60.50 → 20 cm grey msv. calcite vein)							
62											
64											
66											
68											
70				73.68 - 76.89 BLACK GRAPHITIC FAULT ZONE.							
72				STFL - block broken up argillite w/ frequent gouge zones - contains calcite blebs, qtz boudins and traces disseminated py on fractures.							
74				76.89 - 77.54 GREEN FINE GRAINED ANDESITIC TUFF.							
76				ADIT - sharp upper ct @ 60', gradational lower contact - E.g. thinly laminated tuff w/ ab. calcite blebs, bands, fragments & veins.							
78				- Qtz veins common. Arg. interbeds near lower ct.							
80				77.54 - 91.52 INTERBEDDED DARK GREY GREYWACKE AND							
82				ARWK BLACK SILICEOUS ARGILLITE. calcite common.							
84				- 60-70% fine grained greywacke w/ ab. blebs + veins of silica - very irregular undulating veins.							
86				typically ~5mm wide both // and perp. to foln.							
88				also typical wht. bull. qtz vns - up to 6 cm.							
90				argillite beds poorly defined - also siliceous.							
92				91.52 - 94.34 GREEN-BROWN FINE GRAINED ANDESITIC TUFF.							
94				ADIT - 1mm - 1cm foln. parallel siliceous bands - v.f.g. brown mineral diss. thin unit (bf?) - 1-3mm calcite bands / blebs // to foln are common. - wht qtz veins common - up to 20 cm.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Sr A	chl B	CO ₃ C	Si D	mt E		
176		✓		RHAT							
		✓		(cont.)							
177		✓									
		✓	55°								
178		✓									
		✓									
179		✓									
		✓									
180		✓									
		✓									
181		✓									
		✓									
182		✓									
		✓									
183		✓		183.61-192.68							
		✓		RHFR							
184		✓		GREY - GREENISH FRAGMENTAL RHYOLITE							
		✓		- transitional from unit above							
185		✓	60°	- gradual disappearance of argillaceous							
		✓		component interstitial to fragments.							
186		✓		rock is grey-white-greenish aphanitic							
		✓		siliceous fragments separated by brown							
187		✓		micaceous (biotite) sub-mm bands.							
		✓		Form of the siliceous material varies from							
188		✓		1-3 cm bands parallel to foln to							
		✓		irregularly shaped angular fragments of							
189		✓		varying sizes. (1x2cm - 2x8cm)							
		✓		- locally up to 5% argillaceous mt. interstitial							
190		✓		to fragments.							
		✓		- minor Qtz + CO ₃ veining.							
191		✓		184.15 - 186.08 - large fragments w/ argillaceous							
		✓		tinge (weak chl altn?) - "PUCK Fragmental"							
192		✓		187.45 - 187.65 - Intense irregular CO ₃ veining.							
		✓	50°								
193		✓		192.68-202.35							
		✓		RHAT							
194		✓		LAPILLI TUFF - FRAGMENTAL RHYOLITE.							
		✓		same as above. 164.79 - 183.61							
195		✓		gradual contract up to 40% finely							
		✓		laminated carbonaceous argillite w/							
196		✓		felsic lapilli / fragments.							
		✓									
197		✓									
		✓									
198		✓	60°								

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	Chi B	Co ₃ C	Si D	mt E		
199				RHAT (cont.)							
200											
201											
202				202.35-206.22	GREY FRAGMENTAL RHYOLITE						
202.35				RHFR	same as 183.61-192.68 above.						
203					gradual contacts.						
204											
205											
206				206.22-207.49	GREY-BLACK ARGILLACEOUS RHYOLITE TUFF						
206.22				RHAT	same as 192.68-202.35 above						
207					gradational contacts.						
207.49											
208				207.49-209.78	GREY FINE GRAINED CALCAREOUS SILTSTONE.						
209				ARTE	(co ₃ altered tuff or tuffaceous argillite?)						
210					caliche blebs + stringers calcareous mtx.						
211					minor sub-mm black carbonaceous bands.						
212				209.78-212.75	BLACK ARGILLACEOUS RHYOLITE LAPILLI TUFF						
213				RHAT	60% thinly laminated blk carbonaceous arg.						
214					w/ 40% well defined variably sized siliceous fragments (lapilli).						
215					ovoid, lens like fragments have sharp boundaries. sizes 1x2mm → 1x4cm.						
216				212.75-222.58	BLACK TUFFACEOUS ARGILLITE.						
217				ARTE	black, moderately carbonaceous, thinly laminated argillite w/ ~5% mm-scale foln. parallel white-grey siliceous, tuffaceous bands.						
218					sub-mm. foln. parallel calcite bands + blebs common throughout.						
219											
220					214.88-215.39 - lost core.						
221					215.39-216.30 - broken core						
222					216.30-216.45 - minor fault zone.						

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					ser A	chl B	co ₃ C	si D	alt E		
245				RHEG (cont.)							
246				(252.39 - 252.49 → atz rich breccia + flt. gouge)							
247				252.49 - 257.30							
248				RHFS							
249				GREY APHANITIC RHYOLITE.							
250				- blocky, broken up very siliceous, aphanitic rhyolite w/ frequent grey-greenish 1-4 mm							
251				senitic partings.							
252				- siliceous domains typically 2-4 cm wide							
253				between partings.							
254				- frequent zones of siliceous pebbles (20-30cm).							
255				- sharp lower contact.							
256				257.30 - 266.83							
257				BLACK CARBONACEOUS ARGILLITE							
258				well foliated thinly laminated, weakly -							
259				moderately carbonaceous argillite.							
260				- ab. broken core, minor flt. gouge zones.							
261				- local calcite blebs + stringers (to and							
262				X-cutting foln.). local zones of grey.							
263				fg. banded calcite (up to 1cm) w/ white							
264				blebs and stringers.							
265				- rare siliceous bands to foln. (up to 1cm).							
266				- greenish mineral on some fracture surfaces.							
267				(262.70 - 262.85 - minor flt. gouge)							

[illegible]

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					ser A	chl B	CO ₃ C	Si D	Mt. E		
291		ARCB		ARCB (cont.)							
292											
293											
294											
295											
296											
297											
298											
299											
300				300.57-308.98 RHFS							
300.57				GREY APHANITIC RHYOLITE							
301				1-2 cm domains of massive aphanitic silica separated by mm-scale grey- slightly greenish seriate partings.							
302				weak-mod. seriate alteration tht. unit.							
303				ab. bkn. core + pebbles. Minor ft. breccia.							
304				sharp contacts.							
305											
306											
307											
308											
309				308.98-311.64 ARCB							
310				BLACK CARBONACEOUS - TUFFACEOUS ARGILLITE							
				black thinly laminated carbonaceous arg. wt. frequent 1-2 cm dull grey tuffaceous bands. ll to fol. Minor calcite blcks + stringers.							
311				311.64-312.58 EXMT							
311.64				PALE GREEN - GREY MAGNETITE-Fe FORMATION							
312				20% nit peppery. massive bands 2mm-2cm.							
312.58				nit increases towards base of unit.							
313				chl altn. on partings and fractures. Domains ↓ minor calcite as fracture fillings (not a halite)							

HOLE NO. WW-00-01

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					X ₁ A	Al B	ClO ₃ C	Si D	Mt. E		
360				360.41-371.40 BLACK CARBONACEOUS ARGILLITE.							
360.41				ARCB							
361				- gradual change from argillite above to a more uniform, thinly laminated, mod-strongly carbonaceous argillite.							
362				- siliceous/tuffaceous zones infrequent.							
363				- abundant white f.g. disseminated to blebby calcite tht unit. Also as foln. parallel sub mm bands, and vults to 5 mm.							
364											
365											
366											
367											
368											
369											
370											
371				371.40-373.32 BLACK GRAPHITIC FAULT GOUGE							
371.40				GTGG							
372				70 cm of graphitic fault gouge, the rest is lost core.							
373											
373.32				373.32-378.45 BLACK CARBONACEOUS ARGILLITE							
374				ARCB							
375				- as above (360.41-371.40) but w more pyrite (see across →)							
376				- increase in foln. parallel siliceous bands + lenses.							
377				- calcite blebs less common.							
378											
378.45				378.45-380.10 GREY APHANITIC RHYOLITE (FLOW?)							
379				RHFS							
380				ob. pale green-brown anastomosing micaceous partings, separate f.g. - irregularly shaped very siliceous domains.							
381				380.10-384.01 DARK GREY-BLACK TUFFACEOUS ARGILLITE							
382				ARTF							
				- interbedded grey tuffaceous bands + blk carbonaceous m.g. on a mm scale.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	Chl B	CO ₃ C	Si D	Mt E		
383	ARTE			ARTE (cont.)							
384	384.01			384.01-387.42 RHFS							
385				5mm-1cm aphanitic aphyne siliceous							
386				bands separated by brown 2-3 mm							
387				micaceous partings sub-parallel to foln.							
388				dark green-blk speckles tht. unit - bt?							
389	387.97			387.42-388.97 ARSI							
390				BLACK SILICEOUS ARGILLITE							
391				ARSI							
392				- thinly laminated carbonaceous org. w/ foln.							
393				parallel bands of grey aphanitic silica up to							
394				2cm. Arg is also siliceous (cherty).							
395				ab 1-2mm siliceous bands display tight folding.							
396				388.97-402.53 RHFS							
397				GREY VARIABLY TEXTURED MASSIVE -							
398				FRAGMENTAL RHYOLITE.							
399				- mainly grey aphanitic aphyne highly							
400				siliceous domains - either bands, ovoid lenses							
401				or angular fragments.							
402				- colour varies from light grey to greenish grey							
403				to slightly purplish.							
404				- abundant brown- dk am. micaceous partings							
405				banded-anastomosing sub- to foln.							
406				- sparse disseminated magnetite.							
407				- local speckled appearance - dissem. chl?							
408				(398.33-398.92 - blk oreillite 1-2mm intervals)							
409				402.53-415.19 ARSI							
410				DARK GREY-BLK SILICEOUS ARGILLITE							
411				identical to 387.42-388.92 above.							
412				(unclear whether rock is silicified							
413				or silica is primary)							
414				415.19-418.91 RHFT							
415				GREY-BROWN WELL BANDED RHYOLITE TUFF							
416				- fine argill to aphanitic (ash tuff)							
417				- bands are siliceous 2mm-1cm wide							
418				- colour varies from light grey - brown							
419				depending on bt content.							
420	402.53			418.91-420.27 ARSI							
421				BLACK SILICEOUS ARGILLITE.							
422				ARSI							
423				- finely laminated, very siliceous argillite							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
406				ARSI (cont.)							
407											
408											
409											
410											
411											
412				420.27-426.01 RHFT							
413				GREY APHANITIC - FINE GRAINED MASSIVE TO INTERFACED RHYOLITE. (ASH TUPE?)							
414				- well banded but foln. is weak. Tends to fracture at low angles to core axis.							
415				- bands vary from white-grey aph. fg. mm-cm scale. Overall very siliceous unit.							
416				Minor CO ₂ present locally. Sparse fg. diss. mt.							
417				- Qtz veins common 3mm-1.5 cm.							
418				426.01-426.54 QTUN							
419				WHITE QUARTZ VEIN w/ POLYMETALLIC MASSIVE SULPHIDE INCLUSIONS.							
420				- Qtz vn. w/ rhy tuft (~54 cm) contains irr. inclusions of py > sph > cpy.							
421				426.54-428.58 SSMS							
422				BANDED POLYMETALLIC MASSIVE SULPHIDE							
423				average core angle = 64°							
424				Interval = 6.04 m.							
425				In general a pyrite rich ore zone but also has substantial sph. pyrrhotite and cpy in a dominantly calcite gangue.							
426				Qtz blebs and veins occur frequently and are often ass/ w/ irr. blotches of dk green to black chl. (up to 1 cm diam.)							
427				- sparse fine-coarse disseminated chl.							
428				- more Cu rich than typical Wolverine intersection. Also contains much more po than normal. Po seems to be generally ass/ w/ cpy (and also sphalerite)							
429				very sharp upper and lower contacts							
430				Overall: 35% py 25% po 25% sph. 10% cpy and 5% calcite > Qtz > chl gangue. (~ 3% Cu and 12% Zn)							

DRILL LOG

PROJECT W01 - Wolverine	GROUND ELEV.
HOLE NO. WW-00-02	BEARING GN.
LOCATION	DIP -65
	TOTAL LENGTH 684.58
LOGGED BY G. BRADSHAW / DAVE H.	HORIZONTAL PROJECT
DATE June 19 / 2000	VERTICAL PROJECT
CONTRACTOR DJ Drilling	ALTERATION SCALE  0 1 2 3 absent slight moderate intense
CORE SIZE HQ	TOTAL SULPHIDE SCALE  0 1 2 3 4 traces only < 1% 1% - 3% 3% - 10% > 10%
DATE STARTED June 18	
DATE COMPLETED	
DIP TESTS	
COMMENTS	LEGEND

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	chl B	CO ₂ C	Si D	act. E		
50	ARWK		15°	ARWK (cont.)							
52				49.52-49.82 - ab. calcite microveinlets perp. to foln.							
54											
54.64											
56	QTZN			54.64-55.55 WHITE QUARTZ VEIN - coarse clots of chertic material - argillite inclusions.							
58											
60											
62				55.55-115.95 INTERBEDDED ARGILLITE - GREYWACKE as above.							
64	ARWK		30°	59.60, 60.50 - minor gouge zones 56.57-56.85, 60.19-60.43 - qtz veins 61.14-61.54 - bkn core + qtz veins.							
66											
68											
70											
72	ARWK		40°	74.72-76.81 - calcareous greywacke bed							
74				77.58-77.78 - minor fault gouge zone.							
76											
78											
80			25°								
82											
84											
86											
88			25°								
90											
92											
94											

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Sr A	Ch B	CO ₃ C	Si D	Mt E		
142				ADMS							
				(cont.)							
144				massive green andesite (basalt).							
				fdn is very weak.							
146				textureless.							
				sharp lower contact - 3 cm of							
148				green-white gouge (clay - possibly							
				faulted.							
150				calcite common tht. (3-5%) as							
				blebs, bands (up to 3 cm) and veins.							
152											
154											
156											
158											
160											
162				170.00-175.23 BLACK CARBONACEOUS ARGILLITE / FAULT GOUGE.							
				ARCB / STGG							
164				broken core + fault gouge tht. unit							
				minor calcite on fractures.							
166				mm scale grey tuffaceous layers are							
				minor.							
168				strongly carbonaceous.							
170											
172											
174											
176				175.23-180.19 INTERBEDDED BLACK CARBONACEOUS ARGILLITE							
				AND GREEN CHLORITIC TUFF.							
178				carb. argillite - greywacke as above w/							
				~ 10% finely laminated f.g. argen tuff							
180				beds, 1-5 cm wide.							
182				180.19-185.7 INTERBEDDED BLACK ARGILLITE + GREYWACKE							
				ARWK							
184				~ 70% greywacke w/ arg. increasing							
				toward lower contact.							
186				beds avg. 10 cm. up to 40 cm.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					ser A	chl B	CO ₃ C	Si D	mt E		
239		✓									
240		✓									
241		✓		240.4 = ab. CO ₂ veinlets // to and X-cutting foliation.							
242		✓		241.7 - 242.2 = fault breccia w/ ab. CO ₂ veining.							
243		✓									
244		✓									
245		✓									
246		✓		246.1 - minor fault gouge.							
247		✓									
248		✓									
249		✓		249.70 - 250.40 - mod. CO ₂ altn of siliceous fragments							
250		✓									
251		✓									
251.38		✓		251.38 - 258.26							
252		✓		RHFR							
253		✓		GREY APHANITIC RHYOLITE FRAGMENTAL							
254		✓		fragment supported, w/ larger fragments than RHAT above.							
255		✓		90% grey, glassy, aphanitic, aphyic siliceous fragments/bands up to 4 cm. sometimes have slight blue tint.							
256		✓		separated by sub-mm anastomosing micaceous partings (mainly bt.) sub-parallel to foln.							
257		✓									
258		✓		258.26 - 277.66							
258.26		✓		RHAT							
259		✓		DARK GREY ARGILLACEOUS RHYOLITE FRAGMENTAL							
260		✓		similar to above - but now has 20-30% argillaceous mtx separating fragments.							
		✓		fragments have tiny dots of calcite.							
		✓		but CO ₂ altn generally weak - absent							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ
					Ser A	Chl B	CO ₃ C	Si D	Mt E		
285		✓		RHER							
286		✓		(cont.)							
287		✓									
288		✓		287.31 - 287.51 ⇒ broken qtz vein w/							
289		✓		scarcity.							
290		✓									
291		✓		291.15 - qtz vein. minor flt bx + flt gouge							
292		✓									
293		✓									
294		✓									
295		✓									
296		✓		295.74 - minor fault gouge.							
297		✓		sharp l. ct. at 40° to core axis.							
298		✓		296.29 - 316.08 BLACK- GREY TUFFACEOUS ARGILLITE.							
299		✓		ARTF - finely laminated carbonaceous argillite w/							
300		✓		+ 20% grey f.g. - aphanitic iron silicate tuffaceous layers							
301		✓		parallel to foln. throughout unit.							
302		✓		- minor calcite present throughout, often							
303		✓		appears to be alteration of siliceous layers.							
304		✓		Also crosscutting on fractures.							
305		✓									
306		✓		306.93 - 307.63 - broken up grey rhyolite							
		✓		fragmental - micaceous partings. minor flt							
		✓		gouge at base.							

[illegible]

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	chl B	CO ₃ C	Si D	MT E		
400		✓		39561-400.93 GREEN-GREY BANDED APHANITIC RHYOLITE.							
		✓		RHFS							
401		✓		- well banded on a cm scale w/ bands							
		✓		defined by 1-3 mm dark green to grey							
402		✓		micaceous (chl + bt) partings.							
		✓		- distinctive dark green alteration within							
403		✓		normally white oph. silica is a result							
		✓		of alteration halos around chloritic bands.							
404		✓		- white ophanitic siliceous bands (1-7 cm)							
		✓		often contain tiny microlites.							
405		✓		- sparse disseminated sub-euhedral							
		✓		magnetite crystals common tht. unit							
406		✓		(~1%)							
407		✓									
408		✓									
409		✓									
410		✓									
411		✓									
412		✓									
413		✓		- chl altn decreases towards base of							
		✓		unit.							
414		✓									
415		✓									
416		✓									
417		✓		420.93-424.44 INTERBEDDED BLACK THINLY LAMINATED							
		✓		RHAR							
418		✓		CARBONACEOUS ARGILLITE AND GREY							
		✓		APHANITIC RHYOLITE.							
419		✓		- 70% argillite and 30% rhyolite.							
		✓		thy occurs as 1-2 cm interbeds // to							
420		✓		foln. (up to 10 cm).							
421		✓									
422		✓									

RHFS

32°

30°

420.93

30°

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	Chl B	CO ₃ C	Si D	Mt. E		
423	RHAR	RHAR	35°	RHAR							
				(cont.)							
424	ATVN	ATVN	35°								
424.44				424.44 - 425.61 WHITE QTZ VEIN							
425	ATVN	ATVN	35°	· has inclusions of greenchl - irregularly shaped clots to 4 cm w/ lesser calcite.							
425.61				· also "np ups" of carbonaceous argillite.							
426	ARCB	ARCB	35°								
427											
428	ARCB	ARCB	35°	425.61 - 427.05 BLACK THINLY LAMINATED CARBONACEOUS ARGILLITE							
429				· well foliated, strongly carbonaceous							
430	ARCB	ARCB	35°	· ~5% grey siliceous interlayers up to 2 cm.							
431				· calcite common (2-3%) as very fine grains w/ grey siliceous layers and as fracture fillings (// to and X-cutting foln.)							
432	ARCB	ARCB	35°								
433											
434	ARCB	ARCB	35°	433.84 - 434.70 - zone of frequent grey ophanitic chyl. interbeds to 3 cm.							
435											
436	ARCB	ARCB	35°								
437											
438	ARCB	ARCB	35°								
439											
440	ARCB	ARCB	35°								
441											
442	ARCB	ARCB	35°								
443											
444	ARCB	ARCB	35°								
445											

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	Chl B	CO ₂ C	Si D	Mt E		
469	RHAR			RHAR							
				(cont.)							
470				470.62-477.76							
470.62	EXMT			EXMT							
471				GREY-BLACK BANDED-MASSIVE MAGNETITE IRON FORMATION.							
472				- very well developed exhalite w/ ~ 60-70% mt. (locally up to 95% mt over 0.9 m).							
473				- chl altn (+ diopside?) on fractures tht. unit. increases slightly near base.							
474				- 1-2% calcite - locally to 8 cm as foln // bands.							
475				- generally has a weakly bonded texture w/ diss. to crudely banded mt interbanded w/ silica, chl/diop and local calcite, but sometimes 95% fine massive blk mt w/ rare siliceous bands + blebs.							
476				- 470.62-475.71 = 65% mt, 30% si lcl. calcite.							
477				late qtz vns. chl+diop. may have barite?							
477.76				- 475.71-477.00 = msy mt (95%) w/ minor si/chl							
478				late qtz vein - 477.00-477.76 = bndd mt + sil. + chl - cm scale. Rusty orange-red bands. Diss. mt in sil. zones. (20% mt)							
479	RHFS			477.76-480.20							
				RHFS							
480				GREY BANDED APHANITIC RHYOLITE							
480.20	RHFR										
481				- well banded on a cm scale - esp. towards base of unit. Bands mainly defined by 1-5 mm grey-pale green-brown seriate partings							
482				- siliceous zones are light grey-whit, aphyne. aphanitic and massive - although faint laminations are locally visible. (tuff?)							
482.46	RHRT										
483				- sub-mm black argillaceous partings -480.07-480.20.							
483.83				480.20-482.46							
484	RHFR			RHFR							
485				MEDIUM GREY MASSIVE-FRAGMENTAL ARGILLACEOUS RHYOLITE. "pseudo fragmental texture"							
486				- slightly darker grey than abv. - due to undulating sub-mm argillaceous partings-sub parallel to foln separating grainy textured siliceous domains.							
486.82	EXCP			482.46-483.83							
487				GREY-DIRTY BROWN MIXED RHYOLITE TUFF AND BANDED-MOTTLED CARBONATE EXHALITE							
488				~ 70% grey aphanitic - fine grained tuffaceous rhyolite - interbedded w/ 30% discrete 5-25mm carbonate layers (dirty brown inkstone > grey cc).							
489	EXCP			483.82							
490				483.2-483.83 contains 3-5% banded-stippled mt.							
491.11				483.83-491.11							
				DARK GREY GRAINY THINLY LAMINATED CALCITE-PYRITE EXHALITE.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ser A	chl B	CO ₃ C	Si D	Mt E		
491.11				EXCP							
492				(cont.)							
492.56	EXMT		50	(faulted contact)							
493				medium grey, fine grained, sugary textured calcite w/ fine mm scale laminations. white irregular cc. blotches are sub-parallel to foln.							
494				bands defined by subtle colour + grain size variations in cc. Fault gouge + lost core → 486.82 - 488.78.							
495	EXCP			may be a carbonaceous component to cc (darker grey).							
495.67			40	491.11-492.56 GREY BANDED MAGNETITE-SILICA EXHALITE.							
496			55	EXMT							
497	RHFS			495.67							
497.43				496.12							
498				497.43							
499				498.56-499.67							
500				EXCP							
501				499.67							
502				500.70							
503	ARCB			501.26							
504				502.70							
505				503.66							
506				504.43							
507				505.26							
508				506.12							
509				507.00							
510				508.00							
511				509.00							
512				510.00							
513				511.00							
514				512.00							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					set A	chl B	CO ₂ C	Si D	Al E		
515				RHLT (cont)							
516				- local calcite blebs + stringers							
517				- becomes more siliceous towards base.							
518				- sharp lower contact.							
519											
520											
521											
522											
523											
524											
525											
525.26				525.26-532.64 ARRH							
526				INTERBEDDED BLACK CARBONACEOUS ARGILLITE AND GREY APHANITIC RHYOLITE.							
527				- 70% massive black carbonaceous argillite w/ 30% grey rhy w/ carbonaceous partings.							
528				- local calcite blebs + stringers, rare late Qtz veins.							
529				- rhy beds generally cm scale and have contacts // to foln.							
530											
531											
532				532.64-534.72 RHFS							
533				GREY MASSIVE APHANITIC RHYOLITE							
534				- ophyric + siliceous w/ microclites.							
535				- cm scale indistinct green-brown micaceous (sericite) partings.							
536				- siliceous domains typically 2-4 cm wide.							
537				534.72-545.28 ARCB							
538				BLACK CARBONACEOUS-TUFFACEOUS ARGILLITE							
539				- carbonaceous partings (black) - but most of unit is grey w/ diffuse indistinct siliceous (tuffaceous) layers on a cm scale.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Set A	ch B	Qtz C	Si D	Mt E		
561	RHAR			RHAR							
562				(cont)							
563											
563.51	ARCB			563.51-573.55							
564				BLACK THINLY LAMINATED CARBONACEOUS ARGILLITE.							
565				3% grey tuffaceous material flattened on foln. - siliceous to calcareous.							
566											
567				566.62-566.90 m - Qtz vein w/ CO ₂ blebs.							
568				567.80-568.15 - broken core broken Qtz vns + minor flt. gouge.							
569				568.15-571.00 foln. planes parallel to core axis.							
570											
571				faulted lower contact.							
572											
573	STGG			573.55-587.15							
574				BLACK GRAPHITIC FAULT GOUGE							
575				STGG							
576				contains relatively minor tuffaceous argillite sericitic rhyolite lapilli tuff and 10% Qtz veining.							
577				576.68-578.51 - argillaceous rhyolite lapilli tuff w/ sericitic altn. py dissem on fractures + foln. Lapilli locally 3x10 mm in an argillaceous mtx. Poor recovery.							
578				only 85 cm of core over this 1.83 m interval fault gouge at base.							
579											
580				578.51-578.84 - white Qtz vein w/ nig. inclusions.							
581											
582				578.84-587.15 - graphitic gouge.							
583											

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A Ser	B Chl	C CO ₃	D Si	E Mt		
607				ARTF (cont'd)							
608				- Blk Carb. Arg. to mm size lapilli bands							
609				- 607.54 = local S ₂ dy in arg frags.							
609.0				608.90-609.00 - Increasing full relative to Arg.							
610				609.00-615.00 GREY TO GREY-GREEN Fg RHYOLITE TUFF							
611				RHTT - thin pale green to beige overall							
612				- Sericite, musc. along fol'n planes							
613				- 609.82-611.12 - Fractures & to CA causing broken core							
614				613.85-615: Spotted texture of mm size							
615				bot. withing rhy. (But alt. to chl = Green?)							
615.0				- whigg + discontinuous rhy frags.							
616				615.0-621.65 GREY-BLK CARB TO SILICEOUS ARGILLITE							
617				ARTF - 615.0-615.35 - Incr. Silic.							
618				- ARSI							
619				- Massive competent unit							
620				- Overall massive, competent unit							
621				- mm to sub-mm siliceous lam. aligned							
622				sub to fol'n interlayered to mm							
623				scale sub-mm carb. bands							
624				621.65-632.6 BLK CARB TO SILICEOUS ARGILLITE							
625				ARMS - Massive black argillite, competent							
626				with rare thin rhyolite fragments							
627				~ 2-3mm thick							
628				- Interbedded carbonaceous bands							
629				mm to submm scale							
630				- Q. expansion, sub-parallel to fol'n							
631				- 627.58-629.87							
632				DHLC							
633				- Fract. filling (dtr) at							
634				- 632.1-632.6							
635				ARTF - increasingly siliceous, and							
636				a light to moderate grey color to up to							
637				1cm thick rhyolite frags with							
638				arg-on fol'n planes.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A SER	B CHL	C CO ₃	D Si	E MT		
630				ARMS							
631				(cont'd)							
632											
632.6											
633				632.6-634.39 GREY TO GREEN F.G. RHYOLITE TUFF RHTT							
634				- Dom. Tuff interbedded w/ rhyolite frags (<cm scale) - brown-grey alteration primarily on fol'n planes							
634.39											
635				634.39-639.47 GREY TO GREY-BROWN SILICEOUS APHYRIC FELSITE RHFS							
636				- Massive and competent layers, siliceous with ~ 8mm and less frags of rhyolite with grey-green - grey-brown sericite and ? along fol'n planes							
637				- disc. microlites, particularly btw 637.03-637.5							
638				- 638.78-639.02 = close and more frequent fol'n planes, though still w/ rhy. frags ~ 8mm							
639				- less siliceous here							
639.47				- increase silica + microlites at base							
640				639.47- 641.92							
641				- GREY-GREEN TO GREY FRAGMENTAL RHYOLITE RHFR							
642				- Massive and competent, siliceous - Grey-rhyolite frags to grey-green sericite along fol'n's, discontinuous frags. Minor disseminated microlites							
642.92											
643				641.92-649.05 GREY TO GREEN RHYOLITE TUFF RHTT							
644				- Competent and generally massive - Green sericite along fractures - Increasing sericite							
645				- 641.92 - 642.55							
646				- Lt. Grey due to incr. sediments							
647				- 647.03-647.22 EXCA(?)							
648				- Cal/mag altered zone, v. fine grained - Flow? - Green to green (sericite alt.) - Calcareous, mod. magnetic							
649				- Top of bot. contact sharp contact to siliceous Rhy							
649.05				- 648.5 - 648.6 EXCA(?)							
650				- non-magnetic, calcareous dk grey tuffaceous - fine grained, mod. siliceous - Ser. blebs etc in some fract filling (35% or so)							
651				649.05-664.21 GREY SILICEOUS FELSITE RHFS							
652				- Generally massive with a gradational contact with above RHTT though increased prominence - mm up to -1cm rhy. frags banded w/ sericite partings.							

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					SER A	CHL B	CO ₃ C	Si D	MT E		
653				RHFS 649.15-649.30 and 649.43-649.67 EXCA iv (cont'd) - Dk. Grey calcareous mm. banded exhalite							
654				- Dk. grey calc. fract. filling at 135°; Generally 1-3cm intervals							
655				- often contain green-blue blebs of sericite up to 3mm in diam.							
656				- interlayering of 1-18cm zones of EXCA, generally darker in color with cream to white colored calcite. Calcite bands 3-6mm // to fol'n							
657				- Calcite fracture filling on sub. mm to 5mm+ scale. (-155° rot. relative to fol'n)							
658				- Felsite to diss. white microlite							
659											
660											
661											
662											
663											
664											
664.21				664.21-666.93 GREY SILI-CARBONACEOUS EXHALITE							
665				EXCA - Banded Qtz-carb exhalite in intervals of Grey siliceous RHTT							
666				- 664.58-664.70 - fractural sili. rhy. in calc. mfx							
667				- banding on mm to submm scale							
667.64				666.93-667.64 CARB TO SILICEOUS BLK ARGILLITE							
668				ARTF - 5-8mm bands of Qtz/calc/px Lapilli							
669				- interbanding of 1-3mm thick carbonaceous bands							
670				667.64-669.90 CARBONACEOUS ARGILLITE							
671				ARCB - massive and moderately graphitic							
672				- minor Qtz/calc. banding on mm scale.							
673				669.90-671.35 GREY TO GREEN F.G. RHYOLITE TUFF							
674				RHTT - Grey (upper) grading to green (sericite, lower)							
675				Siliceous tuffaceous mm scale bands, interbanded with mm scale carbonaceous bands (top) and sericite bands (bottom) defining fol'n planes.							
				- thin (1-3mm) Qtz-carb bands in diss. pyrocl.							

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DRILL LOG

PROJECT	GROUND ELEV. 1515m
HOLE NO. WW00-03	BEARING Grid North
LOCATION 16300E 17190N	DIP 78
LOGGED BY Frank Gish / Ross Duggan	TOTAL LENGTH 516.94
DATE October 17	HORIZONTAL PROJECT
CONTRACTOR DJ Diamond Drilling	VERTICAL PROJECT
CORE SIZE HQ 0.00 - 313.94 NA 313.94	ALTERATION SCALE
DATE STARTED October 17 2000	0 1 2 3 absent slight moderate intense
DATE COMPLETED November 4 th 2000	TOTAL SULPHIDE SCALE
DIP TESTS	0 1 2 3 4 traces only < 1% 1% - 3% 3% - 10% > 10%
COMMENTS	LEGEND

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PAGE		OF		PROJECT:					HOLE NO.		
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
56											
58			50°								
60											
62											
64											
66											
68			45°								
70											
72											
74				75.07-75.17 bull qz vein to the pt							
76				@ 40°							
77				77.23-77.27 " "							
78				77.47-77.53' " "							
79				77.86-78.04 " " 50°							
80				78.07-78.18 " "							
81				79.25-79.30 " "							
82			50°								
84											
86											
88											
90			40°								
92											
94											
96											
98			50°								
100				99.00-99.75 = broken off ARJIC with some gouge							

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PAGE		OF	PROJECT:		HOLE NO.						
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
102				102.63-107.37 Pale Green Fine Grained Andesite Tuff ADTT							
104				- sharp upper contact @ 36°							
				- 1-3mm wide calcite veins to foln							
106				- includes 10% bands of ARWIK							
108				107.37-107.94 QZVN							
110	57			107.94-115.13 Carbonaceous to Siliceous Black ARTF							
112				Argillite with tuffaceous or brili sided bands and fragments							
				- increasingly siliceous down section							
114				109.90-109.32 QZ vein							
				112.68-113.09 "							
116				113.35-113.55 "							
118	28			115.13-135.03 Pale Green Fine Grained Andesite Tuff ADTT							
				- 2% calcite veinlets ave 2m parallel to foliation							
120				- quartz carbonate veins also common							
122				118.77-119.22 qz vein							
				119.51-119.67 "							
124											
126											
128				127.76-127.85 - qz vein @ 28°							
130				131.30-135.03 - core broken soft some fault gouge at bottom of interval							
132											
134											
136	20			135.03-137.25 - Fault Zone - soft shattered rock STGG							
				and gouge, 100% mix of ADTT and ○ ○							
138				137.25-142.15 Grey Tuffaceous Argillite - Calcareous ARTF							
140	65			Siltstone ○							
				- mixed sed unit with							
142				- black carbonaceous argillite and grey siliceous bands ○							
				- grey calcareous siltstone bands							
144				- micro folds present within beds towards bottom of unit							
146											

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PAGE		OF	PROJECT:		HOLE NO.						
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
148											
150				151.96 - 152.05 QZVN							
152											
154											
156				156.67 - 161.00 - 60% interbanded with dark green calcareous andesitic tuff							
158											
160											
162											
164				163.15 - 183.18 Dark Grey to Greenish Grey Calcareous Fragmental Rhodite							
166				- sharp upper contact with a few cm of fault gouge							
168				- fragments are typically subangular and irregular							
170				shardlike greenish white siltstone + andesite							
172				- pale to dark green sericitic bands surround fragments							
174				- 1-2 mm calcite nodules and cross cutting to foliation							
176											
178											
180											
182				183.18 - 193.90 Green Massive Andesite							
184				ADMS - upper gradational contact							
186				- 10% calcareous							
188				- @ 187 1-2 cm wide qz-rhy vein @ 12°							
190											
192											

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PAGE		OF		PROJECT:		HOLE NO.							
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.	
						A	B	C	D	E			
194				193.90-199.22	Grey-Black Argillaceous Rhyolite								
				RHAT	Lapilli Tuff - Fragmental Rhyolite								
196					- well foliated black argillite w								
					grey aphanitic siliceous fragments								
198													
				199.22-220.50	Light Grey Fragmental Rhyolite								
200				RHFR	- upper contact is a gradational								
					change of decreasing argillite								
202					- fragments are subangular, white								
					grey to greenish grey aphanitic								
204					and siliceous								
206													
208													
210													
212													
214													
216													
218													
220													
222				220.50-224.70	Grey Black Argillaceous Lapilli Tuff -								
				RHAT	Fragmental Rhyolite								
224					- same as above 193.90-199.22								
226													
228													
230				232.20-241.70	Light Grey Fragmental Rhyolite								
232				RHFR	- same as above 199.22-220.50								
234													
236													
238													

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PAGE		OF		PROJECT:					HOLE NO.					
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION					ALTERATION					
									A	B	C	D	E	FRACTURE INTENSITY
240				241.70-246.06	Light Grey Fragmental Rhyolite									
			50	RHFR	- less siliceous, larger rhyolite fragments, more calcareous, and generally less argillitic than typical RHFR seen in this hole									
242														
244														
246			51	246.06-246.46	Grey Black Argillaceous Lapilli Tuff -									
248				RHAT	Fragmental Rhyolite									
					- Well foliated black argillitic is grey aphanitic siliceous rhyolite fragments									
250														
252														
254														
256														
258														
260				260.46-263.56	Light Grey Banded Fragmental Rhyolite									
262			40	RHFR	- typical bands of siliceous aphanitic rhyolite are 1-2 cm									
264					- partings have less of an argillaceous component and more of a sericitic character									
266					263.47-263.56 - soft shattered core									
268					264.10-265.56									
					EXMT - 2-5% disseminated to banded magnetite within RHFR									
270			54		w/ky calcareous									
272					gauge - 272.90-273.00									
274					273.71-273.91									
					276.30-276.38									
276			53											
278														
280				280.95-282.85	Grey Black Argillaceous Lapilli									
				RHAT	Tuff - Fragmental Rhyolite									
282					- broken typical RHAT									
					- lower contact is shattered core									
284														

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PAGE		OF	PROJECT:		HOLE NO. W-00-03						
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					SO A	SH B	SS C	SI D	MT E		
286				282.85-302.00 Green Grey to Light Grey RHFR Fragmental Rhyolite - Grey Aphanitic Rhy - sericite partings							
288				- very siliceous							
290				288.95-290.17 - fault gouge							
292											
294				294.39-294.59 - soft, shattered core							
296				295.35-295.90 - fault gouge							
298											
300											
302											
304				302.00-310.78 Black Carbonaceous Argillite ARCB 302.00-305.10 - broken to shattered to gauge - thinly laminated carbonaceous argillite - 2-5% tuffaceous-siliceous bands, the down hole							
306											
308											
310				310.78-313.94 Grey Aphanitic Rhyolite RHFS - aphanitic siliceous rhyolite separated by mm greenish sericite partings - core broken to shattered							
312											
314				313.94-315.40 Grey Green Magnetite Iron Formation EXMT - 15% magnetite banded & disseminated - siliceous, moderately well foliated - chlorite alteration on fracture surfaces							
316											
318				315.40-319.65 Grey Aphanitic Rhyolite RHFS - relatively massive siliceous rhyolite sericite partings minor chlorite							
320											
322				319.65-322.22 Grey Green Magnetite Iron Formation EXMT - moderately well foliated, contains bands of aphanitic rhyolite and qtz veins (5-9 cm), chlorite alteration present, trace of calcite veinlets							
324											
326											
328				322.22-326.80 Grey Aphanitic Rhyolite - Massive Fresh RHFS 322.22-323.10 - soft and cherty, with some 326.80-327.26 Grey Black chert granitic up to 20% full-							
330											

313.94 reduced to 100

313.94 reduced to 100

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PAGE		OF	PROJECT:		HOLE NO. <i>WW00-03</i>						
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					SER A	CHL B	CO ₃ C	Sil D	MT E		
330		✓		329.26-334.67 MASSIVE SILICEOUS GRAY WHITE APHANTIC							
331		✓		RHFS RHYOLITE,							
		✓		W/ SER ALT DEVELOPED AS SPACED FOL.							
332		✓	SS	IN CH/ON BRITTLE FRACTURES							
		✓	✓	TOP CONTACT GRASS INTO ARTF AGGUS OVER							
335		✓		20cm							
336		✓									
337		✓									
338		✓		334.67-337.08 DARK GRAY 30% TUFFACEOUS ARGILLITE							
		✓		ARTF LC COR'S IS RUNDLE / ACTUAL RECOVERY IS CH							
339		✓		IS HERE INFORMATION POSSIBLE.							
340		✓									
341		✓		337.08-340.77 MASSIVE GRAY APHANTIC RHYOLITE							
		✓		RHFS SER/CHL ALTERATIONS ON PARTINGS +							
342		✓	SS	W/ DEVELOPED "PSEUDO FRAGMENTAL" TEXTURE							
		✓	✓	POOR RECOVERY - RUNDLE COR'S							
343		✓									
344		✓									
345		✓		340.77-341.53 BLUE WHITE (Q) W/ SER/CHL ALT IN COR'S							
		✓		QTUN LC = 60°							
346		✓									
347		✓		341.53-345.20 GRAY BLACK THINLY LAMINATED CRUSTACEAN							
348		✓		ARCB RECOVERY, LC < 5% TUFFACEOUS "SPINDLES"							
349		✓									
350		✓		345.20-345.65 LOST SOME 0% RECOVERY.							
		✓		NHLC							
351		✓									
352		✓									
353		✓		345.65-345.75 TUFFACEOUS RECOVERY, RECOVERY = 0% RECOVERY							
		✓		ARTF							
354		✓		345.75-345.85 MASSIVE RUNDLE FORTITE, CONTACT FORTITE							
		✓		RHFS							
355		✓		345.85-345.95 TUFFACEOUS RECOVERY, RECOVERY = 0% RECOVERY							
		✓		ARTF RUNDLE.							
356		✓		345.95-352.65 MASSIVE RUNDLE RECOVERY - RUNDLE							
		✓		RHFS							
357		✓									
358		✓									
359		✓		352.65-353.01 ! LOST CORE!							

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ
					ser A	chl B	CO3 C	sil D	HK E		
353				352.65-356.01 <i>Lost Core</i>							
354				DHLC (cont)							
355											
356				356.01-359.47 <i>Massive Black Argillite,</i>							
357				ARMS <i>! Core is rubble!</i>							
358											
359											
360				359.47-363.45 <i>Massive Gray Sil. Archaic Rhyolite.</i>							
361				RHES <i>Poor core recovery over interval</i>							
362				<i>wh ser/chl alt on partings + as kink bands</i>							
363				@ 362.41-362.81 <i>wh chl alt Folds</i>							
364				<i>"Pseudo Fragmental Textures"</i>							
365											
366				365.45-368.47 <i>Gray Black Silicious Massive Poor Exposed</i>							
367				EXH <i>Upper Contact is Argillite rich (10%) near base of</i>							
368				<i>To 15% at 368.40, becomes as mm Laminar.</i>							
369											
370				370.40-370.64 <i>Gray-White Pinites - Calcite Extruded</i>							
371				EXCP <i>Top matrix has increasing pinitic component</i>							
372				<i>as mm calcification Laminar. Top core at</i>							
373				<i>300 Laminar up to 25% below 370.30m</i>							
374				370.64-371.20 <i>Massive White Ser Vein</i>							
375				QTZV							
376				371.20-372.00 <i>Dark Gray Lamin Pinitic Rhyolite + Argillite</i>							
377				RHES							
378				372.00-372.75 <i>Massive Gray Archaic Rhyolite</i>							
379				RHES <i>wh ser alt, very poor recovery throughout</i>							
380				372.75-373.50 <i>White Qtz Vein Rhyolite</i>							
381				QTZV							
382				373.50-375.79 <i>Black Calcification Argillite, Lenses</i>							
383				ARCB <i>Some has increasing Turbidity</i>							

PAGE

OF

PROJECT:

HOLE NO. *WW00-03*MINERALIZATION
DESCRIPTIONTOTAL
SULPHIDES

SAMPLES

FROM

TO

WIDTH

SAMPLE
NUMBER

ASSAYS

364.24-365.45' br py disc on Fol +
25 BRITTLE FINE GR
FILLING.

368.40 370.64 2.24 N419225

369.30-370.44 increasing py 4-py 25
FILLING WITH BRITTLE + BRASS 10% at 369.40
increasing to 25% at 370.44, br sp?

371.20-371.60 10% py on thin Bands

PAGE		OF		PROJECT:		HOLE NO. WJ00-03					
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					SP	CH	CO3	S	TT		
376				375.79-383.10 Dark Green Tuffaceous Aphanitic Rhyolite							
377				RHTT							
378				380-380.07 - ARMS Band							
379				382.60-383.10 increasing argillite continuity							
380				To 15% at contact							
381											
382											
383											
384				383.10-383.30 Argillaceous Chert. Pm's Extrusion							
385				EXCP							
386				383.30-384.96 Dark Green Black 30-40% Tuffaceous							
387				ARTF							
388				384.96-385.44 Green to Pink Green Massive Argillite							
389				RHES							
390				Wk - red for no no, massive black R.							
391				Lower Contact with RHES is Greenish							
392				over green.							
393											
394				388.44-392.40 Massive Black Argillite with minor							
395				ARTS							
396				Tuffaceous / Flow massive fine grained flow							
397				massive to fine							
398											
399											
400				392.40-395.2 Dark Green - Pink Green Massive Tuffaceous							
401				RHES							
402				massive to fine							
403				massive to fine							
404				massive to fine							
405				massive to fine							
406				massive to fine							
407				massive to fine							
408				massive to fine							
409				massive to fine							
410				massive to fine							

[illegible]

PAGE		OF		PROJECT:					HOLE NO. W-00-03				
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION					ALTERATION				
									GER	CHL	CO3	SL	MT.
									A	B	C	D	E
399		V		395.12-405.06									
400		V		RHFS									
		V		cont									
401		V											
402		V											
403		V											
404		V											
405		V		405.06-409.55	Black - Grey massive to tuffaceous argillite. Layered. Contains many massive nodules with increasing tuffaceous to 75% at lower contact. weather. carbonaceous in spots								
406		V											
407		V		405.58-405.70	Massive carbonates with calc. = 60°								
408		V											
409		V		409.55-411.00	Light grey - Pale green massive argillite. Rhombs. Lower contact is gradational over 40cm into rocks.								
410		V			rh. ss.								
411		V		411.00-414.28	Dark grey to white. Strongly carbonaceous argillite. Possible extrinsic component. Tuffaceous in spots @ 412.18 - 412.40, @ 413-413.10								
412		V											
413		V											
414		V		414.28-415.75	Grey - Pale green. Massive argillite. Rhombs.								
415		V			rh. ss. with 5-10% calc. @ 415.10-415.25 (Rh. ss.)								
416		V		415.75-435.25	Black - Grey. Shale. Argillite. Strongly carbonaceous. Tuffaceous. + rh. Tuffaceous. Rh. ss. @ 418.75 - 419.1. Pale green (Rh. ss.) with calc. = 60°								
417		V											
418		V		@ 426.70 - 426.70	5-10% calc.								
419		V		@ 426.80 - 426.90	rh. ss. with calc. = 60°								
420		V			with increased calc. - possible extrinsic in.								
421		V		@ 431.8 - 432.25	Grey. Impure. Rh. ss. Rh. ss. zone of Vfa. Sx / carbon. + thin layers. Rh. ss. zone of Vfa. Sx / carbon. Rh. ss. / shale. Impure. = 60°								

[illegible]

PAGE	OF	PROJECT:	HOLE NO.
422		415-75-43525	
423		RRCB	
424		(CONT)	
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PAGE

OF

PROJECT:

HOLE NO.

MINERALIZATION
DESCRIPTIONTOTAL
SULPHIDES

SAMPLES

FROM

TO

WIDTH

SAMPLE
NUMBER

ASSAYS

474.98 - 490.00 = 1-3% py + 1% ps as < 1mm
KARDS DISCONTINUOUS ON FOL
+ ps up to 3mm MASSIVE G KARDS
ASSOCIATED WITH FINE SLICK KARDS.

490.00 - 495.00 = 9% py as 1mm - 5mm
KARDS

PAGE		OF		PROJECT:					HOLE NO. WWC0-03				
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION		ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.	
						SER	CHL	CO3	STL	MT			
				A	B	C	D	E					
491				490.40-499.87	Dark Black w Gray Banning Vein								
492				ARS1	Siliceous Argillaceous Minor Enargitiferous								
				(LOW)	Concretized, up to 15% Archaic Gray Tuff								
493					Concretized as 5mm - 7mm Bands + 2mm - 3mm								
494					Calcareous Banning Veins (EXHAUSTIVE)								
					(CONCRETE)								
495				@ 499.67 - 499.87	Thin STAG Zone w								
					SSMS (argillaceous) to 3mm or 15% fq pyt								
496					dark ex-sph.								
497													
498													
499													
500	70%			499.87-501.30	Brown Kyanite Fg Massive Sulfide								
				SSMS	@ 499.87 - 500.82 = Spn rich top to 35% spn over								
501	70%				Grt Rich Grounded 20% spn.								
502					@ 500.82 - 501.30 = spn rich base to up to 10% spn								
					15-20% spn.								
503	70%			501.30-502.54	Spn rich ground. Zone bottom in Exposed								
				SSS	thin argillaceous LPH (low) zone to possibly 1002								
504	70%			502.54-503.90	Black Cherty Sulfide + Black w Argillaceous								
				EXSP	Thin, arg. + Sulfide. Thin Sulfide Argillaceous								
505	70%				Rhyolite Tuff								
506				503.90-505.04	Homogeneous Gray Pyritic Fine Grained Tuff								
				RHFF	wt-50% arg. to minor < 2mm bands of EXSP.								
507				505.04-506.22	Pyritic Argillaceous Pyritic Flow								
				RHFS	Wt. 50% Arg.								
508				506.22-507.35	Homogeneous Gray Pyritic Coarse Grained Tuff								
				RHFF	moderate to 5% Argillaceous Coarse Grained								
509					- 25% Black Pyritic to 1002								
510					moderate								
511				507.35-508.30	Gray - Black Pyritic to 1002								
				RHFS	moderate to 5% Argillaceous Coarse Grained								
512													
513													
514													
515	70%			515.30-516.94	Gray - Black Pyritic to 1002								

[illegible]

PAGE		OF		PROJECT:		HOLE NO. WWC0-03					
DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
514				513.82-516.94							
515				RHLT							
				(Cont)							
516				E.O.H							
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**2000 SUMMARY REPORT ON THE
BOOT 1 - 22, GO 21, 23-52, 77, 79, 81 Fr, 95, 97-106, 108-109, 125-127 Fr
JACK 1-26 Fr, 28 Fr, 30-33 Fr, WOL 210-244, 246 Fr, 249**

9.0 CHEMEX ASSAY CERTIFICATES



ALS Chemex

Aurora Laboratory Services Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

A0021115

Comments: ATTN: TERRY TUCKER

CERTIFICATE

A0021115

(MPO) - EXPATRIATE RESOURCES LTD.

Project: WOL
P.O. #:

Samples submitted to our lab in Vancouver, BC.
This report was printed on 19-JUL-2000.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
258	8	RUSH Assay ring approx 150 mesh
295	8	RUSH crush and split (0-3 Kg)
3202	8	Rock - save entire reject
266	8	Special prep procedure
290	8	Assay HF ICP digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2944	8	Weight g	BALANCE	0.1	5000.0
955	8	Au g/tonne: RUSH, 1 assay ton	FA-GRAVIMETRIC	0.07	1000.0
473	8	Ag g/tonne: RUSH	FA-GRAVIMETRIC	3	3500
301	8	Cu %: Conc. Nitric-HCl dig'n	AAS	0.01	100.0
312	8	Pb %: Conc. Nitric-HCl dig'n	AAS	0.01	100.0
316	8	Zn %: Conc. Nitric-HCl dig'n	AAS	0.01	100.0
1263	8	Ag ppm: high grade 24 element	AAS	1	200
4031	8	Al %: A22 ICP package	ICP-AES	0.05	30.0
4032	8	Ba ppm: A22 ICP package	ICP-AES	100	50000
4033	8	Be ppm: A22 ICP package	ICP-AES	10	10000
4034	8	Bi ppm: A22 ICP package	ICP-AES	20	50000
4035	8	Ca %: A22 ICP package	ICP-AES	0.05	30.0
4036	8	Cd ppm: A22 ICP package	ICP-AES	10	10000
4037	8	Co ppm: A22 ICP package	ICP-AES	10	100000
4038	8	Cr ppm: A22 ICP package	ICP-AES	10	100000
4039	8	Cu ppm: A22 ICP package	ICP-AES	10	100000
4040	8	Fe %: A22 ICP package	ICP-AES	0.05	30.0
4041	8	K %: A22 ICP package	ICP-AES	0.1	20.0
4042	8	Mg %: A22 ICP package	ICP-AES	0.05	30.0
4043	8	Mn ppm: A22 ICP package	ICP-AES	10	100000
4044	8	Mo ppm: A22 ICP package	ICP-AES	10	100000
4045	8	Na %: A22 ICP package	ICP-AES	0.05	20.0
4046	8	Ni ppm: A22 ICP package	ICP-AES	10	100000
4075	8	Pb %: high grade 24 element	AAS	0.001	10.00
4047	8	Sr ppm: A22 ICP package	ICP-AES	10	100000
4048	8	Ti %: A22 ICP package	ICP-AES	0.05	20.0
4049	8	V ppm: A22 ICP package	ICP-AES	10	50000
4050	8	Zn ppm: A22 ICP package	ICP-AES	20	100000
331	8	As %: conc. Nitric-HCl digestion	AAS	0.01	100.0
348	8	Sb %: HCl-KClO3 digestion	AAS	0.01	100.00
344	8	Hg %: HNO3-KClO3-HCl digestion	AAS	0.001	100.00
444	8	Spec. grav. SG: pulv. material	PYCNO METER	0.01	20.0
912	8	Ba ppm	XRF	10	50000
9237	8	Se ppm: ICP + ICP-MS package	ICP-MS	0.5	1000



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Y1A 3S9

Project: WOL
Comments: ATTN: TERRY TUCKER

Page: 1-A
Total Pages: 1
Certificate Date: 11-JUL-2000
Invoice No.: I0021115
P.O. Number:
Account: MPO

** CORRECTED COPY

CERTIFICATE OF ANALYSIS

A0021115

SAMPLE	PREP CODE	Weight grams	Au g/t RUSH	Ag g/t RUSH	Cu % FA	Pb %	Zn %	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)
419113	258 295	3220.0	0.75	232	0.31	1.58	21.7	>200	0.10	400	< 10	< 20	2.75	2140	10	60	3160	26.2	< 0.1	< 0.05
419114	258 295	3420.0	0.96	224	0.95	1.28	16.50	>200	0.05	300	< 10	< 20	1.65	1640	30	80	9530	>30.0	< 0.1	0.05
419115	258 295	3000.0	0.55	137	0.43	1.49	12.05	131	0.05	100	< 10	< 20	1.05	1050	40	100	4250	>30.0	< 0.1	0.05
419116	258 295	2740.0	0.48	77	0.91	0.52	19.10	69	0.05	300	< 10	< 20	1.05	1760	90	80	8960	>30.0	< 0.1	0.05
419117	258 295	3700.0	0.62	194	0.61	1.58	8.93	192	0.20	400	< 10	< 20	0.50	680	40	100	6240	>30.0	< 0.1	0.05
419118	258 295	3820.0	1.16	259	0.80	2.01	18.25	>200	0.65	400	< 10	20	1.00	1710	40	60	8200	>30.0	0.1	0.15
419119	258 295	1820.0	0.14	25	0.24	0.41	6.58	25	5.20	500	< 10	< 20	11.55	610	10	40	2430	14.35	2.0	0.85
419120	258 295	1860.0	0.14	23	0.77	0.29	3.64	35	4.15	500	< 10	20	1.85	330	30	80	7520	18.00	1.6	2.15

CERTIFICATION:

+

** Se OVERLIMITS ADDED. COMPANY NAME CORRECTED.



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Analytical Chemists * Geochemists * Registered Assayers

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To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

Project: WOL
Comments: ATTN: TERRY TUCKER

Page: 1-B
Total Pages: 1
Certificate Date: 11-JUL-2000
Invoice No.: 10021115
P.O. Number:
Account: MPO

** CORRECTED COPY

CERTIFICATE OF ANALYSIS

A0021115

SAMPLE	PREP CODE	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	Pb % AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	Zn ppm (ICP)	As %	Sb %	HgSpec %	Gr S.G.	Ba XRF ppm	Se ppm
419113	258 295	640	10	< 0.05	40	1.505	110	< 0.05	20	>100000	0.07	0.06	0.005	4.15	7270	955
419114	258 295	560	30	< 0.05	10	1.295	60	< 0.05	30	>100000	0.15	0.03	0.001	4.35	850	2150
419115	258 295	330	< 10	< 0.05	< 10	1.535	30	< 0.05	< 10	>100000	0.10	0.01	0.001	4.55	250	1775
419116	258 295	390	< 10	< 0.05	< 10	0.504	30	< 0.05	10	>100000	0.02	< 0.01	0.001	4.36	680	2940
419117	258 295	160	20	< 0.05	10	1.590	20	< 0.05	< 10	80100	0.07	0.04	< 0.001	4.57	1690	1820
419118	258 295	400	< 10	< 0.05	10	2.03	20	< 0.05	60	>100000	0.17	0.05	0.002	4.43	2200	1260
419119	258 295	1660	< 10	0.05	< 10	0.393	190	0.05	70	60300	0.03	< 0.01	< 0.001	3.25	14630	635
419120	258 295	1240	< 10	0.30	< 10	0.271	60	0.05	30	35300	< 0.01	< 0.01	< 0.001	3.23	5440	835

CERTIFICATION:

+

** Se OVERLIMITS ADDED. COMPANY NAME CORRECTED.



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212 Brooksbank Ave., North Vancouver
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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

Page Number: 1-A
Total Pages: 1
Certificate Date: 06-JUL-2000
Invoice No.: I0021113
P.O. Number:
Account: RDE

* PLEASE NOTE

CERTIFICATE OF ANALYSIS A0021113

SAMPLE	PREP CODE	Au ppb RUSH	Ag g/t	Cu %	Pb %	Zn %	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)
419112	255 295	170	94.2	1.40	0.24	11.90	128	56	70100	91.0	1.33	10	< 0.5	Intf*	0.82	>500	24	183	>10000	11.00

CERTIFICATION:

* INTERFERENCE: HIGH Cu ON Bi AND P.



ALS Chemex

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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
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Project : WOL
Comments: ATTN: TERRY TUCKER

Page Number : 1-B
Total Pages : 1
Certificate Date: 06-JUL-2000
Invoice No. : I0021113
P.O. Number :
Account : RDE

* PLEASE NOTE

CERTIFICATE OF ANALYSIS

A0021113

SAMPLE	PREP CODE		K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sr ppm	Ti %	V ppm	W ppm	Zn ppm	Spec	Gr	Ba	XRF
			(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	AAS	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	S.G.			ppm
419112	255	295	0.78	0.18	300	12	0.07	44	Intf*	1150	63	< 0.01	24	10	>10000	3.16		21100	

CERTIFICATION:

* INTERFERENCE: HIGH Cu ON Bi AND P.



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C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

Project: WOL
Comments: ATTN: TERRY TUCKER

Page: 1 of 1
Total Pages: 1
Certificate Date: 26-JUL-2000
Invoice No.: I0023356
P.O. Number:
Account: MPO

CERTIFICATE OF ANALYSIS

A0023356

SAMPLE	PREP CODE		Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
N419157	205	226	< 5	4	2.0	30	< 0.2	3.29	490	2.0	< 2	2.51	< 0.5	8	189	59
N419158	205	226	< 5	< 1	1.6	20	< 0.2	3.34	1760	2.0	< 2	3.65	< 0.5	12	168	62
N419159	205	226	10	10	8.4	80	0.6	3.38	120	2.5	< 2	2.79	0.5	7	203	42
N419160	205	226	10	14	12.0	250	1.0	2.56	70	2.0	< 2	2.29	4.5	7	241	61
N419161	205	226	30	46	26	160	2.0	2.89	60	3.0	< 2	3.10	0.5	6	241	71
N419162	205	226	25	54	37	600	4.0	4.84	140	3.5	< 2	1.79	5.5	6	227	73
N419163	205	226	45	112	39	3220	9.0	4.94	110	2.5	< 2	0.62	24.5	4	212	41
N419164	205	226	15	49	18.5	250	2.0	4.13	90	2.5	< 2	2.06	1.5	9	251	52

CERTIFICATION:



ALS Chemex

Aurora Laboratory Services Ltd.

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212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
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Page Number: 1-B
Total Pages: 1
Certificate Date: 26-JUL-2000
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P.O. Number:
Account: MPO

CERTIFICATE OF ANALYSIS

A0023356

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
N419157	205 226	1.93	1.61	0.39	1090	< 1	0.07	37	240	18	99	0.13	123	10	66
N419158	205 226	1.87	1.74	0.42	2110	1	0.07	39	570	18	181	0.13	127	< 10	86
N419159	205 226	2.33	1.77	0.60	750	5	0.05	41	1450	34	107	0.11	201	< 10	194
N419160	205 226	3.09	1.34	0.39	430	4	0.01	48	580	54	89	0.08	134	< 10	904
N419161	205 226	3.35	1.46	0.40	450	10	0.04	60	1850	86	143	0.09	334	< 10	104
N419162	205 226	2.21	2.35	0.60	265	30	0.13	83	2320	50	122	0.14	385	< 10	798
N419163	205 226	2.61	2.38	0.69	195	8	0.14	31	540	176	60	0.13	250	< 10	2290
N419164	205 226	2.93	1.73	1.18	845	7	0.11	63	1740	18	233	0.12	233	< 10	286

CERTIFICATION: _____



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Aurora Laboratory Services Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project :

Comments: ATTN: TERRY TUCKER

Page Number : 1-A
Total Pages : 1
Certificate Date: 06-JUL-2000
Invoice No. : 10021731
P.O. Number :
Account : RDE

CERTIFICATE OF ANALYSIS

A0021731

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
N419101	205 226	15	16	0.6	70	0.8	2.93	530	1.0	< 2	0.37	0.5	9	197	71
N419102	205 226	25	11	0.8	40	< 0.2	3.39	240	0.5	< 2	4.13	< 0.5	9	122	45
N419103	205 226	10	9	0.2	40	0.2	3.15	360	3.0	< 2	0.23	< 0.5	7	168	60
N419104	205 226	< 5	< 1	0.8	50	0.2	2.75	160	2.5	< 2	0.79	< 0.5	7	187	51
N419105	205 226	45	5	0.8	80	0.2	2.61	350	3.5	< 2	0.73	< 0.5	7	214	73
N419106	205 226	10	19	1.2	100	0.4	2.42	110	2.5	< 2	13.25	2.5	8	129	53
N419107	205 226	25	32	2.6	450	0.8	3.12	120	3.5	< 2	3.23	15.0	10	180	66
N419108	205 226	< 5	2	1.8	30	< 0.2	3.27	350	2.0	< 2	0.19	< 0.5	8	172	54
N419109	205 226	< 5	13	1.0	30	0.4	3.26	540	1.5	< 2	1.35	1.0	10	191	49
N419110	205 226	130	6	3.2	40	0.6	2.49	1240	1.5	< 2	1.12	1.0	14	222	75
N419111	205 226	< 5	15	2.6	40	1.6	2.49	360	1.0	< 2	1.86	< 0.5	11	192	220
N419121	205 226	< 5	33	4.0	220	0.4	3.95	220	2.0	< 2	2.03	3.0	9	179	125
N419122	205 226	10	49	7.2	490	1.4	5.89	200	4.0	< 2	2.47	3.5	5	157	37
N419123	205 226	10	50	5.8	460	1.4	4.88	140	3.5	< 2	1.68	11.5	4	264	30
N419124	205 226	< 5	15	1.0	20	0.2	8.67	450	2.5	< 2	0.82	< 0.5	5	88	6
N419125	205 226	< 5	7	0.6	< 10	< 0.2	7.29	490	2.5	< 2	0.39	< 0.5	4	120	3

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212 Brooksbank Ave., North Vancouver
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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project :

Comments: ATTN: TERRY TUCKER

Page Number : 1-B
Total Pages : 1
Certificate Date: 06-JUL-2000
Invoice No. : I0021731
P.O. Number :
Account : RDE

CERTIFICATE OF ANALYSIS

A0021731

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
N419101	205 226	2.08	0.80	0.32	415	5	0.05	47	290	24	51	0.11	140	< 10	486
N419102	205 226	8.63	0.10	0.72	>10000	< 1	< 0.01	22	340	14	254	0.05	131	< 10	48
N419103	205 226	1.84	1.06	0.35	420	1	0.04	43	140	12	50	0.13	126	< 10	166
N419104	205 226	8.48	0.22	0.34	1125	14	< 0.01	23	1240	2	72	0.15	117	< 10	38
N419105	205 226	2.19	1.02	0.31	455	4	0.01	22	610	32	30	0.08	148	< 10	200
N419106	205 226	6.62	0.47	0.47	3520	2	< 0.01	26	930	132	602	0.09	167	< 10	1535
N419107	205 226	2.81	1.00	0.44	600	6	0.01	49	590	698	149	0.09	211	< 10	3200
N419108	205 226	1.68	1.52	0.54	100	< 1	0.06	61	100	16	43	0.13	95	< 10	242
N419109	205 226	1.68	1.77	0.61	390	< 1	0.11	48	180	6	232	0.08	79	< 10	258
N419110	205 226	1.45	1.37	0.51	405	< 1	0.08	57	170	10	199	0.08	99	< 10	116
N419111	205 226	1.71	1.51	0.57	560	< 1	0.11	34	230	6	256	0.08	101	< 10	140
N419121	205 226	2.59	1.76	0.95	700	3	0.04	44	520	20	124	0.14	164	< 10	328
N419122	205 226	2.62	2.93	1.23	455	11	0.06	36	1040	30	124	0.13	179	< 10	322
N419123	205 226	2.85	2.15	0.53	165	15	0.06	60	1270	42	78	0.12	466	< 10	820
N419124	205 226	2.48	3.75	0.40	65	< 1	2.03	4	660	30	99	0.20	45	< 10	22
N419125	205 226	1.35	5.93	0.17	60	< 1	1.07	3	540	24	76	0.14	21	< 10	14

CERTIFICATION:



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Aurora Laboratory Services Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
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PHONE: 604-984-0221 FAX: 604-984-0218

To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
1016 - 510 W. HASTINGS ST.
VANCOUVER, BC
V6B 1L8

Project: WOL
Comments: ATTN: TERRY TUCKER

Page number: 1-A
Total Pages: 1
Certificate Date: 13-NOV-2000
Invoice No.: I0033047
P.O. Number:
Account: MPO

CERTIFICATE OF ANALYSIS

A0033047

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
N419221	205 226	50	22	3.0	< 10	0.2	2.09	140	0.5	< 2	0.31	< 0.5	7	221	62
N419222	205 226	10	11	35	40	1.2	2.58	370	1.5	< 2	2.40	< 0.5	8	150	68
N419223	205 226	5	1	1.2	70	0.2	2.20	270	1.5	< 2	0.61	< 0.5	6	114	68
N419224	205 226	70	29	17.5	40	1.0	1.54	120	1.0	< 2	1.85	< 0.5	10	164	65

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To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
1016 - 510 W. HASTINGS ST.
VANCOUVER, BC
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Project : WOL
Comments: ATTN: TERRY TUCKER

Page Number : 1-B
Total Pages : 1
Certificate Date: 13-NOV-2000
Invoice No. : I0033047
P.O. Number :
Account : MPO

CERTIFICATE OF ANALYSIS

A0033047

SAMPLE	PREP CODE		Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
N419221	205	226	3.63	0.14	0.24	1010	13	0.03	35	180	24	37	0.07	106	< 10	214
N419222	205	226	9.34	0.78	0.75	5850	1	0.01	14	260	8	176	0.11	120	< 10	44
N419223	205	226	1.96	0.54	0.29	600	7	0.05	33	170	18	89	0.06	107	< 10	382
N419224	205	226	10.15	0.20	0.52	4110	5	< 0.01	22	310	12	68	0.05	102	< 10	40

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PHONE: 604-984-0221 FAX: 604-984-0218

To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

Page Number: 1-A
Total Pages: 1
Certificate Date: 01-DEC-2000
Invoice No.: I0033609
P.O. Number:
Account: RDE

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CERTIFICATE OF ANALYSIS

A0033609

SAMPLE	PREP CODE		Weight grams	Au FA g/t	Ag FA g/t	Cu %	Pb %	Zn %	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)	K % (ICP)	Mg % (ICP)
N419235	208	226	277.4	1.68	441	0.45	2.87	14.35	>200	0.05	100	< 10	< 20	2.45	1260	40	70	4380	28.6	< 0.1	0.05
N419236	208	226	375.5	1.82	480	2.66	1.06	9.07	>200	1.05	100	< 10	360	0.85	860	100	100	25100	>30.0	0.5	0.15

CERTIFICATION: _____

** FOR Se ON SAMPLE N419236.



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Analytical Chemists * Geochemists * Registered Assayers
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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project : WOL
Comments: ATTN: TERRY TUCKER

Page Number : 1-B
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Certificate Date: 01-DEC-2000
Invoice No. : I0033609
P.O. Number :
Account : RDE

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CERTIFICATE OF ANALYSIS

A0033609

SAMPLE	PREP CODE	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	Pb % AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	Zn ppm (ICP)	As %	Sb %	HgSpec %	Gr Ba XRF S.G. ppm	Se ppm
N419235	208 226	650	< 10	< 0.05	70	2.91	90	< 0.05	50	>100000	0.55	0.18	0.063	4.42	270 650
N419236	208 226	240	< 10	< 0.05	20	1.070	< 10	< 0.05	50	80000	0.19	0.10	0.024	4.40	1840 2800

CERTIFICATION: _____

** FOR Se ON SAMPLE N419236.



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Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

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Invoice No.: I0033612
P.O. Number:
Account: RDE

CERTIFICATE OF ANALYSIS

A0033612

SAMPLE	PREP CODE		Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
N419239	205	226	75	107	46	11140	14.2	4.99	330	2.0	< 2	0.59	100.5	6	135	446
N419240	205	226	10	6	22	60	0.2	3.62	320	1.5	< 2	0.83	< 0.5	11	154	65
N419241	205	226	60	53	20	200	1.4	2.53	140	2.0	< 2	1.07	0.5	7	245	59
N419242	205	226	40	32	15.5	110	1.0	3.62	110	2.5	< 2	1.45	< 0.5	4	226	53

CERTIFICATION:

Lawrence G.



ALS Chemex

Aurora Laboratory Services Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
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PHONE: 604-984-0221 FAX: 604-984-0218

To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

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P.O. Number:
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CERTIFICATE OF ANALYSIS

A0033612

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
N419239	205 226	2.47	1.90	0.62	245	5	0.09	19	120	1840	32	0.10	68	< 10	>10000
N419240	205 226	2.21	1.47	0.73	410	1	0.04	55	150	6	82	0.12	145	< 10	114
N419241	205 226	1.74	1.02	0.27	160	6	0.03	76	960	4	75	0.08	150	< 10	380
N419242	205 226	2.17	1.42	0.34	195	6	0.05	60	1510	2	106	0.09	128	< 10	194

CERTIFICATION:

Laurence Tg



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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

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Certificate Date: 21-NOV-2000
Invoice No.: I0033611
P.O. Number:
Account: RDE

* PLEASE NOTE

CERTIFICATE OF ANALYSIS

A0033611

SAMPLE	PREP CODE		Au ppb	Ag	Cu	Pb	Zn	As	Sb	Hg	Ag ppm	Al %	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
			FA+AA	g/t	%	%	%	ppm	ppm	ppb	AAS	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)
N419234	208	226	435	36.3	0.04	0.04	0.43	594	150	1520	27.6	2.20	100	4.0	4	2.40	46.5	7	415	300	4.43
N419237	208	226	520	107.0	1.96	0.26	3.43	437	72	1990	92.2	7.72	150	1.0	Intf*	6.12	315	29	44	>10000	8.82
N419238	208	226	115	20.7	0.03	0.26	1.03	577	78	6610	20.2	4.49	260	1.5	< 2	1.66	89.5	1	197	239	2.38

CERTIFICATION:

* INTERFERENCE: HIGH Cu ON Bi AND P.



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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.

VANCOUVER, BC

V6C 2B3

Project : WOL

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A0033611

SAMPLE	PREP CODE	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Spec Gr S.G.	Ba XRF ppm
N419234	208 226	0.96	0.25	210	71	0.01	229	7020	412	93	0.08	1455	< 10	3950	2.83	6510
N419237	208 226	3.51	1.25	1300	4	0.18	8	Intf*	2560	159	0.12	54	< 10	>10000	3.14	15520
N419238	208 226	1.49	0.39	260	13	0.06	29	70	2620	51	0.07	306	< 10	9720	2.81	8470

CERTIFICATION:

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To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

Project: WOL
Comments: ATTN: TERRY TUCKER

Page Number: 1-A
Total Pages: 1
Certificate Date: 27-JUL-2000
Invoice No.: I0023545
P.O. Number:
Account: MPO

CERTIFICATE OF ANALYSIS

A0023545

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
N419126	205 226	15	8	1.6	< 10	< 0.2	1.49	140	0.5	< 2	1.57	< 0.5	4	185	18
N419127	205 226	< 5	10	1.0	90	0.4	2.33	230	2.0	< 2	0.65	< 0.5	8	181	62
N419128	205 226	5	11	0.8	50	0.4	2.63	260	2.5	< 2	0.31	< 0.5	8	305	81
N419129	205 226	< 5	1	1.4	< 10	0.2	2.85	280	1.5	< 2	4.83	< 0.5	6	74	33
N419130	205 226	15	12	1.6	10	1.2	3.09	100	3.5	2	0.84	< 0.5	14	177	117
N419131	205 226	< 5	4	1.2	< 10	0.2	2.37	180	1.5	< 2	4.51	< 0.5	8	104	41
N419132	205 226	< 5	13	0.6	< 10	0.6	2.38	680	1.0	< 2	0.56	< 0.5	5	262	102
N419133	205 226	< 5	11	1.0	< 10	0.4	3.23	370	1.5	2	2.42	< 0.5	8	98	65
N419134	205 226	5	3	0.4	< 10	0.6	2.54	360	1.5	< 2	1.69	< 0.5	7	223	105
N419135	205 226	10	12	0.8	< 10	0.4	2.82	320	1.5	< 2	7.08	< 0.5	7	84	50
N419136	205 226	5	15	0.8	< 10	0.6	2.89	270	2.0	< 2	1.09	< 0.5	10	262	99
N419137	205 226	< 5	22	1.2	< 10	< 0.2	0.42	210	< 0.5	< 2	9.05	< 0.5	6	71	12
N419138	205 226	15	4	0.4	10	0.2	2.44	220	2.0	2	0.49	< 0.5	7	254	61
N419139	205 226	< 5	15	0.2	260	0.2	1.97	810	2.0	< 2	0.78	< 0.5	4	274	62
N419140	205 226	10	2	1.4	20	0.2	2.65	120	1.5	2	3.48	< 0.5	7	197	54
N419141	205 226	5	3	0.6	280	0.4	2.38	210	1.0	2	0.91	< 0.5	8	297	84
N419142	205 226	25	7	3.4	30	0.4	3.12	100	1.0	< 2	2.08	< 0.5	7	162	105
N419143	205 226	< 5	1	0.2	390	< 0.2	2.39	1150	2.0	< 2	0.19	< 0.5	7	249	58
N419144	205 226	20	7	0.6	< 10	0.2	3.16	500	5.0	< 2	0.76	< 0.5	12	179	25
N419145	205 226	< 5	< 1	0.8	< 10	< 0.2	1.94	180	3.5	< 2	1.26	< 0.5	6	219	8
N419146	205 226	< 5	17	0.2	< 10	< 0.2	0.83	140	6.5	< 2	1.30	< 0.5	6	108	3
N419147	205 226	< 5	24	0.4	< 10	< 0.2	2.93	100	5.0	< 2	1.13	< 0.5	7	146	17
N419148	205 226	< 5	16	0.6	440	< 0.2	2.57	130	4.5	2	0.17	< 0.5	3	194	32
N419149	205 226	< 5	38	1.2	160	< 0.2	2.19	50	5.5	< 2	0.46	1.0	5	204	42
N419150	205 226	< 5	4	0.2	20	< 0.2	1.74	20	6.0	< 2	6.58	0.5	6	79	41
N419151	205 226	10	26	2.0	160	< 0.2	0.35	90	2.0	< 2	>25.0	1.5	3	18	14
N419152	205 226	25	43	4.4	10	0.2	0.72	30	2.0	< 2	23.6	< 0.5	8	61	21
N419153	205 226	< 5	13	0.8	10	< 0.2	1.55	370	2.0	< 2	22.5	< 0.5	5	75	41
N419154	205 226	< 5	13	0.8	10	0.2	2.88	70	4.5	2	3.86	< 0.5	8	167	83
N419155	205 226	10	19	1.6	70	0.2	2.03	30	2.5	< 2	10.45	1.0	8	96	49
N419156	205 226	10	17	2.4	740	0.4	2.04	30	3.5	< 2	8.96	10.0	8	89	43

CERTIFICATION:



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Aurora Laboratory Services Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver

British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218

To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

Project: WOL
Comments: ATTN: TERRY TUCKER

Page Number: 1-B
Total Pages: 1
Certificate Date: 27-JUL-2000
Invoice No.: I0023545
P.O. Number:
Account: MPO

CERTIFICATE OF ANALYSIS

A0023545

SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
N419126	205 226	6.95	0.16	0.38	1560	2	0.01	9	300	6	311	0.08	86	< 10	24
N419127	205 226	3.10	0.69	0.35	545	2	0.05	41	340	36	156	0.10	129	< 10	370
N419128	205 226	1.77	1.09	0.29	255	3	0.08	63	120	42	78	0.10	133	< 10	346
N419129	205 226	10.10	1.13	0.58	3400	4	0.07	23	760	10	317	0.08	85	< 10	26
N419130	205 226	2.96	1.02	0.29	370	11	0.10	124	160	104	46	0.07	144	< 10	12
N419131	205 226	9.00	0.89	0.55	2940	3	0.03	26	610	12	219	0.08	101	< 10	16
N419132	205 226	1.92	0.83	0.28	270	6	0.09	25	230	18	49	0.10	163	< 10	14
N419133	205 226	9.73	1.32	0.94	5190	3	0.04	35	460	12	132	0.12	131	< 10	68
N419134	205 226	2.13	1.13	0.34	690	7	0.07	40	410	36	111	0.11	146	< 10	22
N419135	205 226	8.77	1.16	0.76	5030	1	0.04	32	410	14	346	0.11	121	< 10	72
N419136	205 226	2.55	1.16	0.30	845	6	0.04	78	790	18	100	0.11	139	< 10	36
N419137	205 226	12.45	0.10	0.35	6800	5	< 0.01	11	430	8	431	0.01	43	< 10	12
N419138	205 226	1.93	1.04	0.33	270	< 1	0.04	55	120	12	82	0.11	120	< 10	56
N419139	205 226	1.04	0.55	0.24	230	4	0.05	29	60	12	118	0.06	103	< 10	406
N419140	205 226	3.68	1.09	0.46	1370	4	0.04	33	350	8	249	0.08	110	< 10	38
N419141	205 226	1.98	0.81	0.34	500	4	0.06	52	950	138	124	0.08	124	< 10	500
N419142	205 226	8.33	1.11	0.83	1655	4	0.05	31	510	8	331	0.13	171	< 10	50
N419143	205 226	1.35	0.88	0.32	125	5	0.09	51	90	20	147	0.10	108	< 10	394
N419144	205 226	9.60	0.69	0.44	300	4	0.07	23	820	4	256	0.16	107	< 10	28
N419145	205 226	14.40	0.21	0.30	350	11	0.03	11	1100	6	273	0.11	89	< 10	18
N419146	205 226	23.1	0.03	0.11	195	18	< 0.01	6	2840	< 2	194	0.05	85	< 10	10
N419147	205 226	13.05	0.05	0.37	305	4	0.01	9	1520	6	121	0.17	117	< 10	30
N419148	205 226	3.32	1.16	0.25	55	2	0.04	16	170	34	25	0.10	105	< 10	2490
N419149	205 226	2.74	1.04	0.23	150	10	0.01	25	220	138	11	0.09	129	< 10	966
N419150	205 226	14.35	0.82	0.79	4200	12	< 0.01	9	660	60	136	0.08	126	< 10	228
N419151	205 226	3.75	0.16	0.13	2300	12	< 0.01	4	940	232	402	0.01	78	< 10	1160
N419152	205 226	6.94	0.31	0.14	1890	18	< 0.01	9	1190	344	278	0.03	120	< 10	90
N419153	205 226	2.19	0.62	0.30	2370	< 1	< 0.01	9	370	44	382	0.06	64	< 10	26
N419154	205 226	7.81	0.96	1.00	2970	1	0.04	49	650	52	94	0.11	158	< 10	178
N419155	205 226	6.87	0.73	0.54	2990	6	< 0.01	32	730	150	283	0.09	133	< 10	572
N419156	205 226	7.30	0.81	0.55	3360	7	< 0.01	24	870	156	265	0.09	148	< 10	4100

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[Signature]



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To: EXPATRIATE RESOURCES LTD.
C/O ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
BOX 4127, 2054 SECOND AVE.
WHITEHORSE, YT
Y1A 3S9

Project :
Comments: ATTN: TERRY TUCKER

Page Number : 1-A
Total Pages : 1
Certificate Date: 24-JUL-2000
Invoice No. : I0023106
P.O. Number :
Account : MPO

CERTIFICATE OF ANALYSIS

A0023106

SAMPLE	PREP		Au ppb Ag g/t		Cu	Pb	Zn	As	Sb	Hg	Ag	ppm	Al %	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
	CODE		RUSH	RUSH FA	%	%	%	ppm	ppm	ppb	AAS	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)	(ICP)
N419165	255	295	< 5	< 3	< 0.01	< 0.01	< 0.01	5	3.2	30	0.2	2.65	280	1.5	< 2	7.47	< 0.5	8	125	54	1.45	
N419166	255	295	< 5	7	< 0.01	< 0.01	0.01	53	25	200	1.8	2.06	80	2.5	< 2	7.83	1.5	6	162	48	3.07	
N419167	255	295	10	12	0.01	0.01	0.14	147	31	470	3.4	1.81	110	4.0	< 2	4.27	24.5	5	272	111	1.43	
N419168	255	295	80	28	0.05	0.10	0.81	260	86	2120	24.6	2.23	50	3.5	12	3.45	108.0	10	262	568	3.60	
N419169	255	295	< 5	4	0.01	< 0.01	< 0.01	17	13.0	30	1.4	3.99	110	1.0	< 2	1.84	< 0.5	15	115	80	2.80	
														</								

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[Signature]



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Project :

Comments: ATTN: TERRY TUCKER

Page Number : 1-B
Total Pages : 1
Certificate Date: 24-JUL-2000
Invoice No. : I0023106
P.O. Number :
Account : MPO

CERTIFICATE OF ANALYSIS

A0023106

SAMPLE	PREP CODE	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Spec S.G.	Gr ppm	Ba ppm	XRF
N419165	255 295	0.84	0.34	1425	4	0.11	35	330	8	363	0.07	98	< 10	68	2.80	33600		
N419166	255 295	0.62	0.14	1085	9	0.08	73	2260	40	271	0.05	192	< 10	206	2.88	22200		
N419167	255 295	0.72	0.17	370	39	0.06	154	9950	114	195	0.07	1410	< 10	1420	2.79	5920		
N419168	255 295	0.97	0.23	370	70	0.03	254	7980	696	137	0.08	1795	< 10	8430	2.87	5800		
N419169	255 295	1.75	0.86	1015	1	0.06	38	520	18	126	0.18	111	< 10	64	2.85	9790		

CERTIFICATION:

Sarah C. King



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To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.
VANCOUVER, BC
V6C 2B3

Project: WOL
Comments: ATTN: TERRY TUCKER

Page Number: 1-A
Total Pages: 1
Certificate Date: 19-DEC-2000
Invoice No.: I0035469
P.O. Number:
Account: RDE

CERTIFICATE OF ANALYSIS

A0035469

SAMPLE	PREP CODE	Au ppb FA+AA	As ppm	Sb ppm	Hg ppb	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)
419225	205 226	10	5	2.2	10	0.6	2.08	40	4.5	< 2	15.80	< 0.5	6	81	97
419226	205 226	5	5	4.4	80	0.2	2.28	200	1.5	4	2.92	< 0.5	6	244	47
419227	205 226	10	22	11.0	230	0.6	3.04	90	2.5	< 2	2.14	1.0	4	118	49
419228	205 226	15	24	12.0	150	0.6	3.45	100	3.0	< 2	1.98	1.5	6	212	46
419229	205 226	15	21	9.8	80	0.8	3.18	80	2.0	< 2	2.40	0.5	7	215	48
419230	205 226	10	14	6.6	30	0.4	2.11	120	1.5	< 2	2.77	< 0.5	4	234	44
419231	205 226	10	17	8.0	50	0.6	2.02	60	2.0	< 2	2.98	< 0.5	3	225	57
419232	205 226	40	67	21	200	2.0	3.12	50	3.5	< 2	2.31	0.5	12	228	98
419233	205 226	10	21	12.0	100	0.6	3.49	80	2.5	< 2	2.80	0.5	4	192	43

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212 Brooksbank Ave., North Vancouver
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PHONE: 604-984-0221 FAX: 604-984-0218

To: WOLVERINE JOINT VENTURE

701 - 475 HOWE ST.

VANCOUVER, BC

V6C 2B3

Project: WOL

Comments: ATTN: TERRY TUCKER

Page Number: 1-B

Total Pages: 1

Certificate Date: 19-DEC-2000

Invoice No.: I0035469

P.O. Number:

Account: RDE

CERTIFICATE OF ANALYSIS

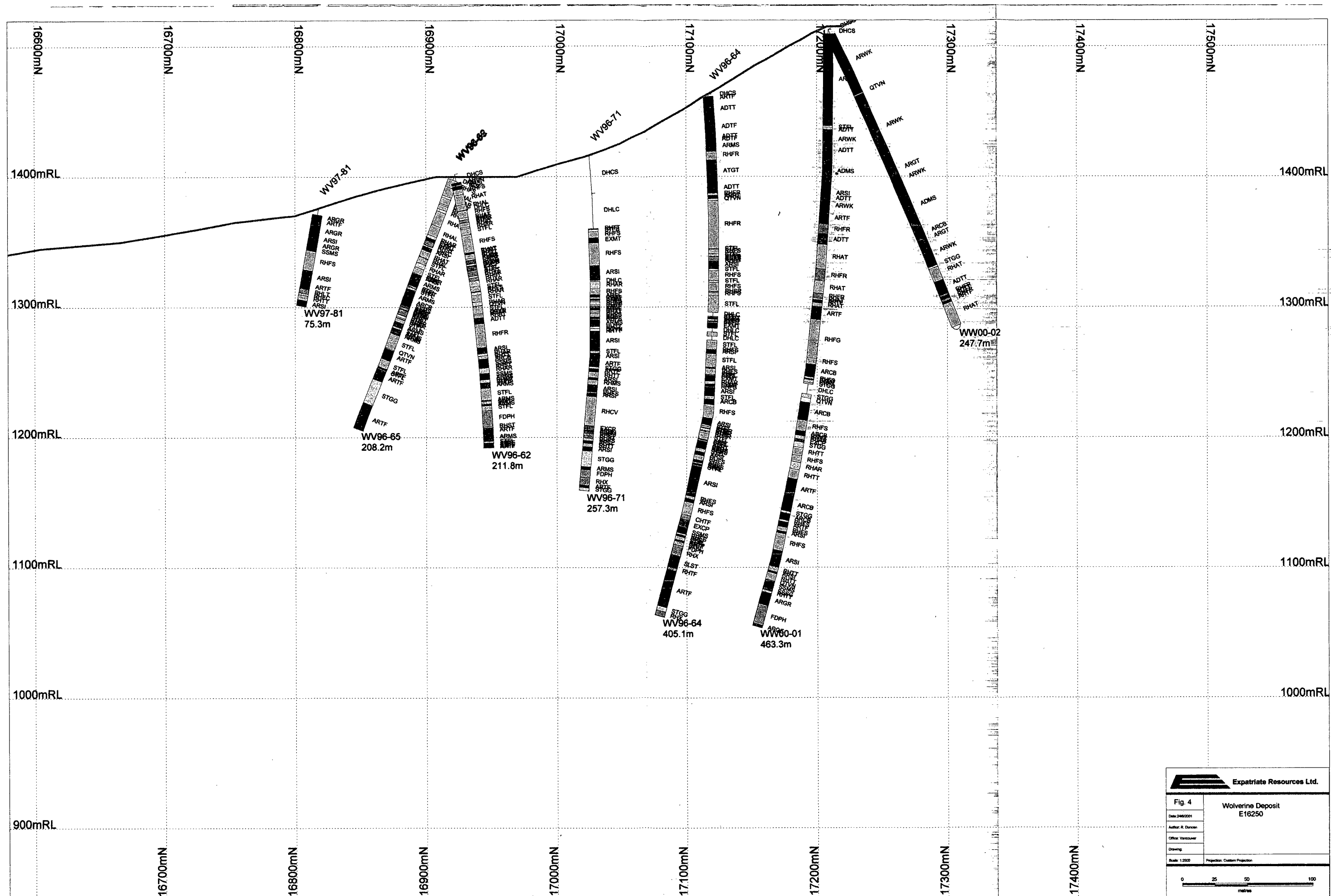
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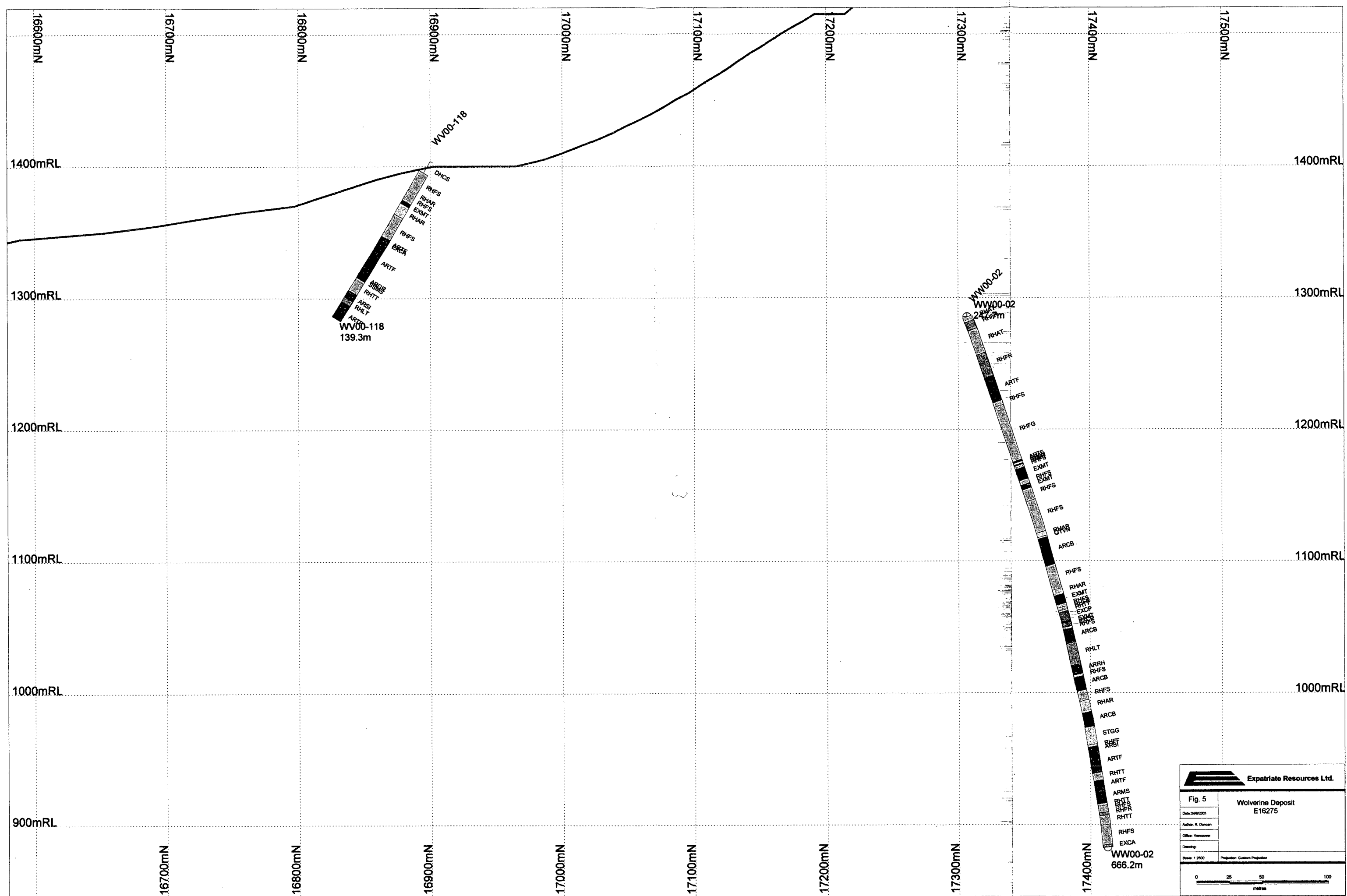
SAMPLE	PREP CODE	Fe % (ICP)	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm AAS	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)
419225	205 226	9.54	0.56	0.65	3290	12	0.01	26	240	194	1380	0.08	150	< 10	434
419226	205 226	1.46	1.06	0.33	950	1	0.04	33	1550	20	110	0.09	126	< 10	122
419227	205 226	1.87	1.38	0.37	365	1	0.04	36	1880	36	88	0.11	212	< 10	346
419228	205 226	2.21	1.57	0.54	395	11	0.06	45	1600	38	56	0.14	242	< 10	356
419229	205 226	2.32	1.61	0.37	340	5	0.06	51	770	36	115	0.13	141	< 10	134
419230	205 226	1.81	1.01	0.35	400	3	0.04	33	320	32	121	0.07	95	< 10	12
419231	205 226	1.89	1.01	0.27	390	1	0.04	39	430	32	144	0.07	114	< 10	14
419232	205 226	3.17	1.55	0.39	315	16	0.05	82	1630	106	120	0.15	417	< 10	106
419233	205 226	1.89	1.59	0.44	355	5	0.06	30	1000	36	123	0.08	105	< 10	76

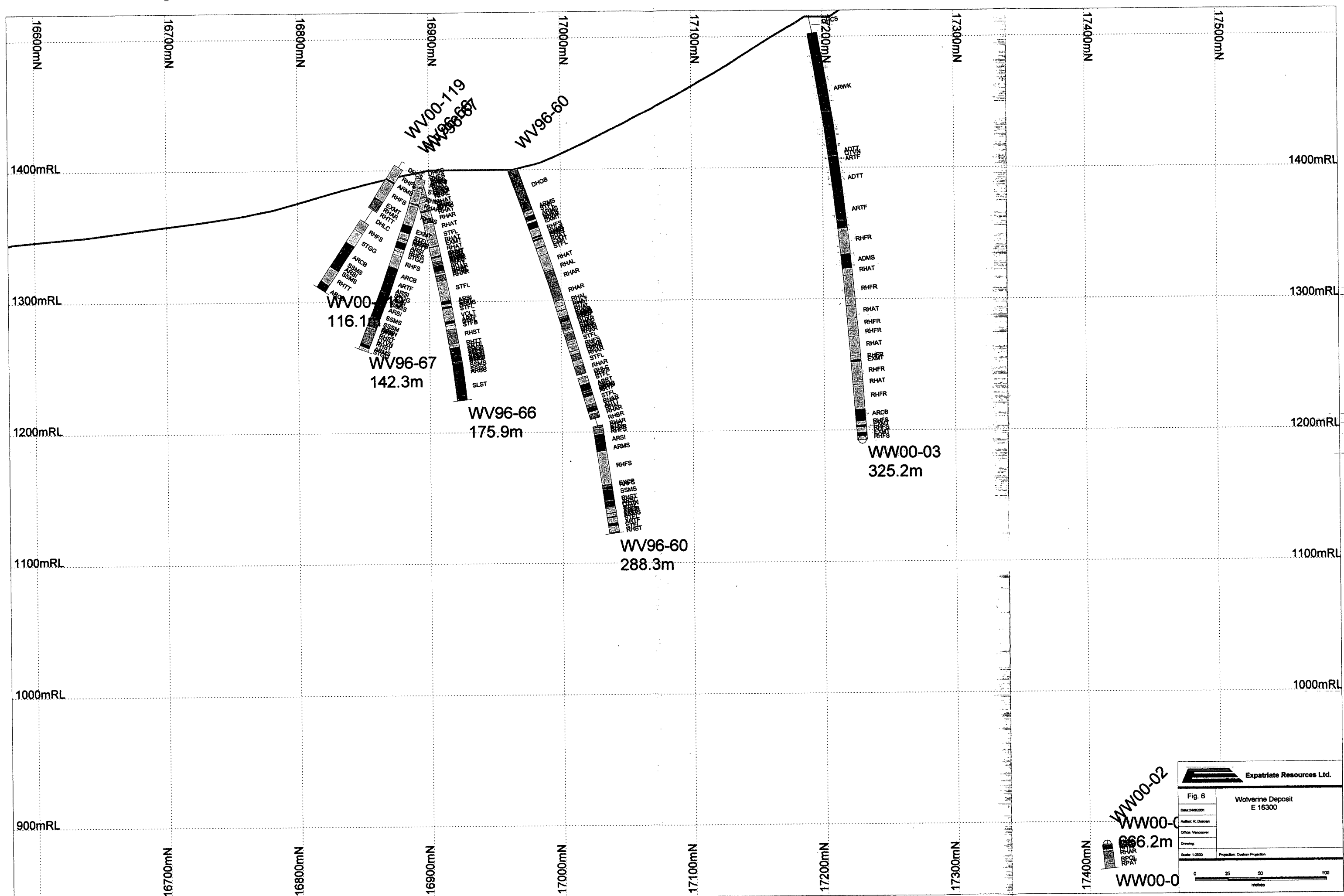
CERTIFICATION:

**2000 SUMMARY REPORT ON THE
BOOT 1 - 22, GO 21, 23-52, 77, 79, 81 Fr, 95, 97-106, 108-109, 125-127 Fr
JACK 1-26 Fr, 28 Fr, 30-33 Fr, WOL 210-244, 246 Fr, 249**

**10.0 DRILL HOLE CROSS SECTIONS
FIGURES 3, 4, and 5**







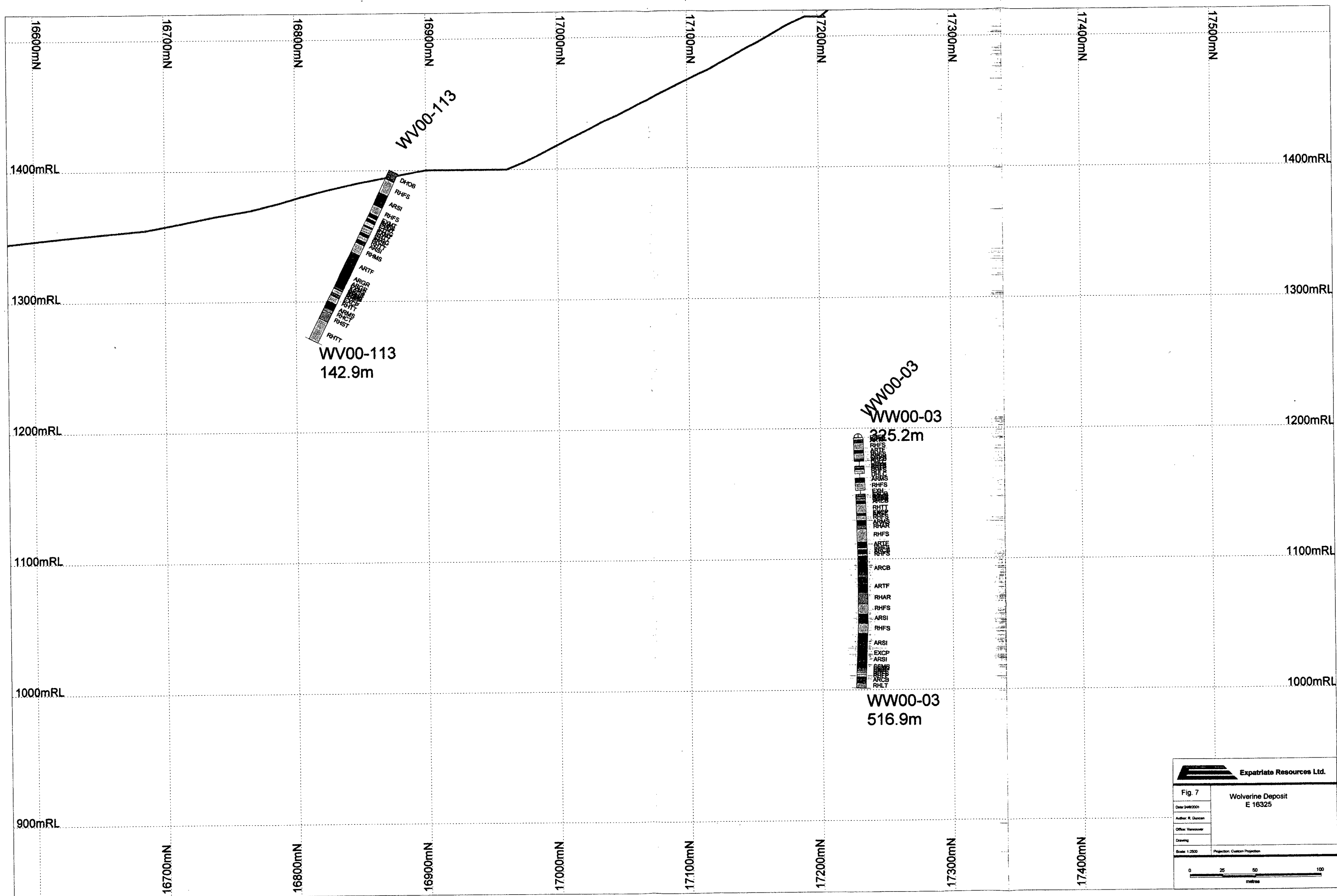


TABLE 1 WOLVERINE PROJECT ROCK CODES

DHOB	Overburden
DHLC	Lost Core
DHCS	Casing
DHNL	No Log

STRUCTURE / VEINS

STFL	Fault
STGG	Fault Gouge
STFB	Fault Breccia

CAVN	Calcite Vein
CRVN	Carbonate Vein
QTVN	Quartz Vein
QCVN	Quartz-Carbonate Vein

ANDESITIC VOLCANICS

ADMS	Andesite
ADTT	Andesite Tuff
ADFF	Andesite Fine Tuff
ADTF	Andesite Lapilli Tuff

RHYOLITIC VOLCANICS

RHFS	Aphanitic Rhyolite
RHMS	Massive Rhyolite

RHFR	Rhyolite Fragmental
------	---------------------

RHTT	Rhyolite Tuff
RHFF	Rhyolite Fine Tuff
RHLT	Rhyolite Lapilli Tuff
RHAL	Banded Lapilli-Ash Tuff
RHAT	Argillaceous Lapilli Tuff
RHST	Sericitic Rhyolite Tuff
RHCT	Chloritic Rhyolite Tuff
RHSR	Sericitic Lapilli Tuff
RHCL	Chloritic Lapilli Tuff

RPAT	Argillaceous Quartz-Eye Feldspar Crystal Tuff
RPQL	Quartz-Eye Rhyolite Lapilli Tuff
RPTF	Quartz-Eye Feldspar Crystal Tuff

FDPH	Feldspar Porphyry
QFPH	Quartz-Feldspar Porphyry

EXHALITES

EXCP	Calcite-Pyrite Exhalite
EXSP	Silica-Pyrite Exhalite
EXMT	Banded Magnetite Iron Formation
EXMP	Pyritic Banded Magnetite Iron Formation

SEDIMENTS & VOLCANICLASTICS

ARMS	Argillite
ARCB	Carbonaceous Argillite
ARRT	Carbonaceous Argillite with Rhyolite Lapilli
ARGR	Graphitic Argillite
ARSI	Siliceous Argillite
ARTF	Tuffaceous Argillite
ARQE	Black Quartz-Eye Bearing Argillite
RHAR	Interbedded Rhyolite / Argillite
ARRH	Interbedded Argillite / Rhyolite
ARGT	Interbedded Black Argillite/Green Tuff
ARWK	Interbedded Black Argillite/Greywacke
SLST	Siltstone
LMST	Limestone

SULPHIDE ASSEMBLAGES

SSMS	Massive Sulphides
PYMS	Massive Sulphide (py-rich)
SPMS	Massive Sulphide (sph-rich)
CPMS	Massive Sulphide (cpy-rich)
CSMS	Massive Sulphide (cpy+sph)
PMMS	Massive Sulphide (polymetallic)
PYSM	Semi-Massive Sulphides (py)
SPSM	Semi-Massive Sulphides (sph)
CPSM	Semi-Massive Sulphides (cpy)
CSSM	Semi-Massive Sulphides (cpy+sph)
PMSM	Semi-Massive Sulphides (polymetallic)