

LOG NO:	0620	RD.
ACTION:		
FILE NO:		

Great Western Star Project  
Diamond Drilling  
Winter 1989-1990

Drill Logs

GWS-90-17 to GWS-90-26

Nelson Mining Division  
British Columbia  
NTS 82 F 6/W

Latitude 49 deg 27 min N  
Longitude 117 deg 22 min W

for

Pacific Sentinel Gold Corp.  
1020 - 800 West Pender Street  
Vancouver, B.C.  
V6C 2V6  
(owner and operator)

by

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(consultant)

April 1990

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,063  
Part 3 of 4



N C G

DRILL CORE LOG

Logged by: C. Blorin Date: Jan 27, 1990 Sampled by: S. Woods Date: Jan 28, 1990 (3.66-3.70)

Drill Hole No.: GWS-90-17  
Page 2 of 32; From 0 To 10 m  
Project: Great Western Star

Depth (m)	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
0			0-3.66m	CASED IN OVERBURDEN											
1															
2															
3															
4			3.66-90.13m	hb. plaq. ch schist conglomerate	Intense ch 10-15% sil 2-5% Fe 2-3% Mn 2-3% Ca 2-3% Mg	Dr. mineral				.001	.06	.002	.020	10456	
5														5	
6										.005	.06	.002	.020	10457	
7														7	
8										.002	.06	.001	.020	10468	
9														9	
10			9.95-10.90		Fe silicates at low Z 1-2% Fe	Dr. mineral				.001	.04	.016	.010	10469	

1047

N C G			DRILL CORE LOG					Drill Hole No.: GWS-95-17 Page 3 of 32; From 10m To 20m Project: Great Western Star							
			Logged by: J. G. Horton		Date: Jan 22 '90		Sampled by: S. Woods		Date: Jan 22 '90						
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au off	Ag sp+	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
10				see previous sheet		tr pyrite mts				.001	.04	.016	.010	10469	
11					moderately silicified pyrite mts replaces mts ox. 20%										
12					ox. 20%					.002	.05	.032	.020	10470	
13														13	
14										.001	.06	.011	.020	10471	
15														15	
16										.001	.05	.017	.020	10472	
17														17	
18										.001	.06	.028	.020	10473	
19					mod. silicified mt's, sym	tr pyrite in low sil q-cov. mts									
20					moderately silicified oxidized					.001	.04	.029	.020	10474	

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N C G

DRILL CORE LOG

Logged by: C. Pothorn Date: Jan 27/90 Sampled by: B. Woods Date: Jan 27/90

Drill Hole No.: GWS-70-17  
Page 4 of 32; From 20 To 30  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY				Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
20				see p. 2	low x at c.b. units: occur through this interval; post-date low x units due to	tr. fgr. disc. in units through the interval					.001	.04	.029	.020	10474
21															21
22			21.00-22.00		siliceous thin chert, possibly calc. chert, possibly siliceous thin chert, possibly calc. chert, possibly siliceous thin chert, possibly calc. chert, possibly	tr. fgr. disc. in units through the interval					.001	.05	.032	.020	10475
23															23
24											.001	.03	.031	.020	10476
25			24.00-25.00												25
26											.001	.04	.012	.020	10477
27															27
28			28.00-29.00								.001	.05	.010	.020	10478
29															29
30											.001	.04	.014	.020	10479

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 5 of 32; From 30 To 40m  
 Project: Great Western Star

Logged by: C. Pothorin Date: Jan 27/90 Sampled by: S. Woods Date: Jan 28/90

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
30			30-31.20	See description p. 2	qtz-cb units frd. broken	tr py in vnt's through this interval					.001	.04	.014	.020	10479
31	35		31.15-32.20	dk gray-erm. v. fine chlorite ph. with 10-15% orthopyroxene; s. fol. calc. green; likely has some amphibole in surrounding	v. fine vnt's as above with 10-15% broken	py 1-2% in 2cm bed tr spu-mal. on Fc-cb vnt					.001	.06	.098	.030	10480
32			31.40-32		stained; esp. in 15% per. v.										
33			32.20 on	as before	v. fine vnt's										
34	35					tr spu in 6mm at cbl.					.001	.06	.102	.010	10481
35			34.75-36.18	ns. light tan with 1-2mm void of Fc-cb 10-15% amphibole; ~15% of 16.	qtz-cb units, as above, 5-10/m	py n.i.									
36											.001	.02	.035	.020	10482
37			37.00-41.00		v. low angle qtz-cb vnt's, 1-3mm, subll to core axis; 1-2 units per m.	py n.i.									
38											.001	.04	.010	.020	10483
39															39
40	35										.001	.05	.011	.010	10484

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 6 of 32; From 40m To 50m Project: Great Western Star								
			Logged by: C. Rothman		Date: Jan 28, 2000		Sampled by: B. Woods		Date: Jan 28, 2000						
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zr %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
40			40.55-41.45	See description p. 2 rocks are finer-grained with a stronger foliation; leucocratic calcphyllite	rx broken by longitudinal & x-fractures	py m.					.001	.05	.011	.010	10484
41															41
42			40-43	(K10%) mlt Dorpr. as before	1-2mm thk qtz cb vnt's 1-5/m	py m.					.003	.06	.014	.020	10485
43															43
44											.001	.04	.010	.010	10486
45			45.15-45.80		rx strong oxidation Fe2+ to Fe3+ rx discolored to a m. brn, 15-20% cb	py m.					.002	.05	.008	.010	10487
46			45.30-46.25		1-3mm ovoid chlc blebs, aligned to foliation, 15-20% on interval										46
47			45.80-47.20		rx moderately oxidized & discolored, ~10% cb										47
48			48-49.10		thick 0.5-1cm qtz-cav vnt's ~7/m vln siderite in vnt @ 49.08m lug ~ 25x5mm	5% mlt vnt @ 48.60m					.001	.05	.001	.010	10488
49															49
50											.002	.06	.010	.020	10489

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-17 Page 7 of 32; From 50m To 60m Project: Great Western Star							
			Logged by: C. Pothorin		Date: Jan 28, 90		Sampled by: B. Woods		Date: Jan 23, 90						
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
50			50.15-51	see description p. 2	1-1.3cm ovoid silica blebs, 5-10% of rock; some leached out to produce voids	nil				.002	.06	.010	.020	10489	
51														51	
52			52.15-52.45		mod. oxidation, discoloration to a lighter color; Fe → Fe <sub>2</sub> O <sub>3</sub>	nil				.001	.05	.002	.010	10490	
53			53.17-53.44		mod. oxidation, as above	nil								53	
54										.001	.05	.010	.010	10491	
55														55	
56			56.05-56.41		4.05-1.5cm thick silica blebs in matrix					.001	.06	.011	.010	10492	
57			56.45-57.42 57.42-57.57 58.57-59	oxidized calcite, some calcite, some Fe <sub>2</sub> O <sub>3</sub> , some Mn <sub>2</sub> O <sub>3</sub> , up to 30% Mn <sub>2</sub> O <sub>3</sub> repl. by Fe <sub>2</sub> O <sub>3</sub> ; other discolored by oxidation	2-5mm thick dark Mn <sub>2</sub> O <sub>3</sub> blebs to 30% Mn <sub>2</sub> O <sub>3</sub> ; Mn <sub>2</sub> O <sub>3</sub> are deformed, some elongated before deformation	tr py								57	
58			58.76-60+			upto 5% jar dissm visible in core				.001	.06	.013	.020	10493	
59														59	
60										.001	.06	.009	.020	10494	

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 8 of 32; From 60m To 70m  
 Project: Great Western Star

Logged by: C. Pothorin Date: Jan 28/90 Sampled by: S. Woods Date: Jan 27/90

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au g/t	Fe g/t	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
60	20 30 35		60.2-60.65	see description p. 2 fragments comprise much lower %age of rock (15%) and are smaller (< 5mm)	mnr oxid Fe-ox up to 15% in discoloration to m. brn	nil				.001	.06	.009	.020	12001	
61														61	
62						vnltz sparse (< 6/m) through entire interval					.001	.05	.010	.020	12002
63				63.0-64.50		weak oxid, discoloration to lt brn, Fe-ox up to 8%									63
64											.006	.06	.021	.010	12003
65							nil								65
66											.001	.09	.034	.020	12004
67				67-67.70	much lower %age chl in this interval (7-10%) causes a change in color. to m. brn; %age m. sil increases to 5-6%; m. visible as										67
68				68.50-68.70	0.5mm xtls dism throughout						.001	.06	.014	.020	12005
69				69.10-69.55	rx. Possibly an alteration effect due to gradational contact & essentially same texture as country rx		tr py in vnl siliceous zone as above								69
70										.001	.06	.013	.020	12006	

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-17 Page 9 of 32; From 70m to 80m Project: Great Western Star							
			Logged by: C. Pothorin		Date: Jan 28, 29		Sampled by: B. Woods		Date: Jan 29 '90						
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
70				see description p. 2						.001	.06	.013	.020	10499	
71	30 ↘		71.30-72.90	typicaly alternate between hb plag-chl schist and altered unit as described below	2-13mm ovoid blebs rounded to sharp corners comprise 10-15% of interval	tr py, Agr discr								71	
72			71.55-71.65 m	shallow green, 2 cycles, 10cm	mt 6-7% CO+Cb 10-15% chl 2-5%	tr py, Agr string				.001	.06	.011	.020	0500	
73	27 ↘		72.90-73.55		'leached' alt'n; 20+cb up to 10-15%; v.f. xtlm mt concentrations pseudomorph (?) plag xtl's, up to 5mm, 6-10% chl removed to 2-5% pseudomorph cont.	tr py, Agr bleb mt, as shown								73	
74			74.40-74.75			nil				.001	.08	.010	.020	10501	
75						mnr hem rep's								75	
76	32 ↘					nil				.001	.07	.008	.010	10502	
77														77	
78										.001	.05	.009	.010	10503	
79	28 ↘													79	
80						nil				.001	.05	.007	.010	10504	

N C G			DRILL CORE LOG					Drill Hole No.: GWS-20-17 Page 10 of 32; From 80m To 90m Project: Great Western Star						
			Logged by: C. Pothorin		Date: Jan 29/90		Sampled by: B Woods		Date: Jan 29/90					
Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
80	27 ↘		80.30-81.25	see description p. 2 + descr. of alteration p. 9	2-13mm ovoid ateb blebs roughly aligned to join sample - 0% 1%	nil				.001	.05	.007	.010	10504
81														
82	35 ↗		82.00-84.00		wk-mod o'c-mt leucocratic alteration, ↓ chl to ~5%, mt ~ 3-5%					.001	.05	.002	.010	10505
83														
84	33 ↘									.001	.06	.009	.010	10506
85					25.05-87.00		alteration of above	ref. dism p. 4						
86										.001	.06	.002	.010	10507
87	30 ↗													87
88					88.45-89.05	Em 10%	few o'c vnlts Strong Fe-o'c + minor ca introduction; rocks discolored to m. brn				.001	.04	.001	.050
89			89.05-89.85		wk. Feo alt'n; rx lt brn	ref. dism p. 4								89
90			89.85-90.13	Em 10%	dk brn o'c massive, early co-ca masses as blebs, by frags and/or frs; likely ro + Feo + FeOx					.003	.09	.010	.150	10509

N C G

DRILL CORE LOG

Logged by: C. Pothoin Date: Jan 21, 2003 Sampled by: B. Woods Date: Jan 30, 2003

Drill Hole No.: GWS- 90-17  
Page 11 of 32; From 90m to 100m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	% SP	% gn	Cu <sub>2</sub> O	Zn <sub>2</sub> O	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
90			90.13-100.54	lt gy, m. fd qt-plag-hbl-ser Schist. <10% 1-3mm ovoid	ser 10% mt <1% chl <2% pb <10%	py 10%; dism fer				Adopt .003	Pgopt .09	.010	.150	10509	
91	27		91.00-92.00	olag porphyroclasts; <10% at i hold pyrite pb (? lattice-ordered)	ca-silic+discrete in heavily frd rx	mt blebs (1x2cm)								91	
92			92.00-95.20		cb+Fe cb+mnrca discolor rx to a m. brn; some vuggy corrosion developed alu in dissolution; some mt → hemat Fe ox ~10%					.001	.04	.003	.010	10510	
93														93	
94	30									.001	.04	.005	.020	10511	
95														95	
96	0-10		96.00-97.20		Fe ox 2% Ca 10%+	gn-fr w gy py-far masses low fr, mns				.005	.07	.009	.030	10512	
97														97	
98	0-10									.004	.19	.013	.560	10513	
99			99.22-99.53											99.20	
100			99.62-100.54							.001	.39	.002	4.95	10514	

N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-17						
			Logged by: C. Pothorin Date: Jan 23, 1992 Sampled by: S. Woods Date: Jan 30, 1992						Page 12 of 32; From 100m To 110m						
			Project: Great Western Star												
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	% SP	% GN	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
100			99.67-100.54	qt-ca-Fecb vm, as on previous pg		PY } as on previous pg SP } GN }				opt .001	opt .39	.008	4.95	10514	
101	41		100.54-106.05	qt-gy-am qt-ser schist ? platite andesite	ser 2-5% py 2-5% gn 10%					.002	.12	.008	.19	10515	
102			100.54-102.15		0.5-3cm units, 13/m through this interval	py 2-4% as of strings								10215	
103			102.80-103.43		dk brn-schist-Fe-ox-ca rich segment, brittle, massive, heavy, with rd (as on previous pg)					.006	.26	.17	.31	10516	
104	40		103.43-106.05		0.5-4cm units of qt-cb, severed generations of an. suggested by concentric band appearance, some pyrite, some transparent as previous pg	gn 1-2% as sp < 1% as py 1-2% as of strings				.005	.12	.022	.10	10517	
105														10605	
106			106.05-141.15	dk orn ca-chi-qt schist S-01, 2 of qt 10-15% ca = 10%	blk mar trm in bedded masses in Hem the qt-ca v. mri hem					.001	.05	.011	.030	10518	
107	40													108	
108														108	
109	38									.001	.04	.005	.010	10519	
110														110	

NOTE: vng is likely a multi-generational hydrothermal event due to concentric banding, minor brecciation, a country rx, and at least 2 different  $\alpha$ -types

N C G

DRILL CORE LOG

Drill Hole No.: GWS-  
Page 13 of 32; From 110m To 120m  
Project: Great Western Star

Logged by: C. Pothorn Date: Jan 29, 2009 Sampled by: B Woods Date: Jan 30, 2009

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
110				See description p. 12	Ca 10%, esp on frs, but also pervasive throughout	nil									10520
111	34 ↘				thin (1-2mm) veins and small (1-4) ovoid blebs of dr-cs occur sparsely through interval, roughly aligned to 30°	nil				.001	.06	.014	.01		112
112						nil									
113	40 ↘					nil				.001	.04	.011	.01		10521
114						nil									114
115			114.90-116.0		variable porosity, up to 6%, due to dissolution of dr-cs	nil				.001	.06	.018	.010		10522
116	36 ↘					nil									116
117						nil				.001	.06	.020	.010		10523
118						nil									118
119	37 ↘					nil				.001	.06	.014	.010		10524
120						nil									120

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N C G

DRILL CORE LOG

Drill Hole No.: GMS-90-17  
 Page 15 of 32; From 130m To 140m  
 Project: Great Western Star

Logged by: C. Potharin Date: Jan 30/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Σ %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
130			130.40	See description p.12	ca up to 10% nil										130
131	35		130.40-131.10	1.5mm leucocratic euhedral-subhedral pits, 90% repl.	in groundmass but most as replacement of feldspar	stained reprob. 4.02 mal				.001	.05	.043	.010		10530
132			131.20	134-136.15m; Comprise up to 20% of these grains	20-10% sil ~ 10-15%	stained reprob. 2.02 mal									132
133					to decrease					.001	.06	.057	.010		10531
134					min. gl. cl. v. fine both to 134m @ 134m to core axis										134
135										.001	.05	.044	.010		10532
136															136
137			137.0-139.75	ry ophanitic massive with rocky appearance. 100-500 μm - 3mm dia. 11/m through this interval. 10-15% to 137m						.001	.06	.010	.010		10533
138															138
139	30				nil					.001	.04	.014	.010		10534
140					ca nil	reprob. nil rich brd									140

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 16 of 32; From 140M To 150M  
 Project: Great Western Star

Logged by: C. Pothorin Date: Jan 30/90 Sampled by: J Woods Date: Jan 31/90

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
140			140-140.8	see description p12		py-tr-pb; fgr disms + lcl strings									140
141	42		140.8-141.15 141.15-150.97	mgy, mtd, fair clay-sh (? latite, andesite) occasional qt eyes in affn	FeCb-Feox-co; m brn ch! -2.5% ca -2.5%					.001	.01	.006	.10	10535	
142															142
143										.001	.01	.001	.010	10536	
144	40					py 1% fgr dism ca occurs mostly on frs also mtr arcs through frs in part in groundmass; dissolution of pyrite and magnetite nodules									144
145										.001	.01	.006	.010	10537	
146	40					py tr 2% fgr dism + blebs of qt-co-m-vrs									146
147										.001	.01	.020	.010	10538	
148															148
149	40									.001	.01	.014	.010	10539	
150			149.60-150.18		FeCb-Feox-co; ix discolored m brn	py tr 2% as fgr disms fgs strings									150

Feox - 15%

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 17 of 32; From 150 m to 160 m Project: Great Western Star							
			Logged by: C. Pothorin Date: Jan 30, 1990				Sampled by: S. Woods Date: Jan 31, 1990							
Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Au opt	Pb opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
150	40		150-150.18	see description p. 16 plag-ser schist	Fe-ox-Fe-calc alt'n; rx discolored to m. brn									150
151			150.97-151.30 151.30-152.83	amphibole contacts see description	see descr. below ser 2-5% ch 2-5% ca <5%				.001	.02	.016	.010	10540	
152														152
153	40		153.50m	euhedral-subhedral 1-2mm fusc pxts (originally plag) in 10cm brd, comprise 25% of rx; may be relict xtl tuft back					.001	.04	.016	.010	10541	
154														154
155									.006	.04	.012	.010	10542	
156	40													156
157			156.83-158.34	amphibole bt-plag pxts in bt pxts ~25% plag pxts ~5-10% contacts are irregular	dk gray-blk ser mix; lcl calc vesicles ~.5-1mm				.001	.03	.009	.010	10543	
158														158
159	40		158.34-159.17 158.80-158.90 159.17-159.17	See description p. 16 plag-ser-chl schist	Fe-ox-Fe-calc alt'n; rx discolored to m brn Eox 10-15%				.001	.02	.012	.001	10544	
160														160

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 18 of 32; From 160m To 170m Project: Great Western Star							
			Logged by: C. Potvin Date: Jan 30, 1990 Sampled by: S. Woods Date: Jan 31, 1990											
Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
160			160-162.60	see description p. 16 euhedral felsic pxts 1-3mm, comprise up to 25% of the r.f. 162-163.5m	2-bmm qtz-calc ylns, sub ill to: pln, 2l/m tr. py, fgr disms s rare stringers iron yns									160
161	37									.001	.02	.012	.010	10545
162			161.90-163.37		Feor-Fe-calc rx m orn Feox 10% Ca 40% chl 5-10%									162
163			163.37-164.24	rx finer gr, pxts rare, dk am color due to ↑ chl (5-10%), ca in groundmass, fgs 2-20% to 10%	tr py - fgr disms					.001	.01	.010	.010	10546
164	40		164.24-166.05	amphibole dyke (dk am - dk; massive, bt (25-50%) of plag (<5%) pxts in fgr mtx; lily has calc. filled vesicles 164.50-165.20 mm bx zone in country rock xenolith 165.20-166.05 lamp. heavily withrd, friable (7 bt to 45-50%)										164
165	20	upper contact of lamp								.001	.04	.015	.010	10547
166			166.05-180.00	plag-cr. schist (see descr p. 15)										166
167	30		166.05-169.0		chl 5-10%					.001	.03	.011	.010	10548
168					iron replacement material in pxts relicts									168
169	42		169.0-170.0		chl (2-5% as before)					.001	.02	.011	.010	10549
170														170

164

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-17 Page 19 of 32; From 170m To 180m Project: Great Western Star						
			Logged by: C. Pothorin Date: Jan 30, 31 Sampled by: S Woods Date: Jan 31, 90											
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
170			170-172.20	plag-chl-qt schist; fir m. gy-grn, see description p. 16's mfol										170
171	40			plag ? 20-40% qtz 10-15% hold mfol's					.001	.01	.015	.010		10550
172			172.20-175.15	as above, but with ↑ chl (10-15%) + py disms and s. fol'n, darker gm in color										172
173	35			chl 2-5% ca 5-8% ca both in groundmass and in vults sub'ill to foln. 2-5/mf avg 3-5mm					.001	.03	.013	.010		10551
174														174
175			175.15-179.48	chl (2-5%) again, mfol local euhedral-subhedral pxt-rich bnds from 175.50-177.75m; pxts 1-5mm, up to 20% rx; larger pxts of chl rimmed by ca, some in py core					.001	.01	.021	.010		10552
176	42													176
177									.001	.01	.011	.010		10553
178														178
179	43								.001	.04	.016	.010		10554
180	25		179.48-180	chl (10-15%), mfol; rx for represent ch'ed mfol unit below										180

447

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-17  
Page 2 of 32; From 180m To 190m  
Project: Great Western Star

Logged by: C. Pothorin Date: Jan 31/90 Sampled by: B. Woods Date: Jan 31/90

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	N opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
180			180-212.35	dk grn, f-mgr, massive, wkfol, equigranular											180
181	41			px; hbl 20-25% euhedral xtls + grndmass plag 30-40% euhedral lath + grndmass qtz 10-15% granoblastic ca 2-3% granoblastic mt 1-3% chl 2-3%							.001	.06	.012	.010	10555
182				diaritic sub-volcanic intrusive; probably a high level intrusion due to fine size of wkfol											182
183	45										.001	.04	.012	.010	10556
184			182.55- 183.20	mt cutting ca-qtz with rdm orientation; also carry mt pl											184
185			184.70m	2cm thk q-cz with ep + trm's (both 5-10%) mt pl							.001	.06	.011	.010	10557
186	45														186
187											.001	.05	.026	.010	10558
188															188
189		none discernable									.001	.05	.017	.010	10559
190															190

Z

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 21 of 32; From 190m To 200m Project: Great Western Star								
Logged by: C. Pothorin			Date: Jun 30 1990		Sampled by:		Date:								
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au op.	Ag op.	Cu %	Zn %	Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization									
190				high level dioritic intrusive (sub-volcanic); see description p. 20										190	
191	60 0-15			- slight increase in grain size, some pits up to 3-4mm for pyrites - fol. wk - none visible		nil				.001	.04	.011	.010	10560	
192														192	
193			192.60-193.30		ep replacement of wt% pits, MnO <sub>2</sub> qtz-ep veins; ep up to 10%					.001	.03	.010	.010	10561	
194			193.90-194.45		intense ep replacement veins; ep up to 3%; rndm orient									194	
195	0-15		195.60-195.60 195.60-195.85		some vague porosity due to calc dissolution mn oxide (or discoloration) to lg-grained; likely due to Fe-ox up to 10%					.001	.01	.010	.010	10562	
196						nil								196	
197	40			wk foln		mt on fr; partly oxidized → hem				.001	.01	.013	.010	10563	
198														198	
199	35			wk foln		nil				.001	.01	.013	.010	10564	
200														200	

7

N C G			DRILL CORE LOG				Drill Hole No.: GWS- 90-17 Page 22 of 32; From 200m To 210m Project: Great Western Star							
Logged by: C. Pothorin			Date: Jan 31/2		Sampled by:		Date:							
Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
200				high level dioritic intrusive (sub-volcanic) see description p 20	nil									200
201	40			Still very equigranular, massive, non-to- wk fol'd. texture; mineralogy as before					.001	.01	.012	.010		10585
202			201.20-202.90		rx a lt brn-grn color due to oxidation; minor Fe-ox (~5%); some vuggy porosity due to dissolution; vugs 1-2mm. up to 15% porosity	nil								202
203	no fol'n				minor ca in groundmass; dica-ep units				.001	.02	.011	.010		10586
204														204
205	10-10		205.10-206m		low & thin (<2mm) mica units, 1-2/m				.001	.02	.011	.010		10587
206	32		206.0-210m		thin (<2mm) at 20-ep) units, <5-720/m									206
207									.001	.03	.010	.010		10588
208														208
209	30								.001	.04	.009	.010		10589
210				wk fol'n		nil								210

7





N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 24 of 32; From 220m To 230m Project: Great Western Star								
Logged by: C. Pothorin			Date: Jan 31/90		Sampled by: B. Woods		Date: Feb 1/90								
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	In opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
220				hbld-plag-chl schist (andesite) see description p 20		nil									220
221				mfol, fol: dk gy-grn rx -light/dark color banding; rich bands - may be	1-5cm mfr: fls low banding					.001	.03	.011	.010		10575
222					chl ~ 10% ca ~ 40% ; in groundmass through internal ord: 1/4" x 1/4"										222
223										.001	.05	.010	.010		10576
224						nil									224
225										.001	.05	.010	.010		10577
226						qtz-cs-siderite vnt's, 1-4mm thk, < 10/m, subll to fol; some w iron ep									226
227						nil				.001	.04	.001	.010		10578
228			228.73-230.20			xtal suff bed; massive & non fol'd; prts 4mm; equidial to subequidial pleurocratic, comprise up to 20% of rock; probably relict feldspar replaced by ca + ep.; gradational contacts									228
229			229.30-229.48			2-4-8cm thk ep-ca-Fe ch-qt vnt's; up to 70% ep trcpy in vnt's; oz+				.001	.03	.002	.010		10579
230															230

2

N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: Feb 1/90 Sampled by: B. Woods Date: Feb 1/90

Drill Hole No.: GWS-90-17  
Page 25 of 32; From 230m To 240m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au %	Ag %	Cu %	Zn %	Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization									
230			230.0-230.20	xtal tuft, as described p. 24		nil									230
231			230.20-231.41	oxidized interval; rx discolored to mbm by Fe Ox (up to 10-15%); rx quite massive & equigranular (maybe oxidized section of tuft bed) - no ca.											10580
232			231.41-232.56	bold-pla- cr schist (andesite) as described p. 20 Mfc - fsc flow banding, as described p. 24, continues											232
233															10581
234															234
235															10582
236															236
237			237.0-240.0			v. few vnl's									10583
238															238
239															10584
240															240

45'

55'

55'

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 27 of 32; From 250m To 260m  
 Project: Great Western Star

Logged by: C. Pollock Date: Feb 2, 90 Sampled by: J. Derry Date: Feb 2, 90

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
250				hobd plaq-chl schist (andesite) see description p. 20										250
251	50 ↘			mte. disc bindg as before (see p. 24)										10590
252			252-260	ca 25% in groundmass chl 5-10% nil ep 2-3%						.001	.06	.010	.010	252
253	60-90			increase in qtz units, 1-3 mm thk, up to 20% in most sub. to Bln; also L to core axis						.001	.05	.010	.010	10591
254				more hem on fs										254
255	110-0			nil						.001	.05	.013	.010	10592
256														256
257	50 ↘									.001	.06	.010	.010	10593
258														258
259	44 ↘									.001	.06	.010	.010	10594
260														260

Z

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 28 of 32; From 260m To 270m  
 Project: Great Western Star

Logged by: C. Bthorin Date: Feb 2/90 Sampled by: J. Derry Date: Feb 2/90

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Au ppt	Ag ppt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
260														260
261	52													10595
262	0-15									.001	.05	.012	.010	262
263	48									.001	.06	.014	.010	10596
264														264
265	15									.001	.06	.017	.010	10597
266	0-10													266
267	03		266.10-266.90							.001	.05	.012	.010	10598
268														268
269	42									.001	.04	.010	.010	10599
270														270

Wld-plag-chl schist (andesite)  
 see description p. 20; Mfol  
 mte-Alsc Gndreias before (p. 24)  
 ca 5-10% epidioritic units  
 chl 5-10% nil  
 ep 1%  
 mte 4% - 1.5 mm thick up to  
 30/m, subparallel to various  
 to foln, mte rep in units  
 several generations of sub-parallel  
 units both pre- and post-dating  
 low X units  
 rare here on 4/5

large (up to 15 x 20 cm) - ep-act  
 blebs up to 5% of rock occur  
 here

nil

±

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 27 of 32; From 270m To 280m  
 Project: Great Western Star

Logged by: C. Potharin Date: Feb 2/90 Sampled by: J. Derru Date: Feb 2/90

Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY	Au sp.	Ag sp.	Cu %	Pb %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
270				hold-plag-cnl schis- (ardesite)										270
271	52			see descr. p. 20 note also banding, see p. 24						.001	.05	.01	.01	10600
272			270-277	Ca 5-10% in groundmass + units Al 5-10% ep. rare grains of groundmass										272
273	0-10			qtz-cu units, 1-3mm & up to 25/m but well sorted at various angles to folia						.001	.05	.013	.013	10601
274														274
275	40									.02	.04	.012	.013	10602
276	52													276
277			277-280m		decrease in no of units to 2/m					.001	.02	.013	.013	10603
278														278
279	40									.001	.03	.018	.013	10604
280														280

±

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-17 Page 30 of 32; From 280m To 290m Project: Great Western Star							
Logged by: C. Pathorin			Date: Feb 21 93		Sampled by:		Date:							
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
280	45			mbld-plag-cr schis- (andesite)										280
281	45			see description, p. 20 mfc-felsic binding as before (see p. 24)						.001	.03	.011	.010	10605
282				to 410g groundmass & vnlts cr: 5-10% nil										282
283	45			relatively fine vnlts throughout this interval, 2.5/mm or average vnlts 1-5mm, sub 1 to bln @ low % to coarse						.001	.011	.010	.010	10606
284														284
285	45									.001	.011	.010	.010	10607
286			286-288											286
287				within 1-2mm, coarse vnlts up to 20mm occur throughout nil						.001	.03	.009	.010	10608
288	45													288
289										.001	.02	.001	.010	10609
290														290

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-17  
 Page 31 of 32; From 290m To 300m  
 Project: Great Western Star

Logged by: C. P. ... Date: Feb 2/00 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au op <sup>t</sup>	Pb op <sup>t</sup>	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
290	56			hbl-d-plag-chl schist (andesite) see description p. 20	nil										290
291			290.47-292.5	schistosity, sch to 20-30% concordant to ca-act v. 1-4 mm						.001	.06	.011	.010		10610
292			291.52-292.5	intense alteration units & ca. 20-30% masses											292
293	52		293-296	intense alteration units sub ll to folia @ base to core axis, units < 50µm, 1-12mm						.001	.05	.007	.010		10611
294	10-10			ca in groundmass up to 10% Py-tr											294
295										.001	.05	.012	.010		10612
296	46		296-300.56	intense ca-act - or v. 10-15% of or discoloration											296
297					nil					.001	.04	.015	.020		10613
298	10-10														298
299	42		299.55-299.70	v. schistose; gauge	ca 15-20% soft, almost fault gauge					.001	.03	.013	.020		10614
300					nil										300

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-17  
 Page 32 of 32; From 300M To 300.53M  
 Project: Great Western Star

Logged by: C. Pothorin Date: Feb 21 90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
300	N			hbld-plag-crs schist (andesite) see description p 20							.001	.002	.009	.020	300 10615
301															300.53
302															

42



N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-18 Page 2 of 21; From 3.05 To 10 Project: Great Western Star						
Logged by: P.R.			Date: 26/01/90			Sampled by:			Date:						
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
0			0-3.05	Cased in overburden.											
1															
2															
3															
4			3.05-16.92	Intermediate Tuff	CI ± 10, chl.	nil								3.05	
5	55				cbt 1% mt 2% ca 2% Fe, Mn oxides, 10%		10	2			.024	.06	.019	.010	
6					Color banding and grain size variation on cm scale. Grains range from fine ash to lapilli. Lapilli are lithic or pumaceous.									5	
7	75				Porous where ca leached out. Broken and: rubby. Overall colour dark grey to green.						.004	.03	.007	.010	
8			10.5	stained	plg 10% zsf 5%									7	
9							10	2			.001	.02	.016	.010	
10	75										.013	.12	.142	.010	

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-18								
			Logged by: P.R.		Date: 26/1/90		Sampled by:		Date:		Page 3 of 24; From 10 To 20				
							Project: Great Western Star								
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
10			16.92-20.08	Lapilli Tuff	CI5 mt tr cbt tr	Py tr					.013	.12	.142	.010	
11					Fe oxides 40%										11
12					Most striking aspect of rock is orange-red colour due to Fe oxides. Probably originally contained 1-2% mt and 1-2% Py, now oxidized.		10	2	0		.008	.06	.093	.010	
13					Lapilli are 1-5 mm; pale waxy grey hard. Sub-angular-sub-rounded. 20% of rock. Groundmass vtzj composition problematical due to heavy Fe oxide staining.										13
14		65									.002	.06	.040	.010	
15					qt vnt, 3mm, 65°	Fe oxides after py in vnt.									15
16					qt vnt, 5mm, 75° cbt leached.	Fe oxides after py in vnt.	10	2	0		.002	.05	.023	.020	
17					qt vnt, 1cm, 50° cbt leached.	Fe oxides after Py in vnt.									16.92
18		65									.001	.03	.012	.040	
19					Qt. vein contacts @ 60°	barren.	5	tr	tr						18.5
20											.001	.01	.003	.180	

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-18  
Page 4 of 24; From 20 To 30  
Project: Great Western Star

Logged by: P.R.

Date: 27/01/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
20			20.08-24.54	Lapilli-Ash Tuff	mt nil cbt 10% CI: 5	py variable as noted.	5	tr	tr						20.08
21					Fe oxides variable as noted.			0			.001	.04	.003	.100	10659
22	75			Medium grey fine ash with 10% lapilli sized fragments. Lapilli darker; may have been pumiceous or lithic.					1/2		.001	.05	.012	.030	10660
23			20.08-21.5		Heavily oxidized; Fe+Mn oxides, 20% ca leached.	nil	5								23
24	70		21.5-22.03		relatively unoxidized	py 1/2%, diss.		0			.007	.07	.030	.050	10661
25			22.03-22.16		hydrothermal breccia (?)	py 1%, diss.					.001	.05	.008	.030	10662
26	65			x-cuts layering. Contacts at 40° c.d. backed with 40% angular Sgms, sub-mm to 1cm, opaque white qtz, black hm- rich. Groundmass grey, aphanitic; reacts with HCl on percolating.				35	2						25.57
27			22.16-24.54		Heavily oxidized; and acid leached.	nil	0	0			.003	.09	.024	.130	10663
28	65		22.1	stained	Ksp 40% qtz 50%						.004	.06	.030	.110	10664
29			24.54-25.57	Lamprophyre bi 35% ca 40% plag 20% mt 2%		nil			1						29
30							0	0			.003	.06	.012	.040	10665

(H)

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-18  
 Page 5 of 24; From 30 To 40  
 Project: Great Western Star

Logged by: R.R. Date: 2/6/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
30			25.57-41.45	Kspar - cbt Schist (Lapilli-Ash Tuff)	Kspar 40% cbt 20% plag 30% mt +r CI 2	py variable 1/2 to 2%, avg 1%.		tr	1		.003	.06	.012	.010	10665
31															31
32		70		Medium grey to pinkish grey, characterized by Kspar altm. Kspar as wispy bands in groundmass. Locally brittle Kspar bands appear to have been boudinaged.			2				.006	.06	.020	.010	10666
33		75		Some lapilli are Kspar - original or preferentially altered? Cbt + plag in groundmass. Py dissemin. Tephra sub-mm to lapilli sized. Local Fe oxide staining on fractures.				tr	1		.001	.06	.027	.020	10667
34															34
35			29.13		Folded gt mtl, 1cm. Fold axis // & 60°				3						35
36			35-35.77		Kspar 75% gt 70%	p-1 3% p-1 3%					.001	.05	.020	.020	10668
37			35.77-36.6	Localised gt	Fluorite				1						37
38			37.55-39.58		mt 1% in local conc.			tr							38
39			39.58-41.45		Intensely oxidized. Fe oxides 20%.	nil	2		1		.001	.06	.028	.020	10669
40								0	0		.006	.05	.022	.040	10670

N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-18						
Logged by: P.R.			Date: 2/7/1990			Sampled by:			Date:						
Page 6 of 24; From 40 To 50			Project: Great Western Star												
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
40			41.45-42	Lamprophyre bi 30% Ca 40% plag 20% mt 3%		nil				.006	.05	.022	.010	10670 40.2	
41							2			.001	.05	.023	.150	10671	
42			42-47.27	Kspar-cbt schist	Kspar variable, avg 50% cbt 30% CI ± 5 mt variable as noted	py variable as noted.	30	3		.001	.05	.007	.023	41.45 10672 42	
43		65					5			.008	.06	.029	.030	10673	
44									2					44	
45			42-43.3			Fe oxides 20% py nil mt nil Intensely oxidized.				.012	.08	.018	.015	10674	
46			43.3-47.27			mt nil py 2%	5							46	
47		75	47.27-49.49	Volcanic Breccia		Kspar 70% cbt 20% mt 2%			2	.006	.07	.020	.150	10675 47.27	
48						Intense Kspar-cbt alt. 25% dark lithic frags; 2-40 mm, sub-angular. Both groundmass + frags intensely altered by Kspar. Fine stringers clear grey qtz 5%.	0		2	.005	.09	.052	.015	10676	
49														49.49	
50		65					2		3	.006	.04	.017	.070	10677	

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-18  
Page 7 of 24; From 50 To 60  
Project: Great Western Star

Logged by: P.R.

Date: 2/7/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
50	15 gt		49.49-50.62	Fine Ash Tuff, Intermediate (latite?)	kspar 60%, cbt 20%, mt 5%	py variable as noted.		2		.006	.04	.017	.070	10677 -50.60
51					Characterized by intervals of kspar flooding in which kspar exceeds 80%. Remainder of rock, kspar fine, pervasive in groundmass to 60%. In kspar flooding, looks fragmental, with aphanitic, sub-rounded to sub-angular fragments of kspar; 1-20 mm, in creamy groundmass carbonate. Intervals kspar flooding noted below.			2	3	1/2	tr	.001	.00	.012
52	65													52
53	ca mt							5	5	.001	.00	.019	.020	10679 53.12
54				49.49-49.80:		kspar 80%, cu-mt bands, 60% mt. 75°	py 5%		15	2	.021	.06	.036	.070
55	65		49.80-49.91			py nil		3	tr	.005	.05	.016	.020	10681 55.3
56			49.91-50.60 50.50		kspar 80%	py 2%				.001	.03	.000	.010	10682 56.39
57			50.60-53.12		qt vult, 1/2 cm, 15% not mineralized.	py 1/2%, cp tr								
58	60		53.12-53.50		kspar 70%, mt 5%, patches.	py 5%			3	.004	.04	.024	.010	10683 57.80
59			53.50-53.64		mt 40%, cu 40%	py 5%				.004	.05	.019	.020	10684 59
59			53.64-54.16	mt-ca vults,	75°.			3	1	.005	.05	.029	.010	10685
60			54.16-56.39 55.3-55.39	Lamprophyre	contacts 60°	py tr, erratic				.005	.05	.029	.010	10685



N C G

DRILL CORE LOG

Drill Hole No.: GWS-50-18  
 Page 8 of 24; From 60 To 70  
 Project: Great Western Star

Logged by: P.R. Date: 28/01/60 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
60			56.39-57.80		kspar 70% mt 3%	py 3%, assoc w.c.	3	1			.005	.05	.029	.010	10685
			57.80-60.13			py 1%, assoc w.c.									61
61			60.13-62.7		kspar 80% mt 1% as streaks + stringers	py 2%, coarsely dissem.		2			.024	.05	.012	.010	10686
62			62.7-63.62			py tr.									
63			63.62-67.8	Mt. Spotted St. Schist	kspar 50% cbt 20% mt 5%	py 2%	3	tr			.001	.02	.020	.20	10687
64				Grey st schist	probably originated as ash tuff. Spotted with spots of mt in ckt. mt partly replaced by py. In a few mt replaced by hm.						.001	.05	.014	.150	10688
65					Most spots elongated to 5 x width; usually aligned // foliation but not always. Cbt also occurs as veinlets.		5	5	2		.001	.04	.025	.010	10689
66			65.34-66.05	Lamprophyre	contacts 70% bi 30% ca 26% bi 2%	dylike to foliation.					.001	.05	.030	.530	10690
67															67.8
68			67.8-70.44	kspar Altered Rock	kspar 75% cbt 10% qt 5% mt nil except as noted.	py 3% cp tr	5	3	10	tr	.012	.11	.041	.250	10691
69															69
			68.4-68.6		mt 5% cbt 40%	py 10%			3		.017	.13	.023	.150	10692
70			69.85-70		cbt 80%	py 5%			5						

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-18 Page 9 of 24; From 70 To 80 Project: Great Western Star							
			Logged by: P.R.		Date: 28/6/90		Sampled by:		Date:						
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
70	↖ 20		70.44-76.75	Intermediate Ash Tuff	cbt 20% mt 1% variable.	py 1/2% erratic.					.017	.13	.023	.150	10692 70.44
71					Kspar 20% localized.						.001	.04	.010	.080	10693
72					Locally hardened and darkened by Kspar. 50% of interval has 20% Fe oxides, orange-red.		2	1	1/2						72
73	↖ 55		73.21-73.46		Kspar 90%	py 10%, disseminated					.001	.04	.017	.030	10694
74			76.75-78.00	Lapilli Tuff	Kspar 20% mt 3% cbt 10%	py 1% cp rare tr			1						74
75	↖ 70				Much of original texture eliminated by Kspar flooding, but where apparent it is lapilli tuff with segms stretched in to foliation. Intervals 5-20 cm very dark, 10% mt finely disseminated.		2	1	1/2		.001	.06	.030	.040	10695 75.4
76					Locally br: texture with Kspar segms, 1-30 mm in white cbt cement - looks hydrothermal.						.002	.06	.040	.060	10696 76.75
77			77.38-77.52		qt vnt, low 2 c.a., Sdled. 1 cm	cp tr, ga tr in vnt.		3	1	noted	.01	.15	.012	.070	10697 77
78			78.00-98.67	Kspar-enriched rock.	Kspar 75% cbt variable as noted.	py 1%, variable.									78
79					qt variable as noted. mt variable as noted						.012	.11	.043	.220	10698
80									5 2	1/2					80





N C G

DRILL CORE LOG

Drill Hole No.: GWS-70-18  
 Page 12 of 24; From 100 To 110  
 Project: Great Western Star

Logged by: P.R.

Date: 03/02/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
100			101.05-101.13		gt vnt, 5cm. Solder, sub-11 ca.									100
101			106.97-107.31	Lamprophyre bi 30% cu 30% mt 3%	contacts 35%		4	1	5	.003	.05	.007	.010	10709
102														102
103			107.31-109.3	kspar-enriched	kspar 70% cgt 20% mt 1% erratic gt 2%	py 1%				.005	.06	.092	.010	10710
104				Resembles Tg-96.67										104
105			109.3-109.46	Lamprophyre bi 30% cu 30% mt 3%	contacts 50% 70% (U.L)		4	1		.012	.05	.059	.010	10711
106			109.46-112.13	kspar-enriched	kspar 70% cgt 20% gt 2% mt nil except as noted	py 2%				.150	.15	.026	.010	10712
107		lamp					3			.001	.04	.008	.010	106.97 10713 107.31
108			110.30-110.60		mt 2%		1	1		.054	.05	.030	.010	10714
109		lamp					3			.058	.06	.039	.010	109
110								2						10715

106

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N C G

## DRILL CORE LOG

Drill Hole No.: GWS- 90-18  
Page 17 of 24; From 150m To 160m  
Project: Great Western Star

Logged by: C. Pothorin Date: 11/2/90 Sampled by: J. Denny Date: 13/2/92

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
150			148.13-151.76	bx zone - kl thin (25cm) ash tuft or x ash tuft	Ksp 15-20% as fr. filling + repl. ca 10% at 10-30%	py fr									150
151				frags 1mm-5cm; frags chl fractured further, suoning (stress fracturing);							.001	.04	.018	.020	10741
152			151.76-153	ash grading into wispy chl. seams	50-60% Ksp. 50-60% CPY	py fr					.001	.02	.01	.020	10742
153			153-159.22	bx zone - as above, abis typical		an py fr chl									153
154				frags (1mm-3cm) glass support, less fr. filling (py, chl)		py fr chl					.001	.01	.016	.025	10743
155			159.22-156.37	ash tuft - w/ly deformed w/ dilational stress fractures		py fr									155
156			156.37-171.40	bx zone - as above (vertical ash tuft)							.001	.02	.01	.020	10744
157				More glass, less fr. filling (py, chl)											156.41
158				ca 10% fr. filling Ksp 10-15%, repl. mostly Ksp							.001	.02	.001	.020	10745
159			157.75m	chl 10% - seams in fr. filling											158
160				min. Fe-ox. mostly on frs (10%)							.001	.04	.001	.020	10746



N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-18  
Page 19 of 24; From 170m To 180m  
Project: Great Western Star

Logged by: C. Pothorin Date: 12/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au op%	Ag op%	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
170			152.37-171.40	bx-alt'n zone - see description on pg 17											170
171					Kspar 30-75% ca 10% chl < 5%	tr sp					.001	.05	.016	.080	10752
172			171.40-172.90	ch-p, an schist - non-oxidized strongly schistose deformed int. $\pm$ 1 ft; color is a dk qz; mm-scale clasts often sheared into a fusc. layers (proto-mylonite); mm-scale augen formed. chl 15%		py-tr					.001	.04	.015	.020	10753
173			172.90-174.05	bx-alt'n zone - see descr. on p. 17		py-1% over 10cm									172.90
174			174.05-175.05	kl relict lap/xtl $\pm$ 1 ft		ca 10% Kspars bands to 1/2 in visible remain Fe-ox. ca. oxidation introduced in vicinity of discolored m brn by 10-15% ca. 10%	cpy-tr				.001	.01	.026	.010	10754
175											.001	.03	.030	.020	10755
176					chl 5%						.001	.05	.024	.010	10756
177						py-tr									177
178						py-tr					.001	.04	.010	.010	10757
179			179.37-180.80	lt gy ash full (int.) as before; intense mm scale											179
180					qtz-ca x-ing st < 5% Fe-ox. ca. 1/4 along fs						.001	.04	.018	.010	10758

N C G		DRILL CORE LOG					Drill Hole No.: GWS-90-18 Page 2 of 24; From 180m To 190m Project: Great Western Star									
		Logged by: C. Pothorn		Date: 12/2/90		Sampled by:		Date:								
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization										
180			179.37-180.80	lt gy int. ash tuff	as previous py; w/ky deformed x-cutting units of: qtz, 12mm Hk 30-50/m					.001	.04	.018	.010	10758		
181			180.80-182.22	bx-altn zone, as before (see p. 17)	kspat 50-80% chl <10% in wisp. fr. fillings ca 10%	tr py				.001	.03	.028	.010	180.80 10759		
182			182.22-182.83	lt gy int. ash tuff	as previous py; w/ky deformed		tr py - 10% for altms - 5m				.001	.01	.017	.010	182.22 10760	
183			182.83-212.67	bx-altn zone, as before (see p. 17)	kspat 20-50% chl <10% in wisp. fr. fillings ca 10%	tr cp4					.001	.07	.096	.010	182.83 10761	
184			184.36-184.64		oxidation: Fe ox 30-40% ca 10-15% rx m-br brn color	tr cp4									184.36	
185							py 2-5% over 5m				.001	.36	.006	.010	10762	
186				186.25-187.95		oxidation - in m'ing spaces Fe ox 10-20% ca 10-15% rx m-brn color									186.25	
187							cp4 - tr				.001	.03	.062	.010	10763	
188															187.95	
189							py - tr - 1%				.001	.04	.018	.020	10764	
190														190		

NOTE: bx-altn zone seems to be chaotic bx n  
alteration of lenticular v. bedded  
concentrations over ash tuffs









N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 13/2/90 Sampled by: Date:

Drill Hole No.: GWS- 90-18  
Page 24 of 24; From 220m To 227.38m  
Project: Great Western Star

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
220			218-220.42	kspars-chl alt zone - see previous log										220
			220.42-223.07	chl schist; are probably wky deformed & altered ash to 2%; relic - wky fabrics wky preserved										
221			221.05-221.10	compaction dyke - chn blebs (up to 1x3cm), 30% bt ~ 30% kspars ~ 5% hem ~ 5% @ mags						.001	.01	.015	.010	10780
222														222
223			223.05-227.38	chl schist; m gy-grn, s fol (still probably deformed) ed ash to 2% as a core qtz blebs deformed into fol, 30% chl 15-20% esp. in chl-rich bands						.001	.02	.016	.010	10781
224			224.42-224.59	flow seam Fe ox - 15% up to 15% kspars < 5%						.001	.01	.013	.010	10782
225														
226			225.75-227.32	thk (0.5-1.5cm) of cavities to 6/20cm										226
227										.001	.01	.016	.010	10783
227.38 EOH														227.38
228														
229														
230														

227.38 EOH

2



N C G

DRILL CORE LOG

Logged by: *Potharin* Date: *15/2/90* Sampled by: *J. Denny* Date: *15/2/90*

Drill Hole No.: *GWS-90-19*  
 Page 2 of 25; From 366m To 10m  
 Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization										
0			0-3.66m	based in overburden												
1																
2																
3																
4			3.66-12.46	quartz porphyry tegy, porphyroclastic, massive, sub ang.-sub rind qtz clasts, 1-5mm, up to 35% of rock	Py-Fer disms, tr-1% pervasive						.001	.34	.005	.020	10784	
5				mtcs 10-15% as dismyths aggregates (amph-? hold cblt <5% rem. placr.											5	
6																
7			3.66-9.20		oxidation - Fe discoloration Fe ox <25% Ca 10-15% cblt ? 10-15% st <5% oxidized zone has moderate Actr to sericitic seams/partings						.002	.02	.003	.010	10725	
8																
9			9.20	stained mineral	Esparic						.001	.01	.002	.010	10786	
10											.001	.02	.002	.010	10727	

57

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7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
Page 3 of 25; From 10m To 20m  
Project: Great Western Star

Logged by: C. Pothorin Date: 15/2/90 Sampled by: J. Denny Date: 16/2/90

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
10			3.66-16.46	quartz porphyry - see descr. p.2											
11			10-11.21		oxidation - rx disclosed => recryst Fe ox ~20%-30% Cu < 5% cblt 10% st < 3%	± 1-10% Fe-mag disms through interst				.001	.02	.002	.010	10787	
12					nt altered to hem					.001	.01	.005	.010	10788	
13														13	
14			14.64-16.46		oxidation - as above Fe ox ~20% Cu < 2% ch < 2% st < 2%					.001	.01	.004	.010	10789	
15	55° ↘													15	
16			16.46-20.31	chlorite schist = (1st 90cm broken + rubble) m.gy-grn, s fol d. for schists; 1st wkly deformed X11/lapilli bands chl 20-30% (? ash-lap imp. to 30%) ca 10% as vnlts + some in a granular alt sheared into foln						.001	.02	.015	.010	10790	
17					CI ~20	tr. 10% for py throughout				.001	.02	.014	.020	10791	
18	72° ↘		18.29	stained interval - Kspar - tr (? maize st. disjunct seams)										18	
19			18.63-20	rx of chl. ~ 25 due to recryst. in 1st rx dk gy-grn, foln stronger						.001	.01	.017	.020	10792	
20	72° ↘													20	

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N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 15/2/90 Sampled by: J Denny Date: 16/2/90

Drill Hole No.: GWS-90-19  
Page 5 of 25; From 30m To 40m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
30			28.46-46.56	brnd dr sch + lap		py tr-3% idly, as far diams, 1st string thru interval									30
31	57°		31.16-31.46		oxidation; rx discolored => dr. brn			12%			.001	.01	.016	.020	10798
32	39°				Fe ox 15-20% Ca 15% P calc 5%	tr cpv @ 32.20m									32
33			33.14-33.56	dr det (ca) units	1-3mm thk, rough	11 to 10' - occur common									
34	58°			up to 15/m - throughout interval	with deformed grey lapilli tuff; frags 1-3mm up to 40% of rock; void & leucocratic						.001	.02	.015	.020	10799
35	49°		34.21	stained interval;	kspat 5-10%, esp. as wispy concs along vfrs; also wk pervasive replacement										34
36			35.29	stained; kspat	5-10%, as 34.21	CPY-tr @ 34.47m					.001	.02	.016	.020	10800
37	64°		36-36.37	blebbly cm-scale	also elastic; void, deformed into fol'n, -30% of rock	Ca-45% Cbc-45%	py tr-2% idly								36
38			37.25-38.10		oxidation; rx discolored to mbn						.001	.03	.014	.020	10801
39					Fe ox ~20% Ca 45%										38
40	57°										.002	.01	.017	.020	10802

7

N C G

DRILL CORE LOG

Logged by: C. Polhorin Date: 5/2/90 Sampled by: Denny Date: 16/2/90

Drill Hole No.: GWS-90-19  
Page 6 of 25; From 40m To 50m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
40			28.46-46.52	brdd chl sch	capilli buff- see descr. p. 4										40
41	53				chl ~25% ca < 10% qt-calc vltz, 1-2mm & sub-1 to folr common through this interval					.001	.04	.016	.010		10805
42			41.75		wthid qt-py bleb, 3-1cm py 20%										42
43	65		43.5 43.57	stained - kspar	10-15% pervasive wkly repl./flooding 4cm blk qt (~40%) - cbl (~20%) vltz sub ll folr - tr py					.001	.01	.018	.020		10804
44															44
45						py 4-10% - folr dms & strings									
46	68		46.41 46.50-47.28		wthid qt-py bleb; siltm py 20-25% wkly deformed int. lapilli buff; qz, ag fisc 'clasts' ~20% of rock, wkfold					.001	.02	.015	.020		10805
47			47.28-48.57		chl ~5%					.001	.01	.018	.020		10806
48					wkly chloritic altered int. lapilli buff; om- scale chl-rich bands, as p. 4										
49			48.57-49.35		chl ~15% intermediate vltz, alterations as varied										49
50	62		49.37-51.52		chl 10-15% irregular partings    to folr ca < 10%					.001	.03	.016	.020		10807
50															50

7

N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 1/5/90 Sampled by: J. Denny Date: 1/6/2/90

Drill Hole No.: GWS-90-19  
Page 7 of 25; From 50m To 60m  
Project: Great Western Star

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
50			48.57-116.35	intermediate tuffs, alt'n as noted										50
51	60		48.57-51.52		chl - 10-20% as previous; 1cm scale banding; sparse pyrrhotite					.001	.06	.017	.020	10808
52	62		51.52-52.00	lt grey, fgr st; play scint; s foln, leucocratic st; 10% through interval										51.52
53			53.37		alt'g up to 15% in 1st 2nd; tr-lead by mol. sulf ? sp					.001	.02	.014	.010	10209
54			53.49-53.76		CPY - 2% in 1.5cm int									53
55	60		53.92-56		oxidation Fe ox 30%, ca 10% pyrite, py intensely frid chl 25% ca 15%					.003	.04	.033	.020	10810
56			56-58.17		py-nil					.002	.06	.021	.020	10811
57					oxidation - py discolored; Fe-ox Fe ox 20-30% ca 10-15%									56.18
58			58.17-61.02							.001	.04	.011	.050	10812
59	60		59.37		py-nil									58.15
60					py-nil, as interval 53.92-56m; chl - 20% ca - 15% - Fe-ox gr - fr mol - fr					.001	.01	.017	.020	10815
														60

7



N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 1/6/90 Sampled by: Date:

Drill Hole No.: GWS-90-19  
Page 8 of 25; From 60m To 70m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
60			48.57-116.35	intermediate	to 100% variation as noted										60
61	57		58.17-61.02		chl. ~22% ca 20% pervasive										
61			61.02-62.20	wkly deformed mm-scale leucocratic	ash tuft; Hg, mas, wk fol'n, prts up to 25% of rock					.001	.03	.007	.020		10814
62			62.20-62.89		chl ~5% along frs, wispy ser. m. cat ~10-15% pervasive										62
63	20+25		62.89-63.85	? Dioritic dike mas, dk qtz, wk angular disc fragments	non-folded, 1-2mm leucocratic, frags up to 30% of rock; pr. ca vnl's					.001	.01	.019	.020		10815
64			63.85-68.48	kspr bands visible 15%	ca 10% in x-cutting vnl's chl. 10-15%, interstitial; py. 1-2% or mm-scale of dike, mar										64
65	50			charite schist - dk grn, s fol'n, gr	chl. 15-20, chl. ca 10-15% pervasive vnl's					.001	.02	.007	.020		10816
66															66
67	62									.001	.03	.008	.020		10817
68															68
69			68.48-69.62		oxidation rx discolored or brn max 10-20% ca 15%										
69			69.62-71.80		kspr, brds on scale kspr 20%					.001	.05	.022	.020		10818
70	62			mm-cm scale bands of qtz, cb & chl-rich bands (cont'd)	chl 15-20%										70

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
Page 9 of 25; From 70m To 80m  
Project: Great Western Star

Logged by: C. Pollock Date: 10/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
70			69.57-116.35	intermediate	alt. variation as noted									70
	67		69.72-71.80	mm-scale chl/pt-cbt bnds	blebs. ovoid (rel. to pt?) - pt-cbt blebs									
71			70.25-70.67 70.67-70.90	stained	kspar 10-15% on ffs & wk, perth. replacement									10819
	15-30		71.80-72.15	lt. gy. mas. wk? d lapilli bulb						.002	.06	.017	.020	
72			72.20-72.44		oxidation									72
	67		72.44-80	chl schists - dk. gy-grn, s. foln										
73				mm-scale chlorite-rich bnds	separate quartz-form ca-(24) rich blebs/layers					.101	.05	.032	.020	10820
74					ca-pervasive, 10-15% as thin (<2mm) vlt's									74
75										.002	.03	.012	.020	10821
76														76
77										.012	.07	.025	.030	10822
78														78
79			78.60-80		ca (<5%) ; ca mostly as mm-thk vlt's @ various % to ca.									
	65		79.37-80		cm-scale kspar banding begins, 7-10 bnds/m					.002	.02	.020	.030	10823
80					kspar 10-15%									80

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N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-19  
Page 11 of 25; From 90m To 100m  
Project: Great Western Star

Logged by: C. Pollock

Date: 6/2/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
90			48.57-116.35	intermediate tuffs, alms, variations as noted											90
91	57 ↘		88.08-96.20	dk gy-grn porphyritic chl schists - see description previous page - decrease in %age py towards bottom of interval											10830
92			91.50-96.20		ca 15-20% ca 10-15%	py 3-5% in blebs & porphs				.001	.06	.020	.020		92
93				ep repl. of porphyroclasts begins, replaces py; up to 15%											
94	57 ↘			py decreases through interval, 1% @ 96.20m						.001	.06	.022	.020		10831
95															94
96	60 ↘		96.20-96.77		ca 15-18% - perv. in relict frags					.006	.07	.028	.050		10832
97			96.77-102.12	chl & schist	ep replaces porphyroclasts, up to 20% of rock										
98					ca - pervasive in mxtx & ca units 15%					.001	.06	.025	.020		10833
99					ca 15-20%										98
100	60 ↘		99.60-100.04							.003	.04	.029	.020		10834
						py 2-3% as per disks									100

7

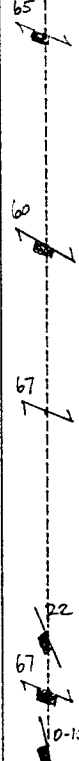
N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
 Page 12 of 25; From 100m To 110m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 17/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
100			48.57-116.35	intermediate	alteration & mineralization as noted										100
101			96.77-102.12	chlorite-ep schist, m-stal: dk orn chl schist w extensive ep. replacement of relict biotite fogs. Frags. ovoid, 1-2mm up to 25%							.001	.05	.024	.020	10835
102															102
103			102.12-107.15	dk orn chl schist - stain. int. ep. as above - disor. - 200% wisp. bands							.001	.03	.022	.010	10836
104															104
105															105
106											.003	.07	.016	.030	10837
107			107.15-108	lgy bleached interval - wk fol.							.001	.05	.016	.040	10838
108															108
109			108-111.56	dk orn chl schist - as above							.001	.06	.012	.050	10839
110			109.85-110												110



py. 10-15% in thk (clow) bleached interval  
 swirl to core axis

7









N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 17/2/90 Sampled by: Date:

Drill Hole No.: GWS- 90-19  
Page 16 of 25; From 140m To 150m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
140			138.17-148.05												140
141			140.08-141.45	stained		brecciated ksperalteral zone as p.15 kspal 60-80% as wispy bands off a mil. matrix mas. form				.006	.17	.032	.210	10858	
142	65	wk for 100y	140.70-144.5			py. for string, thick wispy sub to thin esp. around ex 40-45 5-10% varies lot				.004	.12	.007	.220	10857	
143	65		143.5-143.75			amphibole dyke as p.15 100% at 74° to ea.								143	
144			145.85	stained		kspal 10-15% as wispy bands in wk. fr. fabric				.002	.12	.007	.140	10858	
145			145.09-146.61	stained		kspal 50-70% as pervasive strong replacement in bleached or sub-mid frags				.001	.04	.009	.020	10859	
146	65					py. 2-5% per disms string								146	
147										.004	.28	.110	.250	10860	
148			147.80			gn in low thick unit; br-2%								148	
149	60		148.05-151.74	chl-ca schist mild; wk potassic		chl 15% ca 10-15% oxidized; or discolored Feoxy 15-20% ca 10-5%				.001	.07	.023	.020	10861	
150			149.07-151.74			py 1-10% per disms								150	

N C G

DRILL CORE LOG

Logged by: C. Polhori Date: 1/12/90 Sampled by:

Date:

Drill Hole No.: GWS-9019  
Page 17 of 25; From 150m To 160m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
150			148.05-151.74	chl-co schist	Ca-perd. 15% r. in scale during sub 11 to 10m									150	
151	70		149.27-151.74		oxidation like previous fac.; wkr @ end of interval Fe ox 10% Ca 10-15%					.001	.02	.004	.010	10862	
152			151.74-152.43	lampirophyre	heavily withrd. v. incompetent; see desc. below upper contact for local									15174	
153			152.43-154.27	chl-ann cblt chl: chloritic brds, v. compact, gr, stld; mnr xll/bp full texture preserved @ 153.40m	schist; dk grn; km-scale alteration py-tr-1% ann cblt-15% k-spar-15% (inferred from stain @ 152.35m) ? celadonite; trace of green pale-gr mineral in fr @ 154.95m					.001	.02	.019	.010	10863	
154	68		154.27-162.15	lampirophyre m. gy. ben;	heavily withrd. eafity; massive; bi-35-50% Ca-15% where not withrd out lcl of Ca ovoid blebs, <10%									154.27	
155										.001	.02	.010	.010	10864	
156														156	
157										.001	.01	.008	.010	10865	
158														158	
159										.001	.01	.011	.010	10866	
160														160	

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
 Page 18 of 25; From 160m To 170m  
 Project: Great Western Star

Logged by: P. Borin Date: 1/26/90 Sampled by: J. Dorris Date: Feb 20/90

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
160			154.27-162.15	lamprophyre dyke, as on previous pg.											160
161											.001	.02	.010	.010	10867
162	30		162.15-163.85	chl-grn cat schist - see description previous pg.	grn cat 15-25%	py-m-car disms									162.15
163	55		162.35-163.85	stained	Kspat 20-35% pervasive chl 15-20% ca units, 1-2mm thick, 10-20µm + 1mm on u. contact.						.001	.01	.003	.020	10868
164	62		163.85-168.25	chl schist - dk gy, far, stibid schist	chl 20-25% cat 10% per u	py-m-car disms. 2%									164
165	0-10				ca units 7.5m, 1-2mm thick						.001	.06	.072	.020	10869
166			165.92-166.72	blebbed mineralized ss avoid calcareous blebs, 1-2.5mm up to 15% of rock; in discrete bands @ 20-40° to contact to fol.; composed of m.c., chl, kspat.											166
167	53										.001	.01	.006	.010	10870
168			168.25-181.40	lt-mgy chlorite schist; mtd'd far schist; chl in wispy seams & con-schist. bands, oft def. around (2.0-3.0) lapilli; kspat-rich, elongate blebs up to 1.5x4cm		py-m-car disms. 2%									168
169	68				chl 10-15% kspat 5-10%; wispy wk alt in interstices around lapilli frags cat 15% ca 25%						.001	.01	.002	.010	10871
170															170

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
 Page 9 of 25; From 170m To 180m  
 Project: Great Western Star

Logged by: C. Pothorn Date: 20/2/90 Sampled by: J. Denny Date: Feb 20/90

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
170			168.25-181.40	Highly chloritic schist - weak chloritic alteration in mm-scale bands; deformed around lapilli frags (deformed to 4 or 5/10ths) typically 1-2cm x 3-5cm (lapilli to 2/3 orig.)											170
171	62										.001	.03	.003	.030	10872
172															172
173															10873
174	70										.001	.02	.010	.010	174
175															10874
176											.001	.01	.002	.010	176
177	30														10875
178											.001	.06	.018	.010	178
179	68														10876
180			179.72								.001	.06	.029	.010	180

qtz units, ~5/10-5 mm thick  
 units cut by vein & broken up  
 into cm-scale frags

tr of 4

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-19  
 Page 21 of 25; From 190m To 200m  
 Project: Great Western Star

Logged by: C. Pothorn Date: 22/2/90 Sampled by: J. Denny Date: 23/2/90

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number	
	Struct	Log	Interval	Lithology	Alteration										Mineralization
190	60		187.27-196.90	altered lapilli tuffs alteration variations as noted, still based on chloritic schists										190	
191	60		190.11-190.32 190.67-192.91 191.65-192.55 192.11-196.00	well deformed ash fall bed - as above - as above - as above					.001	.05	.104	.010		10882	
192	60		192.51	less chloritic (cint 15%), now a lt gyarn color; as det pervasive as noted also in block masses; sfol, per m. cl. in thin interbed											192
193	60		192.51	formed - - - - - cint 15% st 5%						.001	.02	.060	.010		10883
194	60		191.19-191.65 192.50-194.50 195.20-196												194
195	60		195.15-195.00	fairly well preserved lapilli tuffs; typical 1.75cm x 4cm, 1% chloritic (30-40%) up to 40% of rock						.001	.01	.027	.010		10884
196	63		196.90-202.70	st kspars - det schist; lt gy. mtd. - det IV: chlt-poor; intervals as described											196
197	60		193.40-197.61 197.66-199.93	well preserved sp. - - - - - well deformed ash fall						.001	.01	.023	.010		10885
198	60		197.66-199.93	ca 45% det 20% (100% in v. fine powdered rx) st 5-10% ca unit and some thin vein core @ 0' above and 1' below											198
199	60		198.75-199.27	det 20% in random in core det 10-15% st 5-10%						.001	.03	.028	.010		10886
200	60		199.05-200.65	leucocratic lapilli - as above											200

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N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 2/2/90 Sampled by: Date:

Drill Hole No.: GWS-90-19  
Page 22 of 25; From 200m To 210m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
200	50	Z	196.90-202.70	st-kspar-cbt schist - variation as noted											200
201			discrete zones of fracturing; brecciation occur in increasing frequency through interval as noted pyrite 1-2% (shaded ash beds unless otherwise noted) cbt 10% ca nil									.001	.01	.026	.020
202	53	Z	199.95-200.65	leucocr. talc; vit (see p. 21)											202
202			200.40-202.70	by core; tubular; cists avg. 1.5cm in diam; matrix supported, with mica (15%), st-cbt, reu.											
203	53	Z	202.57	stained	kspars 15%; pervasive; reu; esp. along old unit										10888
203			202.70-213.65	potassic breccia; on-scale discrete bands of axial kspar; frags of perovskite, strongly kspar altered; various sizes, shapes; of l. stress fractured (intensively) kspars 20-80%; tal 100% repl. ca 25% vit. various lily cbt 25-15%								.001	.01	.025	.020
204	55	Z	204.00	stained	kspars 15-20%; strong replacement of by frags; cbt mix untouched										10889
205			cbt 5-8% py 1-2% mgr disms thru by up to 15% usual porosity where ca/cbt dissolved, through									.001	.01	.008	.020
206	55	Z	206.95-207.70	kspars in interval											10890
207			st 10-12% throughout by esp in solid, wk myl bnds py 2-3% mgr disms & strings									.002	.01	.007	.040
208	60	Z		ca nil											208
209			cbt 8-10%									.001	.01	.014	.020
210	60	Z		ca nil											210
210			cbt 8-10%												

note: kspars by most likely reprecipitation or original vit. as bounding units are of this type & some relict textures remain lily

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-19 Page 24 of 25; From 220m To 230m Project: Great Western Star							
Logged by: C. Polhorin			Date: 23/2/90		Sampled by:		Date:							
Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration									
220			216.40-221.50	potassic breccia - see p. 22										220
221	10-30			upper 60cm shows intense stress fractures, are extensional, filled w qtz-cbt units, mm-scale, oriented as shown										10897
222			221.50-223.47	st. kspat-dot schist - altered ash tuff; 1/2 qtz						.001	.01	.010	.050	222
223	80			st. m-wk schist										10898
224	30		223.47-227.38	potassic breccia - see p. 22						.001	.010	.010	.030	224
225			224.65	stained - - - - - kspat 20-85%, pervasive										10899
226			225.70	strong alt'n						.001	.02	.019	.050	226
227	10-30		227.38-228.33	st-cbt schist - altered ash tuff; 1/2 qtz						.001	.01	.027	.020	10900
228	30		228.33-229.82	st-cbt schist - altered ash tuff; 1/2 qtz										228
229	75			potassic breccia - see p. 22										10901
230	10-30		229.82-230.54	st-cbt schist - as above						.001	.02	.016	.030	230

N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 23/2/90 Sampled by: Date:

Drill Hole No.: GWS-90-19  
Page 25 of 25 ; From 230m To 233.48m  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Zn %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization									
230			229.82-230.54	st-cbt schist (see p 24) st 3% cbt 10% (a <sup>h</sup> ash tuft)											230
	68		230.54-230.86	breccia - stress frd, as on p. 24: kspat 45% - ml py 5% maf 15%											
231			230.86-231.25	wkly deformed lg ash tuft ckt 15% st 10%											10902
			231.25-232.15	breccia - as above, m. v. 15%, maf 20% maf dms							.001	.01	.023	.020	
232	75		232.15-232.42	ch-l-st-cbt schist: m-stbl, mn scale lnds of mcl/alks ch 10-15% st 10% cbt 10%											232
			232.42-233.48	st-cbt schist: lt gy, mfol-st/d, mas, altered ash tuft											
233			233.19	stained --- kspat = 0 st 10% ckt 10% py 2-5%, maf dms							.001	.04	.022	.010	10903
			END=233.48m												233.48

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 2 of 32; From 0 m to 10m  
 Project: Great Western Star

Logged by: C. Potharin Date: 24/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY				Sample Number	
	Struct	Log	Interval	Lithology	Alteration									Mineralization
0			0-8.53	cased in overburden										
1														
2														
3														
4														
5														
6														
7														
8														
8.53														
9	72		8.53-25.00	m grn chlorite schist; stain as reflect lapilli frags separated by mm-cm scale chl-rich bands; lapilli frags mostly auger-form, avg. of 0.5cm x 4cm; size does vary up to 5cm x 10-12cm but most often smaller;										853
10	1010													10201
														10

(cont'd)

(647)

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 3 of 32; From 10m To 20m  
 Project: Great Western Star

Logged by: C. Polvorin Date: 24/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
10			8.53-25.00	m. grn ch' schist - (sp. - fine gr. (10%))								10
11	70 ↘		10.5	frags aligned w/ fol. is very ca (10%) & cot (20%) frings								10202
12			25.0-30.0 11.34-11.42	ca 10% frags - 25% of rock	weak oxidation in schist discolored							12
13	70 ↘											10203
14												14
15												10204
16	75 ↘											16
17												10205
18	70 ↘		18.05-19	py leached of most mite mins, eucocratic-mesocratic appearance								18
19				chl 5% Fe-m 44-47m Ca < 5% Rox-ca in wispy seams/purines, up to 10% combined @ end of interval								10206
20												20

7  
6



N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 5 of 32; From 30m To 40m Project: Great Western Star			
			Logged by: C. Pothorin		Date: 24/2/00		Sampled by:		Date:	
Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
30	67		29.00-30.60	dk grn chlorite schist (see p. 4)						30
31			30.60-31.77	intensely oxidized m - no orig textures remain; m discolored to a m. dr-brn Frax 2% Mn ox 50-75% sp 10-15% cblt rem (15%) lcl 10-15% vuggy porosity						10212
32	65		31.77-53.48	lt ay, altered lapilli tuff; m-spln; lapilli tags typically 1x1cm (some variation), comprise 13-20% of rock; rem. an osh-tuff-type m-x (st-cblt schist)						32
33	22									10213
34			32-32.61		SE 5-10% cblt 10-15% pervasive Ksp 10-15% lcl perv. repl.	sp 2-5% per. in strns 11 to 10/n an. tr in dr-co blebs py. 5% in mar disms				34
35	70									10214
36			32.61-33.74		oxidation: m dr-brn Rox 20% (+11% ox), ca 15-20% pervasive ox dr-brn, ss dr-brn dr-cblt m; rem. v. vuggy; tr cpn, g n					36
37			34-34.65							10215
38			34.65-34.81							38
39	70		38.32	stained	Ksp 30-40% pervasive repl.					10216
40			39.75-40.05			sp 2-5% per strns py 5-6% mar disms				40





N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-20 Page 7 of 32; From 52m To 60m Project: Great Western Star			
			Logged by: C. Pothorin		Date: 25/2/90		Sampled by:		Date:			
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
50	75		31.77-53.48	altered apill	see p. 5 st 5-10% Chl 10-15%							50 10222
51												52 10223
53	78		53.07-62.07	stained chlorite schist (altered apill to 2) - as before, but with chloritic alteration; Hg-grn, stald chl in cm-scale bnds defining foliation; apill frags similar size as previous unit (typically 1mm)	see p. 5 apill repl. ca - 15-20% ca - 15% per cent of apill frags							54 10224 56 10225
57	80											58 10226
59												60
60	78											

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 8 of 32; From 60m To 70m Project: Great Western Star				
Logged by: C. Pothorin			Date: 25/2/90		Sampled by:		Date:				
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
60			58.42-62.07	chlorite schist (see p. 7)	chl 15-20% ca 15%	py nil					60
61	75 ↗		62.00-62.07		oxidation, rx discolored Fe ox 10% ca 15-20%						10227
62			62.07-63.63	lamprophyre dyke; dk gy-blk. mas, f-maf	bt 15% ca 40%	epitaxial growth to horn					62.07 10228
63			63.07	stained	kspar 50% pervasive						63.23
64	78 ↗		63.23-70.08	chlorite schist	as above						10229
65						py nil					65
66											10230
67	78 ↗										67
68			67.75-69.70		oxidation, rx discolored or-brn Fe ox 20-30% ca 15%	py nil					10231
69											69
70	80 ↗		69.80	stained	kspar < 2%						10232

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 9 of 32; From 70m To 80m Project: Great Western Star					
			Logged by: C. Pothorn		Date: 25/2/00		Sampled by:		Date:			
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
70			70.08-70.37	st-obt schist	lt gy, stak, <sup>2</sup> gr							10232
71	80			mm-cm scale 'elk' bands	stained							71
72				noted	st 10%							10233
73			73.41-75.80									73
74	80		73.93-74.01			py Amorphous thru com. 5-8%						10234
75			74.50-74.43			sp 2% in the stak 15%						75
76			74.92-74.86	v. soft stak	stained	sp 5% in the stak in the stak v. thin (over thin)						10235
77			75.60-79.89	relict lapilli	stained	5-2 mm to 5-25 mm, 50-80% of rock						77
78	82		75.62			oxidized to orange 20% sp 20% 10%						10236
79			77.11			kspar = 0						79
80			79.30			barren of red v. thin						10237



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 11 of 32; From 90m To 100m  
 Project: Great Western Star

Logged by: C Pothorin Date: 25/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
90	30		70.08-99.37	st-cbt schist	see p. 9 & 10 sl 10-15% cbt 10-15% pervasive cp 5-10%						10242
91	70					Pyrite					
92											10243
93	80		93.40-94.20		oxidation: ry dissolved Fe ox 20% cbt 10%						93
94											10244
95	80		95.65			cp					95
96	0-10										10245
97	13		97.35-97.75		oxidation as above ca 10%						97
98	70		97.95-98.88		as above						10246
99	0-10		98.20-98.55		qt vein, $< 1 \text{ cm}$ thick cp, gn						99
			99.26		oxidation as above						
			99.37-99.84	di gn chlorite schist	(see next pg)						
100			99.84-100.34	lamprophyre dyke	(see next pg)						10247

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 12 of 32; From 100m To 110m  
 Project: Great Western Star

Logged by: C. Pothorin

Date: 25/2/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
100			99.84-100.34	amphiphyre dyke - dk gy-bk, mas, f-mgr						10247
101	80		100.34-101.85	dk grn chl - ca schist; f; s; st; mm-scale banding of entire at-cbt (plagi); some disc ends tapered, 1 sample stretched tags						101
102					chl 20-25% Cbt 10-15%					10248
103	77		101.85-101.75 102.50-102.65		oxidized - 1% of - pin					103
104			103.95-104.95		py: mgr d' sms, 2-5%					10249
105			105-114.85		ca 10% pervasiv					105
106	75									10250
107										107
108										10251
109	80									109
110										10252

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
Page 13 of 32; From 110m To 120m  
Project: Great Western Star

Logged by: C Pothorin Date: 26/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
110			100.34-114.85	dk grn chl-ca schist; see p 12 chl 20-25% ca 10% pervasive									10252
111													111
112	72 ↘												10253
113													115
114	72 ↘		114.85-115.45										10254
115			114.85-117.42	decrease in chl; rx now a lt gy color but with wispy, mm-scale chl bands persist; 1 cl angular. lt gy-grn chl-cbt schist chl 10-15% sps 10% cbt 10%		py 5% mold sm sh in interval blk m. rich sp. 10-15% mass. sm scale of rick							115
116	70 ↘		116.06	stained									10255
117			116.20-119.85	slight ↑ in chl									117
118			117.42-117.73	amphiphyre dyke, blk. mas. ; con. p. sub. // to fol. bt 25% ca 10-15%									10256
119	70 ↘		117.73-122	lt gy-grn chl-cbt schist (as above)									119
120			119.75-119.89										10257

FF





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 15 of 32; From 130m To 140m  
 Project: Great Western Star

Logged by: P. Pothorin Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
130			122-139.82	dk grn chlorite	-ca schist (see p. 14)								10262
131	65		132.12	stained	chl 20-25% ca 10-15% qt 10% ksp = 1%, 100µm dia								131
132			132-134		bec. thin interval with 134: 2% below 134.								10263
133	65		133-139.82		decrease in chl through interval, down to 10-15% ca 2-5%, cdt 10%								133
134													10264
135													135
136	60		136.50-139.82		py-m-cgr disms blebs, 5%								10265
137													137
138	10				extensional qtz vnt, barren, 2.5-2cm thick								10266
139	65		139.35-139.70		py-m-cgr disms blebs, 5-8% tr. grt vnt @ 139.70m								139
140			139.82-149.35	lt grn chl-cdt schist	(see p. 16)								10267

as above

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20					
Logged by: C. Polhonia			Date: 26/2/90		Sampled by:		Date:		Page 16 of 32; From 140m To 150m			
Project: Great Western Star												
Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
140			139.82-149.35	dark green chlorite schist; m-spln, ferr; chl in m-scale sections as noted; some mica coarse ash clastic								10267
141	65		140.00-142.05	st 10% chl 10-15% wisp bands wrapped around stretched lapilli bags or coarse oth clastic								141
142	10-10		142.05-142.75 142.75-143.04	st 10% chl 10-15% wisp bands wrapped around stretched lapilli bags or coarse oth clastic								10268
143			140.90-143.25	st 10% chl 10-15% wisp bands wrapped around stretched lapilli bags or coarse oth clastic								143
144	70											10269
145			147.00-147.55		chl 10-15% as above							145
146	70											10270
147			146.80 146.86 147.55-148		tr here in section as above							147
148			147.77 147.95-148.26 148-149.35	stained	kspat = 0							10271
149	70		149.50-149.95 149.95	thin breccia - calc oxidn end								149
150	150		149.35-165.90	th ay st-kspat-clst schist (altered lapilli tuff) (see next pg.)								10272

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 17 of 32; From 150m To 160m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
150			149.35-165.90	lt gy st-kspars; cblt schist (5% kspars (ap) to 2%) m-staln schist (5% - m)							10272	
151			150.00	lap frags either frnd elongate at cblt (fids?) or irreg. blocky m-rich variety: spars avg. 5% 2cm: much more common in upper 2m of section; avg 8% spars at top; 10% of section of coarse ash till to fine m-rich frags								151
152			152.50-153.37	2 15cm qt-cbl vlt's, oriented as shown							10273	
153			152-155	lapilli frags (as above) rare; mostly m-rich comprise 2% of rock							152.50	
154			153.4-153.65	wk dk brng, m-scale, oriented as shown (opposite to stained)							10274	
154			154	kspars: 20%, wk top 10% m-rich							153.54	
155			155-156	angular, irreg. lapilli frags							10275	
155			155.03	stained							155	
156			155.10-155.37	at-cblt frn vlt's as shown + mlt - 30%							10276	
157			155-156.60	frags rare, in rare appearance of coarse ash till							157	
157			156.60-160	frags larger, as above, up to 20% of rock							157	
158			157.55-157.62	at-kspars-cblt vlt's qt-cblt kspars: 10%							10277	
158			157.55	stained							158	
159			159.23	stained							159	
160											10278	

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 18 of 32; From 160m To 170m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 27/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
160			149.35-165.90	1/2 qtz st-cbt schist (see p. 17)	st 10-15% cbt 10-15%							10278
161	70 ↘		161-165.90	foliated bands of wchd chl chl up to 5-8% bdy								161
162				still to petiole top; full frags as before approx same per centage								10279
163			152.45-170	blebby, crushed-up mm-cm scale qtz common, up to 10-15% of rock; lch approaching augen shapes								163
164	75 ↘		164-164.50									10280
			164.30	stained	asper n:							
165			165-167	qtz thru rx, as mm-scale eyes (rind) & blebby ? units, up to 15%								165
166	70 ↘		165.90-181.95	mgn chlorite-cbt schist								10281
			166.35	stained	asper n							
167				mgy grn, stold. fgr schist; chl in mm-scale wispy bands	chl 15-20% cbt 10-15% qtz 10%							167
168												10282
169	72 ↘		168.50-170	rx more chl-rich (up to 20-25%); have dense, dk grn appearance, with cm-scale qtz augen developed (up to 15-20% of rock); lch concentric void filling w/ euhedral qtz xtals present (168.90-168.98m)								169
170												10283

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 19 of 32; From 170m To 180m Project: Great Western Star				
Logged by: C. B. H. ...			Date: 27/2/90		Sampled by:		Date:				
Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
170			165.90-181.95	m. gr. chl-clbt as before	Schist (see p. 18)						10283
171	70		170.20-172.60 171.15-172.52		chl 15-20% clbt 15% perv. qtz 2-5% Ca 5%	py 2% mag disms. 1% py 1% disms. 1%					171
172											10284
173											173
174	70					or n'					10285
175			175-182		clbt <10% Ca nil qtz 5-10% on mm scale matrixes & circular, irreg. fract broken by deformation						175
176	75										10286
177			177-178			py 1% py disms					177
178	78		176.6-178.77			tr cpy, py 1% in series of mm scale qtz-co unit sub! to fine					10287
179											179
180											10288

7

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 20 of 32; From 180m To 190m Project: Great Western Star					
			Logged by: C. Pothorin		Date: 2/2/90		Sampled by:		Date:			
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
180	80		185.90-181.95	m. grn chl-cbt schist (see p 18) as before								10288
181				chl 15-20% cbt < 10% qt: 10% (as before)								181
182	80		181.95-184.73	st-cbt schist w/ky deformed; qtz ash tuft; Vfar, 1/2 qtz stc mix w frags approaching 10pin size, but most < 2mm					15			10289
183	60-70		182.25-182.63	stained kspat 70-80%								10290
184			182.67-183.78	stained kspat 70-80%								183
185	75		184.07-184.55	stained kspat 70-80%								10291
186			184.73-185.90	m-dk grn chlorite-cbt schist far. stold; qtz-ca eyes (mm-scale) 10-15% lcl brds of am-scale qtz-ca eyes; most are ovoid "proto-augen"					15			185
187	80			chl 20% cbt 10-15% ca 5-10%								10292
188												187
189												10293
190	76											189
												10294

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N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-20  
 Page 21 of 32; From 190m To 200m  
 Project: Great Western Star

Logged by: C. Polhorin Date: 27/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
190			184.73-190.52	mgfn chl-clt schist (see p 20)							10294
191	70		190.52-215.11	lt gy st-clt schist; mg. r-s schist (coarse int. ash tuff)	St 10+% Cob 10-15%						10295
192			190.52-190	mm scale at-clt eyes, ovoid, in previous unit; 2-15% ap in cl cm-scale bands							10295
193	70		191.88-192.30 191.88-191.9		clt schist with chlt and chl in mm-scale units. Subll to foln. m/m + cpy in unit py 1-2% in unit						193
194			193.85-194.82	clt of vng; v. blk bands of chlt to wh- clt qtz; has mm- scale concentric, multi-generational banding w py deposited in each lower hydrothermal unit (vng)							10296
195			194.82-198.40		ksp 4-5% py 5-8% for strings clt schist with chlt and chl in mm-scale units. Subll to foln. m/m						195
196	70		195.85-196.63	fine gr. chlorite schist about 40% of interval							10297
197			196.85	stained	ksp nil						197
198			197.65-199.40	ry dk gy color dye to slight ↑ mnt (?), chl							10298
199			199.60	stained	ksp 4-2%						199
200	70										10299

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 22 of 32; From 200m To 210m Project: Great Western Star				
Logged by: C. Rothorn			Date: 2/2/90		Sampled by:		Date:				
Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration						
200	80		190.52-215.11	lggy st-cbt schist (see p. 21)							10299
201			200.55-202	st 10+%							201
202			200.55-202	cbt 10-15% pervasive							10300
202			200.55-202.85	st 10% as above							
202			201.58-201.58	micaceous schist with mostly subparallel foliation, < 10/m							
203	80-89		202.83	stained							203
203			203.38	stained							
204			203.25-210								10904
204			203.85-208.5								
205											205
206	75										10905
207											207
208			208.18								10906
208			208.45-208.55	stained							
208			208.55								209
209	70		209.10								10907
210			209.75	stained							

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 23 of 32; From 210m To 220m  
 Project: Great Western Star

Logged by: C. Pothorn Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
210			190.52-215.11	lg st-cbl schist (see p. 21) as before	st 10+%						10907
211	70		211 210-215.11	stained	ksp 20-25% pervasive repl. of white unit, m-scale, subll to foln (normal), 10/m avg.						211
212			212-215	various shaped	sp. in various shapes; usually cmt scale up to 5cm-size frags; usually 10% of rock						10908
213	70		212.84	stained	ksp 20-25% pervasive repl.						213
214			214.10-215.11 214.56	stained	ksp nil	py 2-4% as mar disms & stringers					10909
215			215.11-218.50	lg st-cbl-chl schist; relict x-l tuff beds remain; f.c.l. over previous unit, probably due to a small %age of chl present; slight ↑ m-scale.	st 10+%						215
216	70				cbl 15%	py nil					10910
217					chl 10-15%						217
218			217.50-220		ca ↑ .5% through interval, esp. in units/bands						10911
219			218.50-219.80	m. gy-gr chl-cbl schist; similar origin as previous unit, but w ↑ %age chl; m-scale. Some cm-scale bands of w/ziv deformed x-l lap. tuff relict							219
220	70		219.75	stained	ksp 15%	py nil					10912
					chl 15%						

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-20 Page 24 of 32; From 220m To 230m Project: Great Western Star				
			Logged by: C. Pothorin		Date: 2/2/90	Sampled by:		Date:			
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
220	70		218.50-240.80	m. grn-gy chl-cbt schist (see p. 23)	chl 10-15%						10912
221			220.87	fehls occurs as mm-scale bands throughout rock, some as sm.	chl 15-20%						221
222					ca 5-10% dev. also as deformed white mica scale units & asid 50 at lab as below						10913
223	70		222.55-230	qt occurs in matrix interval, usually as mm-scale Subang - rdd; augen-shaped blobs; kid up to .5cm augen forms developed, usually ass'd w ca: qt 10% (?)							223
224											10914
225											225
226	70										10915
227											227
228											10916
229	70										229
230			229.75-230			py 4-10% fair strong mgt disms					10917

3

N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-20  
 Page 25 of 32 ; From 230m To 240m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
230	70 ↗		218.50-240.80	W. gray chl-cbl schist (see p. 23)	chl 15-20% ca 10% sericite						10917
231					qtz-bls deformed into wk. fine scale, discontinuous bands through most of interval						231
232			232.01-232.16		qtz-bls with barren, small to fine						10918
233	70 ↗										233
234											10919
235											235
236	70 ↗		236.25-236.50		qtz-bls with chl separations of 2-5% maf disms						10920
237				237.26-237.66	relict latite like vlt, 4cm long, occur throughout, aligned to folia (not lined), up to 15%; ? relict amphs; now quite soft; lt gr. blue color						237
238			237.55-240.80		chl through this interval, down to 0% @ end; slt, qtz						10921
239	75 ↗		239-240		cont to fill by 240m						239
240											10922

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 26 of 32; From 240m To 252m  
 Project: Great Western Star

Logged by: C. Pothorn Date: 28/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
240			218.50-240.80	lt grey chl-cbl schist; chl v to nil @ end of interval (see p. 23)		M nil					10922
241	65	↙	240.80-245.77	lt grey of-st-cbl schist; 2 air, m. s. chl; at as mm- edge frags (100µm to 1mm) & (incl. oval shapes (100µm?); 100µm to 1mm; 100µm to 1mm	± 20% cbl 10-15% sl 10-15%	zrn-st. calc. f. calc. 100µm to 1mm					241 10923
242	65	↙	242.60-245	lt grey of-st-cbl schist; 2 air, m. s. chl; at as mm- edge frags (100µm to 1mm) & (incl. oval shapes (100µm?); 100µm to 1mm; 100µm to 1mm	± 20% cbl 10-15% sl 10-15%	zrn-st. calc. f. calc. 100µm to 1mm					243 10924
243	70	↙	243.17	stained							243
244				(? of zose andesitic ash to 244 - no flow features to indicate a volc. flow)							10924
245	70	↙	245.35-245.67	pale grey elongate (1-2mm long x 1-2mm wide) blebs matrix small oints chl & st							245
246			245.77-251.67	dk grey chlorite-carbonate schist; eq. s. chl	chl 20-25% cbl 15% perussite						10925
247	72	↙		ca 5-10% esp of mm-scale units blebs of mm-scale units; perussite usual < 20µm of eyes, as above, to 246.30 m							247
248											10926
249	70	↙				M nil					249
250											10927

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
Page 27 of 32 ; From 250m To 260m  
Project: Great Western Star

Logged by: C. Pothorin Date: 28/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
250	70 ↘		245.77-251.67	dk gm chlorite-clot schist (see p.25)	chl 20-25% cblt 15% ca 5-10%						10927
251	70 ↘		20.52-251.10		at-clt vltz @ various $\Delta$ to ca. 1mm scale; cblt-rich haloes up to 1cm thick.						251
252			251.67-260.15	m.gy-gm chl-clt-q schist; 1-1.5mm scale bands to mm-size rndd at eyes or mm-scale laths repl. by qtz; as noted.	chl 15-20% cblt 10-15% qt 10-15% (+?) ca 5-10% perth.						10928
253	70 ↘		252-252.35	rndd at eyes, as above, 15-20% chl	qt 10-15% (+?) ca 5-10% perth.	silicification					253
254			252.35-255.14			py 5% as mgr disms & fr strings					
254			252.67-255.20	lath rndd at eyes; lath shapcs (at repl) occur in sub-metric scale bands thru interval up to 20% kly		py 1-3% as mgr disms & bands					10929
255	65 ↘		254.18	stained	spgr 15% wk pervasive repl.						
255			255-256	interval has 'essical' (<math>200^{\circ}</math>), is a bit siliceous							255
256	65 ↘		255.85	stained	spgr 15% wk pervasive repl. excepting phenoxys.						10930
257	65 ↘		257-259.50	relict plagioclase occur randomly oriented through interval; laths replaced by; cblt-hem show polysynth. twinning, ones replaced by qtz do not; laths up to 20% Single laths not aligned w foln; this interval may be a sub-volc. intrusive in lath plus of same composition; laths avg 1mm & mm.							257
258											10931
259	65 ↘										259
260			259.53-260.15	at-clt-hem vltz, mm scale but v. intensive; sub ll to foln; except in centre of band, where $\Delta$ is $270^{\circ}$ to c.a.	ca nil	py nil					10932

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 28 of 32; From 260m To 270m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 28/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
260			260.15-264	chlorite-cbt schist; upper 2m dk grn chl 20-25% lower 2m decrease to approach progressively to nil; here a lt gy-grn color.							10932
261	70					chl - 20-25% cb - 5-10% cbt - 15%	py nil				261
262			260.15-260.55			st. na-pm vlt; wavy mm-scale vlt; N. intense from 260.42-260.45 m; S to 11 to 10.1A					10933
263	60		263-264m	mm ep in blades vlt. habes, ep 2-2%		chl 45% cbt 10% ca-nil kspat nil					263
264			264-270.85	stained		lt gy st-cbt-kspat sch: wk. mid; xtl full texture remaining; xtls 1-2mm, blocky xtls w/lu aligned w fol'n, ~20-25% of rock, pervasive					10934
265			264.95-265.10			st 15% cbt 10-15% py 2.5% epidisms					265
266	60		266.50	stained		wk kspat sch, likely as intense as stained interval reveals kspat 15% pervasive wk repl.					10935
267											267
268	65						py nil				10936
269											269
270			269.65-269.75			epid in low mm-scale at cb vlt					10937

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 21 of 32; From 270m To 280m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 1/3/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
270	68 ↗		264-270.25	lt gy st-cbt ksp schist	-see p. 28						10937
271			270.25-272.64	lamprophyre dyke; dk gy → blk; massive							271
272			272.64-275.48	reddish gray m. relicts (plagioclase); now unidentifiable as dusty dark masses; up to 20% (are mm-scale phenocrysts)							10938
273	70 ↗		272.74-274.64	lt gy st-cbt ksp schist	-see p. 28						273
274			272.74-276.87	ash-w/td texture; fsc, mm-scale frags present, but rarely recognizable as xtls							10939
275			276.87-279	xtl w/td texture; lath-like xtl texture, up to 0.7cm long (? relict plagioclase)							275
276	70 ↗		276.47-276.86	stained	kspr 15-20% pervasive						10940
277			276.31-276.30 276.13-276.09	qtz as stretched ovoids in mm scale, up to 10-15%							277
278	60-70 ↗		278.45-279.00								10941
279											279
280	70 ↗										10942

7





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-20  
 Page 31 of 32 ; From 290m To 300m  
 Project: Great Western Star

Logged by: C. Pothorn Date: 1/3/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
290	70 ↗		272.74-294.69	lt gy st-cbl-ksp schist	see p. 28						10947
291	140-60 ↘		291.12-291.69	medium subvol scale 10-15% vls w some chl rep. + rel. ampr. vls aligned w foln.							291
292			291.87-292.05	lt up to 10-15% qtz-milky w/ rdt vls, py 1% + cp4							10948
293	67 ↗			mm scale vls, 10-15% sized, up to 10-15% subll to foln thru interval.							293
294			293.85	stained	ksp 25% pervasive						10949
			294.35-294.73		hem seams, up to 5% mm scale						
295	70 ↘		294.69-304.10	lt gy-grn porphyritic dioritic sub-volc. intrusive:	chl-10-12% ca - nil cbl-10-15% qtz-cbl vls subll						295
296			295.76-295.70		gr 1-2% gr 3-5%						10950
297				wkly fold to mos; m. augen phenoxs, 5-1cm, oriented randomly through interval;							297
298	66 ↘			w recognizable chl + (?) replacement - maybe relict ampr or pr vls 20-25% abundant as a peppery equigranular appearance w some chl: repl. of mtes, rem. ag + qtz (quite hard out vls: 10-15%)							10951
299					pl nil						299
300											10952

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-20-90  
 Page 32 of 32; From 300m To 306.63m  
 Project: Great Western Star

Logged by: C. Pothorin Date: 1/3/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
300			294.69-304.10	lt quartz diorite porphyry - see p. 31									
	70		300.40-301.5	1 ch through interval, ch! 10-15%		py n!							10952
301			301.5	stained	kspat 45% - n! pervasive								301
			301.5-302.10	bleached interval, ch! n! (due to kspat alt'n)									
302			302.10-304.10	1 ch through interval, ch! 15%									10953
303	68												303
304			304.10-306.63	st-ebl-kspat schist (ash tuff)		py n!							10954
				lt quartz, m. r. ss., wk-mfoln									
305	60			st 10-15% ch! 15%									305
			305.76	stained	qt-cs with mm-scale, 100/m								10955
306	75												
306.63						py n!							306.63
EOH													

7



N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-21 Page 2 of 23; From 0 To 10 Project: Great Western Star				
Logged by: <i>P.R.</i>			Date: <i>8/2/90</i>		Sampled by:		Date:				
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration						
0			0-3.96	Cased in overburden.							
1											
2											
3											
4			3.96-49.75	Monzo-Diorite	Kspar 40% mt 2% plag 40%	nil					3.96
5					CI 15, bi (alter bb?)						5831
6				Medium grey, speckled with black. Grain size 2 cm to 3 cm. Mt as fine dusting within biotite. Most fractures stained with brown to reddish brown Fe oxides. Some gash-like cavities, probably where calcite weathered out.			15	2	0	0	6.00
7							20				5832
8			6.78-7.35	Diorite	CI 20, bi	nil					8.00
9	<i>gt</i>	<i>40</i>			Kspar 30% (?) plag 45% (?) mt 2%		15	2	0	0	5833
10			8.90		gt unit, 3cm, 40°						10.00

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N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-21  
 Page 3 of 23; From 10 To 20  
 Project: Great Western Star

Logged by: P.R.

Date: 08/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
10			11.1		Chl. v. ls, 5mm, 40°						10.00
11											5834
12							15	2			12.00
13											5835
14											14.00
15			15.18		qtz v. ls, 1cm, 45°		15	2			5836
16											16.00
17											5837
18							15	2			18.00
19											5838
20											20.00

67

N C G

DRILL CORE LOG

Logged by: *P.R.* Date: *05/02/90* Sampled by: Date:

Drill Hole No.: *GIS-90-21*  
 Page 4 of 20; From *20* To *30*  
 Project: *Great Western Star*

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
20			39.6-49.75	cont., see p. 2 for descr.									20.00
21							15	2					5839
22			22.37-22.22		Mn oxides on fractures.								22.00
23													5840
24													24.00
25							15	2					5841
26													26.00
27													5842
28													28.00
29							15	2					5843
30													30.00

7  
I

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-21  
 Page 5 of 23; From 30 To 40  
 Project: Great Western Star

Logged by: P.R.

Date: 08/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
30			3.96-49.15 31.16-31.76	cont. (see description p. 2) CI ± 5	nil		15	2						30.00
31					Kspars 50% mt 2%, erratic									5844
32			30.1-30.13		mt 10% local mt. enrichment.									32.00
33			32.73- 35.20		Kspars 60% CI ± 5 mt 2%, erratic	nil								5845
34					Bleached, Kspars enrichment.		15	2						34.00
35			37-49.75		ep 1%									5846
36														36
37														5847
38														38
39							15	2						5848
40														40

7

N C G

## DRILL CORE LOG

Logged by: P.R.

Date: 08/02/90 Sampled by:

Date:

Drill Hole No.: GWS-90-21  
Page 6 of 23; From 40 To 50  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
40			48.11-48.26		shear 43° chloritic chlt 5%									40
41			48.67-49.75		CI decr. gradually to 2. kspar 60 mt 2		15	2						5849
42														42
43			49.75-71.18	Diorite	kspar 20% CI 25, bi, slightly chloritized. mt 2% plug 45% ep 1%	nil								5850
44														44
45						Darker, finer grained, less kspar-rich than Monza-diorite. Contact abrupt. MO bleached near contact; diorite shows no obvious contact effects. Gash-like vugs where ca leached out. All fractures coated with Fe oxides.								5851
46							15	2						46
47														5852
48		ch 43°												48
49														5853
50							25							49.75

Z



N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-21 Page 7 of 23; From 50 To 60 Project: Great Western Star				
Logged by: P.R.			Date: 09/02/90		Sampled by:		Date:				
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration						
50			49.75-71.18 51.14	cont. (see p. 6).	mt vnl, 2mm; 20°	2.5	2				5854
51							vnl				51
52											5855
53											53
54						2.5	2				5856
55											55
56			55.62		mt (ep) vnl, ½ cm, dissep, 20°		vnl				5857
57			61-65		ksp 40% CIS (variable); mt 1% hm 2%						57
58					Bleaching, ksp alt. Much of mt altered to hm. Hm also occurs as seams + vnls locally. Fe oxides 10%		2				5858
59					Broken, rubble + heavily coated with Fe oxides.	2.5					59 5859
60											

7

N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-21 Page 8 of 23; From 60 To 70 Project: Great Western Star			
Logged by: P.R.			Date: 09/02/90			Sampled by:			Date:			
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization						
60							25	2				5859
61												61
62												5860
63							5	1				63
64												5861
65												65
66			66.35									5862
67												67
68												5863
69												69
70												5864

qt vnl, 2cm,  
90°, vuggy  
veinlet contains hard, brittle,  
black tabular crystals; sub-  
metallic. Too hard to streak.  
Tabular crystals break easily.  
bleached zone 10 cm around vnl.

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-  
Page 9 of 23; From 70 To 80  
Project: Great Western Star

Logged by:                      Date:                      Sampled by:                      Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
70			71.18-169.46	Monzo-Diorite	CI 15, bi ksp 40% plag 40% mt 2%	nil except where noted.	25	2					5864
71					gush-like cavities aster. ca.								71
72					ep 1% Fractures control with chlorite, 1% c. rock.		15						5865
73			72.80-72.9		qt 50% CI 7		7						73
74					ksp 20% plag 20% mt 2%								5866
75			75.8		Localized quartz stringing. ep vnt, 20% andstonising.		15	2					75
76			79-79.76		qt vnt, 5% malach + azurite, 1%								5867
77					Broken, rubbly. Fgnts 1/2 to 1cm qt. vnts.								77
78							15	2					5868
79													79
80										malach + azurite			5869

3

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 10 of 23; From 80 To 90  
Project: Great Western Star

Logged by: P.R. Date: 09/02/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
80	chl 55		80.25-80.54		shear fabric, 55°, marked by chloritic seams		15	2					5869
81			80.54-89										81
82					cbt 20% ksp 40% C.I. 5, variable mt 2% shear fabric 55°	py tr cp tr			tr	tr			5870
83	chl 55				cbt alt. has primarily attacked mafic minerals, reducing CI. Shear fabric marked by weak alignment of remnants of mafic minerals. Sulphides quite rare, cp & py.	Ca unts, 1%. Locally,							83
84					splashy cp in ca unts; not significant overall.		5						5871
85			89-100.23										85
86					ksp 65% ca 3% C.I. 15 mt 4%	py tr cp 1/4%							5872
87	chl 55				ksp enrichment variable 50%-90%, 65% avg. Most cp assoc. with ca; locally to 1%, 1/4% avg.				tr	tr			87
88			89.18		ca unts, 1cm, 20% cut off by x-tract.	cp 10%, bn 2% in unts.							5873
89	CR EP BT 55		89.31		ca-mt unts, 3mm, 55°					vult 10			89
90	CR EP BT 55						15	4	tr	1/4			5874

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 11 of 23; From 90 To 100  
Project: Great Western Star

Logged by: P.R.

Date: 10/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
90			90.4		shear, 35°						5874
91	35 ksp. tour		90.9-91		kspar enriched over 2 cm; chloritic parting.				1/4		91
92	45 35 cu ep		91.42-91.60		shear 45°		15	4			5875
93	65 cu ep		91.76		Shear fabric marked by chloritic + hematitic partings. cp locally enriched to 1/2 %.						93
94	35 ksp. ca ep		93		ca unlt, 4mm, cp 10% in unlt.				1/4		5876
95			93.52		ca unlt, 5mm, cp 1/2 % in unlt.						95
96			95.4-96		kspar unlt, 2cm, 35°		5	2	1/2		5877
97			97		kspar cut by later ca unlt, 1mm. 5% cp assoc. w. ca.				tr		97
98			98.27-98.65		kspar 75% ca 10% CI 5 mt 2%	cp 1/2 % assoc. w. ca.	15		1/4		5878
99			99		Calcite occurs as 1-2 mm gash unlt, primarily at low L to C.A.			4			99
100			98.27-98.65		cp 1% over 4 cm → cp 1% over 4 cm. local enrichments cp		5		1/2	1	5879
					kspar 75% CI 5 ca 5% mt 4%	cp 1% py 1/2 %	15		tr	1/4	5879

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 12 of 23; From 100 To 110  
Project: Great Western Star

Logged by: P.R.

Date: 10/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
100			100.23-104.36				15	4	tr 1	1/2 1/2	5879
101							5	1			101
102									1/2		5880
103			100.23 -100.44				5	1		1/4	103
104			104.36-107.29				5	1	1/2		5881
105											105
106							10	2	tr	tr	5882
107			106.34 + 106.40								107
108			107.29-108.85				5	1	tr	tr	5883
109											109
110			108.09				15	3			5884

Z

N C G

DRILL CORE LOG

Logged by: P.R.

Date: 10/02/90 Sampled by:

Date:

Drill Hole No.: GWS-90-21  
Page 13 of 23; From 110 To 120  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
110	ca tour cp		108.85-130.5		CI 15 Kspar 40% mt 3% cbt 10% ca 1%	py tr cp tr					5884
111				Less altered zone.							111
112	ca tour		109.46 110.33		ca-chl vnt, 2mm 55° ca-tour vnt, 2mm 25°	cp in vnt, 1% cp in vnt, 1%	15	3	tr		5885
113			110.5-110.65			cp 1%					113
114	175 Ksp ca (ch) py cp		112.15		ca-tour vnt, 1cm, 45°						114
115	87 ca py cp		112.15-112.28 113.44			cp 1% Kspar-ca, chl, vnt, 1cm, 75°	5	3	1		5886
116			114-114.4		qt-ca vnt, 1/2 cm, sinuous, sub-H c.a. x-vnt 15, 75°	py 10% cp tr	15	3	tr		5887
117			117.76	Most of core bleached, due to envelope around veinlet.		ca-chl vnt, 1cm, 57° cp 5% in vnt.					117
118	ca chl top		118		ca-chl vnt, 1cm, 45° cp 5% in vnt.						5888
119	87 ca py cp		118.4-118.8		CI 10 Kspar 60% mt 5% ca 10% vnt 15	cp 2% assoc. with ca. py tr	10	5 3		2 1/2	119
120	87 ca py cp						15	3	tr	1/2	5889

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 14 of 23; From 120 To 130  
Project: Great Western Star

Logged by: P.R.

Date: 10/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
120			118.8-119.17							
			119.17-119.28							5889
121	30 gt ch ca cp				mt 10% ksp 70% ca 10%					121
			119.57-120.4	Localized	ksp-qtz enrichment.					
122	37 gt ch ca cp				qtz-cbt vnt, cp 3% of vnt, 1/2 cm, sub-ll 1/2% of core.	15	3		tr	5890
			121.1		ksp-chl-ca vnt, cp 3% in vnt, 1 1/2 cm, 30° mt 10% in vnt					123
123	90 cu cp				ca-tour vnt, cp 10% in vnt. 1/2 cm, 37°					
			121.37		ca vnt, 3mm, cp 10% in vnt. 90°					5891
124	ksp		122.83							
			123.6-125.88		ksp vnts, 1-3mm, py 1% 0-5° c.a. core branched. x-vnts, 3/m. shear fabric, 40° c.a.				tr	125
125	ksp									
			126-126.3		shear fabric, 40° c.a.	15	3			5892
126	40				shear fabric 45° cp 1%					127
			127-127.1							
127	45									127
										5893
128										
										129
129										5894
130										



N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 15 of 23; From 130 To 140  
Project: Great Western Star

Logged by: P.R.

Date: 1/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
130			130.5-137.24		shear fabric, 55° CI ± 5, chl. mt 1%, variable kspars 70% cbt 10%	py 1/2% cp tr	15	3	tr	5894
131									tr	131
132					Shear fabric marked by chloritic partings. Intense kspars alt. A few white kspars unlts. ca veinlets relatively rare.		5	1	1/2	5895
133			137.24-137.76		kspars brx kspars 70% mt 1% st 25%	py 1% cp tr				133
134					Fragments kspars, 1-3 mm, sub-ang, in pale green st. ca unlts 2%.					5896
135			137.76-140.5		as 130.5-137.24		5	1	tr	135
136			139.8-140			py 3% cp tr				136
137			140.5-142.2		kspars 70% mt nil ca 5% chl 5%	py 1% cp tr			1/2	5897
138					Intense kspars alt. Shattered, locally brxtd, healed by ca ± chl.				1	137
139			142.2-149.15		kspars 45% CI ± 15, bi ca as unlts, 5% mt 2%	py tr cp rare tr.	5	1	1/2	5898
140									tr	139
									3	5899

N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-21  
 Page 16 of 23; From 140 To 150  
 Project: Great Western Star

Logged by: P.R.

Date: 11/02/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
140			142.68		ca vult, 1cm, 20°	py 10% in vult.		1	1/2					5899
141			143.8		ca-kspar vult, 1cm, 45°		5	0	1	tr				141
142			144.1		ca vult, 1cm, 55°	cp 5% in vult.								5900
143	20° cu ksp py		145-146		3x ca vults, 1cm, 10° kspar Sg mts.	py 1% in vults.								143
144	45° cu ksp cp		146.79		ca vult, 10° 2mm	py 1% in vult.	15	2	tr					5901
145			148-149		ca-chl vult, sub-ll c.a.	py 1/2% in vult.								145
146	10° cu ksp py		149.15-152		kspar, 45% CI = 15 MT 2% shear fabric, 45°	py tr cp tr				tr				146
147	10° cu chl py				Shear fabric marked by weak alignment mafic minerals and sericitic partings. Local intense kspar over ± 10 cm.		15	2	tr					147
148														5903
149	cu chl py								1/2					149
150									tr	tr				5904

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-21  
Page 17 of 23; From 150 To 160  
Project: Great Western Star

Logged by: P.R.

Date: 12/02/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
150			152-156.96		CI ± 10, bi(chl) kspar 50% ca units 3%	py tr, cp tr, mainly assoc. w. ca units.					5904
151					mt 2% chl 10%		15	2	tr	tr	151
152					kspar alt. t. bleaching variable; not intense. Minor chloritization of bi.						5905
153			153-153.31		qt-ca-chl-hm veinlet, 4mm, sub-   ca.						153
154			153.73		py vnt, 25° 2 mm.	cp tr.					5906
155			155		hm vnt, 2mm, 45°	10% cp in vnt.	10	2	tr	tr	5906
155			155.65		ca vnt, 7mm, 65°	cp 5% in vnt.					155
156			156.96-159.46		CI = 10, variable kspar 50% ca 10% chl 10%	py tr cp tr, mainly localized in or near veinlets.					5907
157					bi → chl, 50/50 mt 2%, highly variable, ref. hem. 10%						157
158					Highly variable alt. intensity, on dm scale. CI variable nil → 20; mainly biotite and chl after biotite. Shear S <sub>2</sub> locally.		10	2	tr	tr	5908
159			156.9		kspar-ca-chl vnt, 1/2 cm, 35°						159
159			157.26		ca-chl-hm vnt, 1cm, 37°	cp 1% in vnt.					5909
160			159.62		ca vnt, 1cm, 20°						

197  
164  
151  
hm25  
py45  
hm  
cp65  
ca35  
ksp  
ca  
chl37  
ca  
chl  
hm20  
ca

5

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-21  
 Page 18 of 23; From 160 To 170  
 Project: Great Western Star

Logged by: P.R. Date: 12/02/90 Sampled by: Date:

Depth	Graphics		Description			Color index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
160	gt 35° ca 35° ksp 35°		160		gt+ca vult A mm, 35°					
161			160.3		ksp. vult, 1.5 cm, 35°					5909
162			162.0-162.59		ca vult+ll.ca., 1 mm	10	2	tr	tr	161
163	ca 50° cp ca 50° ch 10° cp		162.89		ca-chl vult, 3 mm, 50°					5910
164			164.21		ca vult, 1 mm, 65°			1 1, vult		163
165	65° cu		164.68- 165.2		ca-chl gouge, 1 cm, sub-ll.ca.					5911
166			165.38		ksp+ca vult, 1 cm, 45°	10	2	tr	1, vult	165
167	45° ksp ca 30° ch mt ca 30°		165.61		hm vult, 1 mm, 20°			tr	tr	166
168			166.13		Shear fabric, 30°, marked by mt stringers.					5912
169	ca 45° cp ca 45°		166.62		chl-mt vult, 2 mm, 30°			10, vult 1, vult		167
170			166.76- 167.2		ca-chl vult, 1 mm, sub-ll.ca.					5913
			168.14		ca vult, 1 mm, 45°			5, vult 1/2		168
			168.14-168.55		Shattered, heated by ca w spec lens.	10	2	tr	tr	169
	ca 30° ch 30° cp ca 30° cp ca 60° cp		169.12		ca-chl vult, 1 mm, 30°			tr 10, vult		5914

7

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-21					
Logged by: P.R.			Date: 12/02/90		Sampled by:		Date:		Page 19 of 23; From 170 To 180			
Project: Great Western Star												
Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
170			169.20		ca vult, 1/2 cm, 60°	ep 10% in vult	30	5				5914
171			169.46-170.27	Lump pyrite Bi 30% Kspar 60% mt 5%			2		tr			171
172			170.27-174.6	Contacts at 70° Menzo-Diorite	CI ± 15	ep tr py tr		1	1/2			5915
173					Kspar 50% mt 2% ep 1% ca vults 1/2%		2		tr			173
174			171.1-174.6		CI ± 5 Kspar 70% mt 1% chl 2%	ep 1/2%						5916
175												174.6
176					bleached interval. chl vult, 2mm, sub-ll c.o. ep assoc with chbrite.		30					5917
177			174.6-217.32	Diorite	CI ± 30, bi.	nil except as noted		3				176
178					Kspar 30% plag 30% ep 2% ca vults 1% mt 3%							5918
179					Field term "diorite" not technically correct, as staining shows too much Kspar. Name used to distinguish this darker, finer grained rock from Menzo-Diorite. Fx. to mix, equigranular.		30					178
180					Epidote as cm patches f as fine altm of sp. Ca r, chl occur in vults. This unit will be logged in less detail than above.							5919
												180

7

N C G

DRILL CORE LOG

Logged by: *P.R.*

Date: *13/2/90* Sampled by:

Date:

Drill Hole No.: *GWS-90-21*  
 Page 20 of 23; From 180 To 190  
 Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
180			184.25-184.41		kspar 70% C.I. 5 mt nil	py 1%							180
181			184.3		vuggy ca vnt, 1cm, 43°		30	3					5920
182			184.9-185.15		kspar 70% C.I. 5 mt nil	nil							182
183			188.28		hm vnt, 2mm, 25°								5921
184			189		ca vnt, 1cm, 45°		30	3					184
185					Fe oxides 25%		5 30 5	0 3 0					5922
186							30	3					186
187													5923
188													188
189								3					5924
190													190

7

43°  
ca

25°  
hm

45°

N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-21  
Page 21 of 23; From 190 To 200  
Project: Great Western Star

Logged by: P.R.

Date: 12/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
190	45		174.6-217.32	cont. (see p. 19 for description)								190
191						30	3					5925
192												192
193			193.35-193.5									5926
194			199.5-197									194
195						30	3					5927
196												196
197												5928
198												198
199						30	3					5929
200												200

7

mal 2% in  
hairline vnlts.  
mal tr, assoc.  
with ca.









N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-22  
Page 2 of 30; From 0 To 20  
Project: Great Western StarLogged by: *P.R.*

Date: 1462/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY				Sample Number	
	Struct	Log	Interval	Lithology	Alteration									Mineralization
0			0-13.41	Cased in overburden										
11														
12														
13														
14			13.41-32.5	Monzo-Diorite.	cI±15, bi, partly chloritized.	nil - any sulphides which were present have been oxidized.	15	2					13.41	
15					kspar 35% plag 35% mt 2%, partly oxidized Fe, Mn oxides, 10%								5939	
16					Broken + rubble core - all fractures coated with Fe, Mn oxides. Cavities where Ca gash veinlets leached out.								5940	
17					Equigranular, medium crystalline. Very local bleached zones a few cm long.								17	
18							15	2					5941	
19													19	
20													5942	

62

N C G

DRILL CORE LOG

Logged by: P.R.

Date: 14/02/90 Sampled by:

Date:

Drill Hole No.: GWS-90-22  
Page 3 of 30; From 20 To 30  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
20			21.1-21.4		bleached CI30 st+clays 95% mt nil	nil	15	2						5942
21					Fe oxides + hm, 95%		0	0						21
22					bleached to opaque white; may have been sp. but now broken down to st plus clays.		15							5943
23			2968-2962		as 21.1-21.4			2						23
24														5944
25							0	0						25
26														5945
27							15	2						27
28														5946
29														29
30														5947

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N C G

DRILL CORE LOG

Logged by: P.R.

Date: 14/02/90 Sampled by:

Date:

Drill Hole No.: GWS-90-22  
Page 6 of 30; From 50 To 60  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
50			38.2-53 cont.	(see description, p. 4)										5957
51			51.3-52.6		mt 2%									51
52			53-55.71	M-Diorite	CI 10, chl. Kspar 50% mt nil plag 35% Fe oxides 2%	malachite local trace.								5958
53														53
54			55.08			Rock has been shattered & healed by hairline chloritic fractures.								5959
55			55.71-58.58	Breccia M-D-Lamp(?)	chl 40% Kspar 25% plag 15% ca 5% mt nil	cp 0.1% mal 1r								55 5960
56														55.71 5961
57						Monzo-diorite has been brecciated by adjacent mafic dike and partly digested. M-D fgnms are 2mm to 40cm, 50% of rock. W/in M-D, Kspar 40%, CI nil. Groundmass from dike medium green, highly chloritic. cp as specks in M-D fgnms or chloritic groundmass. ca rim on a few Kspar fgnms. Upper contact gradational over 10cm. Fault gouge.								57 5962
58														58.58 5963
59			57.47-57.57											
60														

35  
Ksp  
chl

(4)

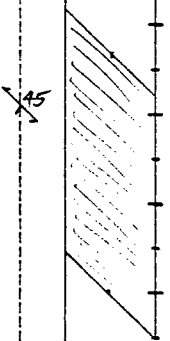
N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
Page 7 of 30; From 60 To 70  
Project: Great Western Star

Logged by: P.R. Date: 11/02/70 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
60			58.58-62.30	Mafic Dike	CI ± 60, bi ca 30% mt 3%	nil						5963
61												60.4
62												5964
63												62.30
64			62.30-105.36	Monzo-Diorite	CI ± 15 Ksp+ 40% plag 30% Fe, Mn oxides 10% M+ 10%	rare tr mal. or az.						5965
65												64
66												5966
67												66
68			62.3-65		Broken, rubble core. Medium grained monzo-diorite. If sulphides were present, all now oxidized. Many open gashes where ca gash veinlets leached out. Pronounced shear fabric, marked by alignment of mafics locally. Mafics partly chloritized (bi → chl). shear fabric; 45°							5967
69												68
70												5968
												70



2



N C G

DRILL CORE LOG

Logged by: P.R.

Date: 14/02/90 Sampled by:

Date:

Drill Hole No.: GWS-90-22  
 Page 8 of 30; From 70 To 80  
 Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
70			71-72		mafic silicates, partly oxidized.									70
71			72.55		vult, 1cm, 55°									5969
72					Constituents unknown. Mixture of fine chl. & moderately soft grey mineral; possibly sp altered to st.		15	1						72
73														5970
74							15	1						74
75														5971
76														76
77														5972
78							15	1						78
79														5973
80														80

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 9 of 30; From 80 To 90  
 Project: Great Western Star

Logged by: P.R.

Date: 15/02/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
80			62.30-105.36										80
81			84.1-85.28		mafic silicates 50% oxidized.	15	1						5974
82													82
83													5975
84													84
85						15	1						5976
86													86
87													5977
88													88
89						15	1						5978
90													90

±





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 12 of 30; From 110 To 120  
 Project: Great Western Star

Logged by: P.R.

Date: 16/02/90

Sampled by: \_\_\_\_\_

Date: \_\_\_\_\_

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
110			107-110 (cont.):		chl 5%						5989
				Core broken, rubbly. Chlorite on most fractures. Dark Fe oxides, Mn oxides on most fractures.							111
111			110-113.46	Monzo-Diorite	Stockwork; locally brx.	mal tr.	25	2			5990
112					CI ± 25						
					Kspar 40%						113
113					ca 2%						
					mt 2%						114
114					chl 10%						
				Stockwork, locally breccia texture with vults/matrix dark green, vfx. Chloritic; hard. 30% Kspar in chloritic vults/matrix.							5991
115				In part of brx M-D fgn'ts bleached; not by Kspar; possibly silicified. Hardness suggests qtz may be present in chloritic mat'l.			15	3			115
116			113.46-116.45	Monzo-Diorite	CI ± 15	mal tr.					5992
					Kspar 40						
					ca 1%		40				
					mt 3%		20				117
117			116.45-116.68	Lamprophyre	chl 3%						
				Bi 40%			20	3			
				cu 30%			20				5993
118				mt 3%			20	3			
				Upper contact 340; lower contact irregular.			20				119
119			116.68-126.1	Monzo-Diorite/ Lamprophyre (Dike swarm)	as noted	as noted.					
				Interval contains numerous small lamprophyre dikes as listed below:			5	0			5994
120							20		2		

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 13 of 30; From 120 To 130  
 Project: Great Western Star

Logged by: P.R.

Date: 16/02/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
-120			116.68-126.1	(cont.) Lamprophyres	cl 20, bi ca 15%	nil					
-121			117.08-117.14								5994
			117.69-117.92		plag 60%						121
			118.26-118.51		mt 4%						
-122			121.09-121.88				20				
			124.06-124.79	Monzo-Diorite	CI 20 mt 3%	mal tr.					5995
-123					Kspar 50%						123
					ca 1%						
					Variablely bleached.						
-124			119.04-119.88		Kspar 85%	nil	20				5996
					chl 3%						
					ca 1%						
-125					hm 1%						125
					st 2%						
					mt nil						
-126			119.88-120.38			py 2%					5997
			120.38-121.09			py tr					126.1
			121.88-124.00		hm 3%	py tr					5998
-127					mt 1%						
			124.79-126.1			ep 1%					127.6
-128			126.1-129.23	Lamprophyre as 116.45-116.68			40				
					Upper contact 62°, lower contact 45°.						
-129			129.23-129.33	M-D							5999
			129.33-129.61	Lamprophyre							
			129.61-132.41	Monzo-Diorite	CI 20, bi chl.	variable as noted.	40				129.61
					Kspar 40%						
					ca 1%						
-130					mt 4%		20				

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 4 of 30; From 130 To 140  
 Project: Great Western Star

Logged by: P.R. Date: 16/02/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
130			129.61-129.76							6000
131			129.76-131							131
132			131-131.93							6001
133			131.34							132.75
134			131.93-132.16							6002
135			132.16-132.41							134.34
136			132.41-132.59							6003
137			132.59-132.75							136
138			132.75-134.34							6004
139			134.34-136.76							138
140			135.74							6005
140										140

ca 15

Ksp 125

50  
97  
ca

2







N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 17 of 30; From 160 To 170  
 Project: Great Western Star

Logged by: P.R.

Date: 10/22/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
160			154.8-155.76		CI=5, chl kspar 70% ca 1%	py 2%							160
161					mt nil weak shear fabric, 55°			1/2	1				6016
162			155.06		Resembles 146.5-151 ca vult, lam, 45°				tr				162
163			155.76-162	Monzo-Diorite	CI=20 kspar 50% ca 5% mt 4% vugs 10%	as noted below			tr				6017
164	451 ksp cp				Grey M-D with high % vugs believed to be after ca. Veinlets ca. and calcite common. cp. either with ca or adj to vug where ca leached. Local zones to 16 cm bleaching and intense kspar.			3	1/2	2			164
165									tr				6018
166			155.76-159.34			py 1/2% cp tr, local concentrations.		0	1				165.9
167			158.49		ca vult, 2cm, 30° spec hm 1% in vult.				2				6019
168			159.34-161.51			py 1/2% cp 1%			1/4				168
169			161.51-162		cp conc. of fractures and dissem.				1 tr				6020
170	45					py 1/2% cp tr			2 tr				169.9



N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-22  
Page 18 of 30; From 170 To 180  
Project: Great Western Star

Logged by: P.R.

Date: 17/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
170			169.9-170.95		CI ± 25 Kspar 60% mt 3% ca 1% shear 440	py 1% cp tr							6021
171						2	0	tr					170.95
172					Stony shear fabric marked by alignment mafic minerals. 30 cm zone more intense Kspar in center of interval.								6022
173			170.95-176.12		Kspar 85% ca 2% vugs 5% CI ± 2, chl mt nil			tr					173
174													6023
175			170.95-171.18			py tr cp tr							175
175			171.18-173		CI ± 16 mt 1%	py 2% cp tr			1				6024
176			173-174.13			py tr cp tr							176.12
177			174.13-176.12			cp 10%							6025
178			176.12-178.3	M-Diorite	CI ± 20, bi Kspar 50% ca 2% mt 4%	py 1% cp nil			1	0			178.3
179					Inverse relationship between py + mt.								6026
179			178.3-179.86	M-Diorite	Kspar 80% CI ± 2, chl ca 5% mt nil	cp 1% intensely alt.				1			180
180					Intensely altered.				1/2	1/2			

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 19 of 30 ; From 180 To 190  
 Project: Great Western Star

Logged by: P.R.

Date: 1/6/90

Sampled by:

Date: -

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
180			179.86-192	Monzo-thorite	CI ± 20	variable as noted					180
181					kspars 50 ca 10%, gosh vnlts mt variable as note						6027
182					Comparatively unaltered M-D except for abundance of calcite. (coarse grnd. Local intense kspars. Inverse rel'tn betw py + mt. cp assoc. w. ca.		4	1/2	1/2		182
183	ca cp	25 32	179.86-183.52		mt 4%	py 1/2% cp 1/2%					6028
184			182.78		ca vnlts, 3mm, 25°	cp 1% in vnlts	1		3		184
185			183.13		ca vnlts, 1mm, vuggy, 32°		20		1		6029
186			183.52-184.68		mt 1% hm 1%	py 3% cp 1/2%					186
187	ca hm cp	28	184.68-186.1		mt 1% hm 1%	py 1% cp 1%					187
188	ca hm	15	186.1-188.42		ep 1% mt 4%	py 1/2% cp 1/4%	4	1/2	1/4		6030
188			186.52		ca-hm vnlts, 2mm, vuggy, 28°	cp 1% in vnlts.					188
189			187.76		ca-hm vnlts, 2mm, 15°		20				189
189			188.42-190		mt 2% hm 1%	cp 1%, fract controlled.	2	0	1		6031
190					Series of chloritic fractures at low ca. controls cp minl.						190

674

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-22 Page 20 of 30 ; From 190 To 200 Project: Great Western Star				
Logged by: <i>PR.</i>			Date: 1/16/90		Sampled by:		Date:					
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
190			190-192		ep 2% mt 3%	py tr cp 24%						190
191			192-193.75	Monzo-Diorite	kspar 70% mt 3% ca 10% CI: 5 chl.	cp 1/2%		tr	1/4			6032
192				Partly bleached; calcified ca common.		vugs at top						192
193			193.75-195.63	Monzo-Diorite	kspar 80% CI: 2, chl. mt nil hm 1%	cp 1% py tr			1/2			6033
194	45 ca		193.75		ca 10, vnlts 2x ca vnlts, pink, 1-3mm, 45°							194
195	40 ca		195.35		ca vnlts, 3mm, 40°			tr	1			6034
196	ca		195.63		ca vnlts, 3mm, 23°							196
197			195.63-232.46	Monzo-Diorite	CI: 20 kspar 50% ca 5% mt 3% except as noted.	py, cp variable as noted.			1/2			6035
198				Relatively ordinary monzo-diorite except for amount of ca. Intervals of less than 1m more intense kspar altn, as noted. Strong shear fabric locally. cp assoc with ca.								198
199												6036
200	43 ca		195.63-199.21			py 1% cp 1/2%			tr			200

7



N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-22				
Logged by: P.R.			Date: 17/02/90			Sampled by:			Date:				
Project: Great Western Star			Page 22 of 30; From 210 To 220										
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
210			205.90-207.5										210
211	ca 35 hm 25 chl 25		207.5-208.13				20	3	tr	5 vult			6042
212	ca 35 ca 25 ca 25		208.13-210.1						tr	1, vult			212
213			210.85						1	1/2			6043
214			211.45				5	1	1	1/2			214
215			211.70										6044
216			212.20										216
217			212.4-212.7					3					217
218			213.22				20		tr				6045
219			213.57-214.62						tr	1			218
220			214.27 214.62-220.23										6046
													220

2



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 23 of 30; From 220 To 230  
 Project: Great Western Star

Logged by: P.R. Date: 1/7/02/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
220			215.14-215.43	Lamprophyre	qt vlt, 3mm, 35°	cp 1% in vlt.		tr	tr			220
221			217.58-220.23-221.69		mt 1%	py 1/2% cp 1/2%	20	3	1/2	1/2		6047
222			221.69-222.48			py tr cp tr			tr	tr		222
223		Lamp	222.48-222.87	Lamprophyre	upper contact: 50° lower contact: 37°	nil						6048
224		Lamp	222.87-223.39			nil						224
225			223.39-223.88	Lamprophyre	upper contact 44° lower contact 41°							224
225			223.88-230.57			py 1/2% cp trace, local concentrations.	20	3	1/2	1		6049
226			224.12		ca vlt, 2mm, 38°	cp 1% in vlt.						226
227			224.55-224.65			cp 1% assoc. with ca gash veins, vuggy.				tr		6050
228			225.6		ca gash vlt, 2mm, 20°	cp 10% in vlt.						228
229			227.91		ca vlt, 2mm, 54°	cp 1% in vlt.	20	3	1/2	tr		6051
230												230

ca 38

ca 20

ca 54

23





N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-22  
Page 26 of 30; From 250 To 260  
Project: Great Western Star

Logged by: P.R.

Date: 18/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
250			251.18-251.42	quartz 90% CI nil mt nil	nil	nil	20	1	1	1/2	250
251				st 5% ca 2% hm 1%			0				6062
252	py 30 ca		251.42-253.1	Short interval intense silicification.							252
253	ca py		251.91	ca 10% vults; mt nil	py 2% fract. cp tr contr.		0		2	tr	6063
254			252.4	ca vult, 3mm; 30°	py 5% in vult.		20				254
255			253.1-254.80	ca vult, 3mm; pinches out, 40°	py 10% in vult.				1	tr	254
256			254.8-255.25	mt nil	py 1%			2		0	6064
257			255.25-256.09	mt 2%	py 1%						256
258			256.09-256.81	mt nil	py 2%		0		2	tr	256
259	py 45 ca		256.81-257.35	qtz 85% ca 2% mt nil	py 1/2% cp tr.		20		2		6065
260	cp ca py ca chl spac		257.35-258.00	chl 2% vugs 5% hm 1/2%			10	3			258
			258.00-259.00	Intense silicification. Foliation of hairline fractures // lower contact of zone, 45°.						tr	6066
			259.00-260.00	Shear fabric, 45°.	py 2%, repl. mafics. cp tr.		20	2			260
			260.00-260.00	Shear fabric marked by alignment of mafic minerals + chl + ca vults.							

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 27 of 30 ; From 260 To 270  
 Project: Great Western Star

Logged by: P.R. Date: 18/02/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization							
260			257.35-259		CI ± 10	py tr cp tr, local conc., fract. controlled.							260
261			257.94		ca vult, 4 mm, 53°	cp 1/2% in vult.		2	tr	tr			6067
262	cu ch 4	55	258.12		ca vult, vuggy, 40°	py 40% in veinlet.	20						262
263			258.7-258.83		ca vult, 1cm, sinuous, 10°								6068
264			258.94		ca vult, 55°	cp 50% in vult.			1/2	1/10			264
265			259-262.8	Monzo-Diorite	CI variable, avg 20. Kspar 50% Plag 35% cp 3% mt 2%	py tr cp tr; local conc. in ca units.		4					6069
266	cu	A1	259.73		ca-ch-spec. hm vult, 1cm, 59°			2		tr			266
267			261.19, 261.23		2 x ca-chl vult; 1cm, 45°					tr			6070
268			261.74		ca-chl vult, 1 1/2 cm, 55°								268
269			262.8-265	Monzo-Diorite	CI 20 Kspar 35% ca 10% mt 4%, local conc.	py 1/2% cp 0.1%	15			1			6071
270					Grey, vuggy where ca leached out. Mt locally conc in patches; some cp conc. with vult. Ca-chl vults at low L.C.A.					tr			270

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 28 of 30; From 270 To 280  
 Project: Great Western Star

Logged by: P.R. Date: 12/02/99 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
270			265-266.49	Monzo-Diorite	as 259-262.8	py tr cp tr, in ca vnlts.			1		270
271	X35		266.31		ca vnlts, Amm, A19.	py 1% in vnlts.			tr	1/10	6072
272			266.49-274.48	Monzo-Diorite	CI ± 15 Kspar 60%, variable	cp, py variable as noted.	15	2	tr	1	272
273	ca 65 chl, hm				ca vnlts, 5% mt 2% var.				1/2	1/10	6073
274					Mottled grey alteration zone. Variable kspar flooding, destruction of matrix. Shear fabric locally; chloritic partings with sub-rounded, almost augen-like sp grains, 1-3 mm. Sulphides dissem; cp mainly assoc w. ca.						274
275	ca 55 97 ca 28		266.49-267.7		shear fabric, A0°	cp tr, py tr		3		tr	6074
276			267.9-268.8			cp 1%, py tr	15				276
			268.8-269.95			cp tr, py tr					
			269.95-270.20			cp 1%, py tr					
277			270.20-271.3			cp 0.1%, py tr					6075
			271.3-271.73			cp 1%, py tr					
278	ca 60		271.73-272.05			cp tr, py tr		1			278
			272.05-272.2			cp 1%, py tr					
			272.2-274.48			cp 0.1%, py 1/2%			tr	tr	
279			273		ca vnlts, 1cm, 65% chl, hm	py 10% in vnlts.					6076
			274.48-277	Monzo-Diorite	CI ± 15 Kspar 40%	py tr cp tr					
280					ca vnlts 5% mt 3% var.						280

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 29 of 30; From 280 To 290  
 Project: Great Western Star

Logged by: P.R.

Date: 19/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
280			279.48-277	cont. from previous page.						280
281	ca chl cp hml	34		ep 2% var. chl 2%						6077
282	ca chl	34	279.40	Variable from mottled pale green to grey, according to amount of epidote present. Chalcopyrite primarily assoc. with ca.			15	1		282
283			275.27	ca-qt vnt 1/2 cm, 55°					tr	6078
284			277-297.49	Monzo-Diorite ca vnt, 28° 4mm, vuggy					tr	284
285	ca cp	20	277.70	CII 15 Kspat 65% ca vnts 5% ep local, 1% mt 1%, variable.			15	1		6079
286			280.9	ca vnt, 1/2 cm, 60°					2	286
287	ca chl cp	29	281.93	ca-chl-hm vnt; cp 20% in 3mm, 34° vnt.					tr	6080
288	ca chl	40	284.7	ca-chl vnt; 34°, 1cm.						288
289	ca chl	55	285.06-285.26	ca vnt, vuggy; cp 5% in vnt. 2mm, 20°					1/2 1/2	6081
290	ca chl		286.95	cp 2%, cont. on hairline fractures.			15	1	tr 1/10	290

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-22  
 Page 30 of 30; From 290 To 297.49  
 Project: Great Western Star

Logged by: *J.R.*

Date: *19/02/90*

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
-290	cut	pcu	287.12-288.2		relict shear fabric, 40°								290
-291			288.2-297.49										
			289.25		ca-chl unit, 1 cm, 55°				1/10				6082
-292			289.7-290.5		ca-chl unit, 1 mm, sub-ll								292
-293	ca 1mm		292.47-292.8		ca c.a.	15	1	tr					6083
-294			293.5		2x qt unit, 4mm, 20°								294
-295			297.49 = EOH						1/10				6084
-296													296
-297													6085
													297.49
-298													
-299													
-300													

3





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-27  
 Page 2 of 27; From 0 To 10  
 Project: Great Western Star

Logged by: P.R.

Date: 2/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
0			0- 7.5	Cased in overburden.									
1			7.5- 66.58	Monzo-Diorite	CI 20 Ksp 40 mt 1% Fe, Mn oxides 10%	nil							
2				Typical Monzo-Diorite. M.G. and rubble. Vugs after ca gash veinlets, 5%.		Core broken							
3			8.3- 9.8		CI 22 Ksp 70% mt nil chl 3% plag 20%	mal tr							
4													
5				Intensely altered zone. Fe oxides 5%.									
6													
7													
8													7.5 6086
9													9 6087
10													

67

N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-23 Page 3 of 27, From 10 To 20 Project: Great Western Star					
Logged by: <i>P.R.</i>			Date: <i>20/02/90</i>		Sampled by:		Date:							
Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY			Sample Number	
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
10			75-66.58	cont. (see descr. p. 2)										6087
11														11
12														6088
13														13
14														6089
15														15
16														6090
17														17
18														6091
19														19
20														6092

(7)

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 4 of 27; From 20 To 30  
 Project: Great Western Star

Logged by: *P.R.* Date: *20/02/90* Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
20			21.34-22.56	Lamprophyre	heavily oxidized								6092
21			7.5-66.58	cont.	(see p 2 for descr.)								21
22													6093
23													23
24													6094
25													25
26													6095
27													27
28													6096
29													29
30													6097

30

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 5 of 27; From 30 To 40  
 Project: Great Western Star

Logged by: P.R.

Date: 20/02/99

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
30			7.5-66.58	(see descr. p. 2)										
31			34.1-34.85		kaol 50% m. sil C2.5	vil								6097
32							20	1						6098
33														33
34							5	0						6099
35														35
36														6100
37							20	1						37
38														6101
39														39
40														6102

2

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-22 Page 6 of 27; From 40 To 50 Project: Great Western Star				
Logged by: P.R.			Date: 20/12/90		Sampled by:		Date:				
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration						
40			42.00-42.25		shear fabric, 50°						6102
41			42.9-44.2	Reddish sand; may be oxidized	M-O.						41
42	50		46-46.79		Shear fabric, 65°						6103
43			48.6-49		Shear fabric, 52°						43
44			49.92-51		orange-red Fe oxides, locally, to 15%.						6104
45											45
46	65										6105
47											47
48											6106
49	52										49
50											6107

6107

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 7 of 27; From 50 To 60  
 Project: Great Western Star

Logged by: P.R. Date: 20/02/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
50			7.5-66.58 (cont) (see descr. p. 2) 56-56.83		Kspat 80% Cl 210. mt nil	nil							6107
51													51
52													6108
53							20	1					53
54													6109
55													55
56							10						6110
57													57
58							20	1					6111
59													59
60													6112

64

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 8 of 27; From 60 To 70  
 Project: Great Western Star

Logged by: P.R.

Date: 20/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
60			7.5- 66.58	(cont.) (see p. 2 for descr.)							
61			65.3- 66.58		kspat 95% CI nil mt nil Fe oxides 5%	nil					6112
62			66.58- 70.26	Monzo-Diorite	CI = 20 massic silicates alt to Fe oxides. Vugs after cal, 10% Broken, rubby. Fe, Mn oxides 15%.	nil	20	1			6113
63											63
64						kspat 50%					6114
65					Interval probably subjected to kspat chlorite alteration.						65
66			69.2		Sg mts qt vult 1/2 cm, low < c.d.	nil.					6115
67			70.26	Monzo-Diorite	See next page.						67
68							20	0			6116
69											69
70											6117

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 9 of 27; From 70 To 80  
 Project: Great Western Star

Logged by: P.R.

Date: 2/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	* Pyrite	* CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
70			70.26-86.9	Monzo-Diorite	CII 20, biachl		0						6117
71					Kspar 50% mt 2% vugs after ca 10%								71
72			73.84-74.03		6x co-chl-hm str. 1-2mm, 55°	20	2						6118
73			75.36		shear fabric followed by ca stringers, 5cm, 41°								73
74		55 ca chll-hm	75.84-76.07		orange-red Fe oxides, 10%								6119
75		41 ca	77.06-77.16		malachite, local.								75
76								1					6120
77						20	2						77
78													6121
79													79
80													6122

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 10 of 27; From 80 To 90  
 Project: Great Western Star

Logged by: P.R. Date: 2/16/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
80			86.9-88.70	Lamprophyre. Bi 30%	highly weathered mt 3%						6122
81			88.70-88.92	Monzo-Diorite	CI 20 Ksp 50% mt 3% ca 2%	nil					81
82			88.92-89.10	Lamprophyre bi 30%	upper contact 25°	nil	20				6123
83				ca 15% plag 50% mt 3%	Lower contact broken.						83
84			89.57-90		hairline ca vnt, sub-ll c.a.			2			6124
85							20				85
86											6125
87											86.9
88							20				6126
89							20				89.10
90		ca					20				6127

7

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-23 Page 11 of 27; From 90 To 100 Project: Great Western Star				
Logged by: P.R.			Date: 2/02/90		Sampled by:		Date:				
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
90			90.05		ca unit, 1/2 cm, 42°	nil	20	2			6127
91			90.49-91.58	Lamprophyre				3			6128
				bi 30%							91.58
				cu 30%							6129
				plag 40%							93
92			91.58-98.29	Monzo-Diorite	CI 3 20, chl.	py 1%					6129
					kspars 30%	cp 1/2%					94
					ca 10%						6130
					mt 1%						95
					localized in less alt. rock.						6131
					hm 2%				1/4		95
					shear fabric 0-10° c.a.						6131
					Unit characterized by strong shear fabric, at low $\angle$ to core axis. Chl-cu-hm altn follows shear zone. Core has purple-green tint. Sulphides conc. in zones of most intense slip-slip.		20				96
96			93.37		qt unit, 2 1/2 cm, 35°	cp trace in unit.					6131
97			95.28		qt unit, 1cm, 10°	cp 1% in unit.					97
98			98.29-99.38	Lamprophyre	contacts at 45° c.a.	nil					6132
				bi 30%	1/2 cm ksp.						98.29
				cu 30%	enrichment in M-D at contact.						6133
				mt 3%			30				99.38
99			99.38-122.73	Monzo-Diorite	CI 3 20	variable as noted		3			6134
					kspars 40%		20		tr	1/2	100
					cu 10%						
					mt 3%						

7

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-23					
Logged by: P.R.			Date: 2/02/90		Sampled by:		Date:				Page 12 of 27; From 100 To 110		
Project: Great Western Star													
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
100			99.38-122.73	(cont.) (see p. 12)									6134
101				chl 5% pore space 5%									101
102				Speckled gray-black M-U; mx to cx. badly broken. Slightly friable, indicated by sandy mat in box, 2%. Pore space, possibly after ca, 5%. Localized bleaching over a few cm; kspur reduced in bleached intervals. May be a bit bleaching. cp occurs both dissem and fracture controlled, assoc. w. ca + chl.			20	3	tr		1/2		6135
103													103
104			99.38-102.84										6136
105			102.84-109										105
106			109-111										6137
107			110.2										107
108				ca-chl vult. 5mm, 10%		cp 50% invult.							6138
109													109
110							20	3	tr			tr	6139

7



N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-23  
Page 14 of 27; From 120 To 130  
Project: Great Western Star

Logged by: P.R.

Date: 2/10/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
120			120-120.8			py 1/2% cp tr			1/2	tr			6144
121			120.8-122.73			py 1% cp 1/2%	20	3					121
122			122.73-124.89	Monzo-Diorite	kspars 75% cbt 15% CI nil mt nil chl 2%	py 1% cp 1/2%				1/4			6145
123									1				123
124					Intensely altered zone. Grey kspars shattered and laced with hairline stringers white cbt. cp disseminated. controlled. cp variable to very locally.	py 1% cp 1% py 1/2%, cp tr.				1/2			6146
125			124.89-127.80		kspars 85% cbt (ca?) 5% CI nil mt nil chl 1%								125
126										1			6147
127			124.89-126.5			py 1% cp 1%							127
127			126.5-127.8			py 1/2%, cp tr.			1/2	tr			127
128			127.8-										6148
128			127.80-147.1	Monzo-Diorite	CI = 20 kspars 50% mt 3% ca white 5%		20	3					127
129					Alteration variable as noted.								6149
130			127.8-129.5			nil			tr	1/2			6149

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 15 of 27; From 130 To 140  
 Project: Great Western Star

Logged by: *P.R.*

Date: 2/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
130			129.5-130.13		Kspar 80% ca vnlts 10% mt nil hm on fract. scallops, 2%	cp 1/2% py tr	0	0	tr	1/2		6149
131					Intensely altered zone.			1	tr			131
132			130.13-131.82			py 1% fracture cp tr controlled	2.0	3	tr			6150
133			131.82-132.16			cp 1% fracture py tr controlled.				tr		133
134			132.16-132.93 132.01		mt-rich stringers, 45°	py tr, cp tr	0	0	0	0		6151
135			132.93-134.54		Kspar 90% vugs after ca, 10% CJ nil mt nil except as noted.	variable as noted.	10	1	1	tr		135
136					Intensely altered zone. At upper & lower contacts, 3-10cm dark grey banded zone. Bands 1-3mm enriched in mt and? May mimic relict shear fabric.		0	0	0	0		6152
137												137
138			132.93-133.33 133.33-134.27			cp 1/2% nil	20	1	1 1/2	tr		6153
139			134.27-134.54 134.54-135.69			py 1%, cp nil						139
140					CJ 10 Kspar 50% MT 1% ca 5%	cp tr						6154

mt 45

cu 130  
chl 130  
py 130  
48  
100  
ca 135  
52

7





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 17 of 27, From 150 To 160  
 Project: Great Western Star

Logged by: P.R. Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
150			147.1-147.77	Lamprophyre bi 20% cu 30%		nil		1	tr	6160
151				plag 45% mt 5%				1/2	1	151
152			147.77-163.53	Monzo-Diorite	CI 20	variable as noted.		0		6161
153					kspars 50% ca 5%, unlt's mt variable, 4%					153
154					vugs after ca, 5% chl 5%					6162
155					Grey monzo-diorite, speckled with black biotite and with high calcite content, as previous intervals. Characterized by intervals 1-2 m intensely bleached rock which superficially resembles kspars-flooded zones. In fact, contain only 1%-5% kspars. Most of bleaching is silica flooding. Intervals as noted below.			1/2	tr	155
156										6163
157			147.77-150.55							157
158			148.25-148.51							6164
			150.55-151.68							158
			151.68-152.86							6164
159					CI nil kspars 10% vugs after ca, 10%					159
160					chl 2% silica 75% mt nil			0	1	6165

cu 43  
chl 30  
cp 12  
ca 12  
cp 12

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 18 of 27; From 160 To 170  
 Project: Great Western Star

Logged by: P.R. Date: 2/2/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	x Fyrite	x CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
160			152.86 - 155.63			py 2%, cp tr except as noted.				1	
161	65 ca		153.73	ca-chl vnt, 2mm, 43° Some hm.		cp 5% in vnt					6165
162	cu chl cp	44	154.25	ca vnt, 2mm, 30°		cp 1% assoc w. vnt.				1/4	
163			154.75 - 154.87	bleached zone around ca vnt, 1 cm, 12°		cp 1%	4	tr			6166
164			155.63 - 157.22			py 2%, cp 2%	20				163
165			157.22 - 158.62			py tr, cp tr					
166			158.62 - 160.20	altn as 151.68 - 152.86		cp 1%, bn tr					6167
167			160.20 - 163.53			cp 2% fract. controlled. py tr	3	0	0		165
168	cu cp	23	160.93	ca vnt, 4mm, 65°							6168
169	cu cp	45	161.50	ca-chl-hm vnt, 1mm, 44°							
170	cu cp	45	161.77	ca-hm vnt, 2mm, 45°		cp 10% in vnt.	10	1	1	1/4	167
171	cu chl	15	163.53 - 166.05	Monzo-Diorite	CI ± 20	nil	15	3	tr	0	6169
172						lspar 50% mt 3% ep 3% chl 3%					
173						Differs from preceding intervals in advent of patchy epidote, partly replacing feldspars. Rock has slight greenish tinge.	20	3	0		169
174											6170

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
Page 19 of 27; From 170 To 180  
Project: Great Western Star

Logged by: P.R. Date: 2/26/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
170			166.65-167.64	Monzo-Diorite	chloritized reticulated CI 10, chl ca 15% perovskite mt 1%	py 1%, dissem. ep 2%, local conc.	20	3		0			6170
171													171
172					Minerals altered to chlorite + calcite + pyrite.				tr	1/2			6171
			166.92		ca vult, 3mm, 25% chl. selvages.	ep 10% assoc. with vults.	0			12	0		
173			166.82		ca vult, 1cm, A50	ep 5% in vult.							173
174			167.94-167.64		ca vult, 1/2 cm, 150								6172
175	ca chl		167.64-168.43	Monzo-Diorite	CI 15 mt 3% ksp 50% ca 10%, vults.	py tr	20	3		1/10			175
176			168.04-168.43		ca-chl vult, sub-11 c.a., 1 cm.								6173
177			168.43-168.5	Fault Gauge									177
			168.5-171	Monzo-Diorite		nil							
178	ca chl		171-172.15	Monzo-Diorite	CI 20 mt 3% ksp 50% ca vult 15 10% ep nil	py tr ep var, avg 2%	20	3		1/10			6174
179			172.15-173.57	Monzo-Diorite	ksp 10% qtz 75% mt nil hm 1% ca 5% st 1%	variable as noted.							179
180						CI nil							6175

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N C G

DRILL CORE LOG

Logged by: P.R.

Date: 2/2/02 190 Sampled by:

Date:

Drill Hole No.: GWS-90-23  
Page 20 of 27; From 180 To 190  
Project: Great Western Star

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
180			172.15-172.20									
			172.20-173.57									6175
181	ca hm	45	173.57-183.31	Monzo-Diorite	CI 2-20 (bi 5 chl 5) ksp 40% mt 3% ca <sub>2</sub> 5% ch <sub>2</sub> 3% ep 2%	variable as noted.						181
182						20	3	tr	1/10			6176
183					Relatively fresh looking monzo-diorite. Speckled with epidote ca vnlts, chl vnlts + ca-chl vnlts common. ep assoc with ca or ca-chl vnlts.				0			183
184			173.57-182.82									6177
185			174.75-175		ca-chl vnlts, 3mm, 08°		0		0			185
			177.29-177.73		ca-chl vnlts, 3mm, 10°							
186			178.73		ca-chl vnlts, 2mm, 35°	cp 5%, bn 3% in vnlts.						6178
			179.45		ca-hm vnlts, 1mm, 40°							
187			180.66		ca-hm vnlts, 1mm, 45°	ep 10% in vnlts	20	3	tr			187
188			182.82-183.31			ep nil py nil						6179
189			183.31-183.50	Lamprophyre	bi 20 cu 20 mt 3%							189
190												6180

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 21 of 27; From 190 To 200  
 Project: Great Western Star

Logged by: P.R.

Date: 2/2/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number	
	Struct	Log	Interval	Lithology	Alteration						Mineralization
190			183.50-194.95	Monzo-Diorite	CI ± 20 kspars 40% ca units 5% chl units 5% Ep 1% hm 1%	variable as noted.				6180	
191										191	
192						20	3	tr	tr	6181	
193			183.50-184.95 184.95-185.10							193	
194										6182	
195			185.10-186.15 186.15-186.42 186.42-194					0	1/2 0	195	
196								tr	tr	6183	
197			194.95-195.22	Lamprophyre	mt 5% bi 20% cu 30%			1 1/2	1	197	
198			195.22-201.7	Monzo-Diorite	as 183.50-194.95		20	3	tr	0	6184
199			195.22-196.3 196.3-196.76 196.78-197.32					1	1 0	199	
200			196.78-197					1	1	6185	

Continuously grey monzo-diorite; ep locally broken; most breaks coated with chl ± hm. Zones more intense altn locally.

ca  
chl  
ep

sub-ll core axis.

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 22 of 27; From 200 To 210  
 Project: Great Western Star

Logged by: P.R.

Date: 23/02/99

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
200			195.22-201.7	cont. (see descr. p. 21)						
			197-198.7							
			198.7-199			20	3	1	1	6185
201				shear fabric, ca vntls 22% Kspar 60% in shear zone.				1/2		201
			199-199.84							
			199.84-200.3							6186
202										
			200.3-201.7							
203										203
			201.7-204.75	Monzo-Diorite	Kspar 80% ca 5% mt nil chl 1%			1/2		
204										6187
			203.72	Intensely altered zone. ca as gash veinlets, highly variable orientations. tour noted in ca veinlet.					1/2	
205										205
			204.75-217.35	Monzo-Diorite	C.I. = 20, bi = 2xchl. variable as noted. Kspar 50% cu 10% mt 4% shear fabric common	20		1		
206										6188
207							4	1/2	1	207
208				Grey, broken, porous M-D. after ca, 5%.						6189
			204.75-206.77							
209								1	tr	209
210										6190

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 23 of 27; From 210 To 220  
 Project: Great Western Star

Logged by: P.R. Date: 2/3/02/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
210			206.77-208.3		core broken, rubbly.							6190
211			208.3-211.17		core broken, rubbly.			1	tr			211
212			211.17-211.29		Kspar 80% cu 5% CI nil mt nil	cp 1% py 1/2%				1	tr	6191
213	45		211.29-213.10			py 1% cp tr						213
214			212.8		shear fabric, 45°							6192
215			213.10-213.87		Kspar 80% ca 10% CI nil mt nil	py tr cp 1%						215
216			213.87-217.35			py tr, cp tr (local conc.)			tr	tr		6193
217			217.35-220.84	Monzo-Diorite	CI ± 10 mt 3% ca 5% porosity 10% hm 1%	cp variable 0-2% 1% avg.						217
218					Rock dull grey, "punk-y". Plagioclase highly saussurized. Porosity as 1-2 mm pinholes. cp usually as 1-2 mm specks adjacent to pore.							6194
219								0		1		219
220												6195

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N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-23  
Page 24 of 27; From 220 To 230  
Project: Great Western Star

Logged by: P.R.

Date: 2/2/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
220			220.84-224.51	Monzo-Diorite.	CI = 20 kspar 50% ca unts 5% qt unts 1% chl unts 2% mt 2% variable	variable as noted.	10	3	0	1			6195
221	gt ca chl mt	20 52							1	0			221
222					Relatively fresh MD, with some pyritization of mafics.				tr	0			6196
223			220.84-221.4			py 1%, mainly assoc. with veining.		2	1/2	tr			223
224			220.91		gt-ra-chl unlt, 3 mm 20°	py 1% in unlt.			1	tr			
			221.25		qt unlt, 4cm, u. cont. 500 l. cont. 150	py 5% in unlt.	N/A		1/2	1/2			6197
225			221.4-222.24			py tr				0			225
226			222.24-222.45			py 1%, partly replacing mafics.	5		1/2	tr			6198
			222.45-223.9			py 1/2% cp tr							
227			223.4-223.7			py 1% cp 1/2%							227
			223.7-224.51			py 1/2%, cp 1/2%							
228			224.51-224.77	Fault Gouge	clay gouge + "sand" composed of 50% sper. hem.		20	3		2			6199
229			224.77-226.5	Monzo-Diorite	CI 35 kspar 60% st 2% hm <del>fract</del> , 2% mt nil	py 1/2%, dissem cp tr.				tr			229
230										1/2			7565



N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-23 Page 25 of 27; From 230 To 240 Project: Great Western Star				
Logged by: PR.			Date: 24/02/90		Sampled by:		Date:					
Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
230			224.77-226.5	(cont from previous page) Interval characterized by partial disappearance of mafics, producing a grey mottled rock. Iron in mafics + mt has gone to spec. hm and py. Weak chl, 1-2%, in groundmass.								7565
231												231
232			226.5-232.78	Monzo-Diorite	CI 20, bi+chl Kspar 50% ca vnts 5% chl vnts 2% mt 3% hm 1%	py, cp variable as noted.	20	3	tr	tr		7566
233			226.5-227.82			py 1/2%, vnts cp tr						233
234			227.82-228		CI nil Kspar 80% ca 10% mt 4%	cp 2% py 1/2% dissem.	5	1		1		7567
235			228-229.82			py 1/2%, cp tr						235
236			229.82-230.9			cp 1/2%, py 1/2%	20	3	tr			7568
237			230.9-232.78			py tr, cp tr						237
236			232.78-249.02	Monzo-Diorite	CI 20, bi+chl. Kspar 50% ca vnts 2% chl vnts 2% hm 1% mt 3% cp variable aug 2%.	variable as noted.				tr		7569
239			232.78-238.96			py tr, cp tr, as local conc. assoc. with ca+chl vnts.	5	1	0	1/2		239
240							20	3	1	0		7570

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-23  
 Page 27 of 27; From / To /  
 Project: Great Western Star

Logged by: P.R.

Date: 24/02/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
			248		ca vult, 1mm, 25°	p-3%, cp 5% in vult.								
			248.21		qt-chl vult, 1cm, vugg 71 60°	cp 10% in vult.								
			249.02		E0H.									



N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-24 Page 2 of 2; From 0 To 10 Project: Great Western Star					
Logged by: P.R.			Date: 29/02/90		Sampled by:		Date:						
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization							
0			0-6.1 m	Cased in	overburden.								
1													
2													
3													
4													
5													
6			6.1- 19	Manzo-Diorite	CI 20, bi Ksp 50% cavities after ca, 5% mt 1% Fe, Mn oxides 10% ep 1%.	nil	20	1					6.1
7													7575
8													8.00
9													7576
10													10

Near surface oxidation zone. Core broken; all fracture surfaces heavily coated with dark brown to black oxides. Low mt content probably due to incomplete oxidation of mt. Absence of sulphides probably due to oxidation. Locally, bi → chl.

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N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-24 Page 3 of 21; From 10 To 20 Project: Great Western Star				
Logged by: P.R.			Date: 24/02/90		Sampled by:		Date:				
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization					
10			14.86-15.30		bleached zone	py tr.					10
11					kspar 60%						7577
					CI 0						
					mt nil						
12			19-32	Monzo-Diorite	CI 20	mal tr on fract.	20	1			12
					kspar 50%						
					mt 2%	py tr					
					ca vnlts 2%	cp nil					
					chl vnlts 1%						
13					ep 1%						7578
14					Less broken, less oxidized	M-D. ca vnlts common; unmineralized; highly variable orientations.					14
15							20	1			7579
16											16
17											7580
18											18
19							20				7581
20								2			20

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-29  
 Page 4 of 21; From 20 To 30  
 Project: Great Western Star

Logged by: P.R. Date: 24/02/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
20			19-32 (cont.)	(see p. 3 for descr.)									20
21													7582
22							20	2	tr				22
23													7583
24													24
25													7584
26							20	2	tr				26
27													7585
28													28
29													7586
30							20	2	tr				30

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 5 of 21; From 30 To 40  
 Project: Great Western Star

Logged by: P.R. Date: 2/6/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
30			32-36	Monzo-Diorite	CI ± 20 Kspars 50% ca units 2% mt 4%	py 1/2%, assoc. with ca and/or chl units.					30
31			32.25-32.48		ca unit, 2mm, 15°	py 10% in unit.		2	tr		7587
32	ca 15 py 15		32.85-33		ca-chl units, 2mm, 15°	py 5% in units	20				32
33	chl 20 py 20		33.36		chl units, 3mm, 20° Kspars envelope, 1cm, 80% Kspars	py 1% in envelope.					7588
34	ca 15 chl 15		33.90		ca-chl unit, 3mm, 15°	py 3% in unit.		4	1/2		34
35			36-36.7	Monzo-Diorite	CI ± 10 Kspars 70% ca 5% chl 2% mt 2%	py 1%, assoc. w. ca. cp tr.					7589
36							10	2	1	tr	36 7590
37						Intense Kspars altn. Shattered, cut by variably oriented ca units, ± 1mm. py assoc. with ca.					36.7 7591
38			36.7-41.22	Monzo-Diorite	CI ± 15 Kspars 55% mt 3% ca units 2% chl units 3%	py, cp variable as noted	15	3	1/2		38
39						Altn intensity variable; gradational to more intense altn. lower in hole.					7592
40			36.7-38.71			py 1/2%, with chl on fractures			1		40



N C G

DRILL CORE LOG

Logged by: P.R.

Date: 2/6/90 Sampled by:

Date:

Drill Hole No.: GWS-90-24  
Page 6 of 21; From 40 To 50  
Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
40	ca gt		38.71-40			py 10% still conc. on fract. with chl.	15	3	1					40
41			40-41.22			py 10% fract. controlled + dissem.								7593
42	gt ca chl py		40.17-40.30			ca-gt vnt, 3 mm, 10°			1/2					42
43			41.22-45.13	Monzo-Diorite		Intense Kspn altm, 85% CI nil except as noted. mt 1% avg; variable. ca vnts 5% gt vnts minor chl 1%								7594
44							5	1						44
45	ca chl py	vnts				Medium grey; vfx. Hairline ca vnts, highly varied orientations. Sulphides dissem and assoc. with ca or gt vnts. chl. coats fracture surfaces. Locally to 5% black specks; relict bi ± mt.			1					7595
46										tr				46
47			41.22-42.83			py 1/2%								7596
48			41.95-41.75			gt-(ca-chl) vnt, sub-ll c.a. py 1% in vnt.								
48			42.83-45.00			CI 25, chl relict after bi. py 1% cp tr								48
49			45.00-48.75			hairline cu vnts at low ca common. ca-chl vnt, 1-4mm, 38° py 1% cp tr	5	1	1/2					7597
50			45.19			py 10% in vnt.			1					50



N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-24 Page 8 of 21; From 60 To 70 Project: Great Western Star				
Logged by: P.R.			Date: 2/02/00		Sampled by:		Date:				
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY		Sample Number
	Struct	Log	Interval	Lithology	Alteration						
60			60-61.3								60
61			61.3-65.13		mt 4%	py 1 1/2%					7603
			62.27		ca-hm vult, 40°	cp tr.		1 1/2			
62			65.06		Core contains sub-mm specs mt.	spcs cp in vult.					62
			65.13-67.52	Monzo-Diorite	CI 15, bi	cp tr in ca vults.					
63					kspars 50%	py tr in ca vults.			tr		7604
64					ca-gt vults, 2%	ca vults.					64
					mt 4%	py tr in ca vults.					
65			66.25		chl 1%						7605
					ca-hm-chl vult, 2mm, 32°						
66			67		weak shear fabric, 45°						66
			67.52-67.60	Monzo-Diorite	CI nil						
67					ca 30%						7606
					pervasive mt nil						
68			67.60-74.04	Intermediate Volcanic (?)	chl 30%	py 2%					67.60
					ca 40%	coarsely dissem cp tr with py.					
69					kspars 20%	cp tr with py.					7607
					mt nil except as noted.						
70					Intensely altered volcanic. Chl + calcite are dominant altn. minls; along with pyrite. kspars occurs as hairlike veinlets. Dark green mottled with white ca. Chlorite defines foliation at 45°. Calcite as veinlets and pervasive in groundmass.						69

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N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 9 of 21; From 70 To 80  
 Project: Great Western Star

Logged by: P.R.

Date: 25/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
70			79.04-75.12	Lamprophyre bi 20% plug micro-laths 20%	upper contact, 65° lower contact, 61°	nil							7608
71				ca 10% ep 5% to 10% locally mt 1%									71
72					20 cm chill zone at dike margins.		30		2	tr			7609
73			75.12-88.72	Intermediate Volcanic (?)	as 67.60-74.04	py 2%, except as noted. ep tr, local.							73
74			76-76.1		ksp 40% chl 20%								7610
75			76.9-77.05		silicified. qt 60% ca 10% chl 15%		20	1	0	0			74.04 7611
76													75.12 7612
77							15 30						77
78									2	tr			7613
79													79
80													7614

AS

F

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 10 of 21; From 80 To 90  
 Project: Great Western Star

Logged by: P.R.

Date: 25/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration					
80			80.30		Spot mt, 1/2 cm.					
81	45		82.95-83.14		Silicified qt 70% cp 3% ca 10%			2		7614 81
82			84.74-86.90		Silicified qt 70% chl 15% ca 10% py 2%					7615
83					mt nil except as noted.	15		3	1	83
84					Dark grey rock streaked with black chlorite + white calcite. highly variable orientations + stringers.	30				7616
85			85.82-86.90		mt 2% very irregular distr.			2		85
86			88.72-91.22	Monzo-Diorite(?)	Silicified Zone qt 50% Ksp 20% ca 10% chl 10% variable mt variable as noted.	15		2		7617
87										87
88					Probably contact zone.	30			2	7618
89			88.72-89.23 89.23-91.22		mt nil mt 2%					89
90						10				7619

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-24  
Page 11 of 21; From 90 To 100  
Project: Great Western Star

Logged by: P.R.

Date: 25/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
90			91.22-95.24	Monzo-Diorite	CI ± 15 hi ca 20% kspar 5% mt 3% plag 50%	py 1/2%	10	2	2				7619
91													91
92					Unusually low degree kspar altn for M-D Pervasive cal in groundmass. ca as unls 2%.					0			7620
95			95.24-108.9	Intermediate Volcanic(?)	kspar 15% chl 30% ca 25% pervasive t unls. ep 1% mt nil plag(?) 20%	py variable as noted.	15	3	1/2				93
94													7621
95										0			95
96					Dark grey to very dark green, varying with intensity of kspar. Kspar variable from nil to 25%. locally, over intervals of 20-30 cm. Most prominent characteristic is intensity of calcite both in groundmass and as veinlets, stringers, gaslies, patches, etc. Few veinlets tabular & continuous enough to cross core. Most discontinuous. Ep occurs as rare patches.		30		2				7622
97							10		1				97
98													7623
99			95.24-97.08. 97.08-97.36			py 2% py 1%	30		2	0			99
100			97.36-108.9		kspar 25% CI ± 10 ca 20% very hard.	py 2%							7624

91  
py 20

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 12 of 21; From 100 To 110  
 Project: Great Western Star

Logged by: P.R.

Date: 25/02/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration								
100			98.60		qt vnl, 3cm, 20% py 1% in vnl.								7624
101			102.47		ca vnl, 4mm, 66°	30	0	2					101
102			103.83		qt-ca-chl vnl, 1cm, 33°								7625
103			107.59-107.8		ca-hm vnl, 1mm, 15°								103
104			108.9-127.5	Andesite(?)	CI ± 30, chl Kspar 1% ca 1% mt nil plag 60% ep 2% hm 1%								7626
105													105
106					Very dark green, s.g. Locally phytic, with 10% plag phenocrs, 1-2 mm. ca vnls, stringers etc. almost completely absent. ep as patches, locally vuggy. Py dissem and tends to concentrate with ep. Kspar occurs only as hairline veinlets.	30	0	2					7627
107													107
108													7628
109													109
110													7629

ca 66

qt ca chl 33

ca hm 15

N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-24  
 Page 13 of 21; From 110 To 120  
 Project: Great Western Star

Logged by: *P.R.* Date: *25/02/00* Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
110			110.1-110.64		ep 10%	py 5%	30		2	5			7629
111													111
112									2				7630
113													113
114			114.4-114.5		ep 5%	py 10%	30			10			7631
115					Zone ep-ca-py enrichment; has shape and distinct boundaries as vein but rock not completely replaced. contacts 47°.								115
116			118.7-119		ep 5%	py 3%							7632
117			119-127.5		ep 5%	py 3%			2				117
118					Ep, ca and py irregularly conc. on fract.		30						7633
119													119
120									3				7634



N C G			DRILL CORE LOG						Drill Hole No.: GWS-90-24 Page 14 of 21; From 120 To 130 Project: Great Western Star				
Logged by: P.R.			Date: 25/02/90			Sampled by:			Date:				
Depth	Graphics		Description			Color Index	Magnetism	x Pyrite	x CPY			Sample Number	
	Struct	Log	Interval	Lithology	Alteration								Mineralization
120			108.9-127.5	(cont.) (see p.12 for description)									
			124.4			ep-py vnt, 1/2 cm. mt 10% in wall of vnt, 15° c.a.						7634	
121												121	
			124.6			2x ca vnts, 1cm, 55°	30						
122												7635	
			125.05			ca vnt, 4mm, 45°		3					
123			127.5-137.1	Intermediate Volcanic?		ksp 2% ca 10% chl 20% mt 1% vt 50% very localized.						123	
124												7636	
125						Medium to dark grey, vtz, hard. ca again becoming important, mainly as stringers and irregular veinlets. Mt irregularly distributed; sometimes in vnts with py. Staining indicates little ksp, so mineral producing hardness is probably vt.	30						125
126												7637	
127			127.75			mt-py vnt, 1cm, 50°		3					127
128			130			ca stringers over 2cm, 25°, 11 relét foliation.	20	1					7638
129													129
130													7639

F

ca 15  
mt 15  
ca 45  
ca 50  
mt 50  
ca 25

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
Page 15 of 21; From 130 To 140  
Project: Great Western Star

Logged by: P.R.

Date: 2/6/2000 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
130			127.5-137.1	cont. (see descr. p. 14)							
131			135.03-135.19		ca 50%	py 20%					7639
			136.09		irregular ca-py vnt, sub-ll ca. ca vnt, 1cm, 40°.						131
132			136.25-136.5	Chlorite Schist	50%						7640
133			137.1-138.7	Chlorite Schist	chl 30% ca 20% plag (?) 40% mt nil	py 1%, local conc.			3		133
134			138.01			py vnt, 1/2 cm, 40°.	20				7641
135			138.7-141.1	Intermediate Volcanic?	Silicified zone. qt 65% chl 20% ca vnts 5% mt tr	py 5%, mainly in veinlets.					135
136			137.15-137.55		ca vnt, sub-ll c.a., pinches + swells, avg 1cm	py 20% in vnt, 5% overall mt tr in vnt.					7642
137			137.73			py-ca vnt, 1cm, 45°.	30		1		137
138			141.1-159.5	Chlorite Schist	variably silicified. qt 35% chl 50% cu 10% mt 1% conc. excl. in silicified intervals.	py 3%; to 10% in sil. intervals.					7643
139							20		3		139
140											7644

ca py  
40  
ca 50

7

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-24 Page 16 of 21; From 140 To 150 Project: Great Western Star				
Logged by: P.R.			Date: 2/6/90		Sampled by:		Date:				
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization					
140			141.1-159.5	(cont.) Silicified zones 1-5 dm wide. Usually broken and healed by mm ca vults. Most py conc. in silicified zones. Mt occ. in a few py vults. Chlorite schist is dense, soft, black.			20				7644
141											141
142			145.27 148.7		20° ca-py vult, 1cm, 35°		50	1	3		7645
143											143
144											7646
145		20					50	1			145
146											7647
147											147
148											7648
149		35 ca 17					50	1	3		149 7649
150											

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 17 of 21; From 150 To 160  
 Project: Great Western Star

Logged by: P.R.

Date: 2/6/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization							
150	ca		150.1		ca vlt, Zn								7649
151			151.87		gt vlt, Am		50	1	3				151
152	gt		155		150								7650
153													153
154							50	1	3				7651
155													155
156													7652
157							50	1	3				157
158													7653
159													158.25
160													7654
													159.5
													7655

7



N C G

DRILL CORE LOG

Drill Hole No.: GWS- 70-24  
 Page 19 of 21; From 170 To 180  
 Project: Great Western Star

Logged by: P.R. Date: 2/6/02/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
170			164.60-185.1	(cont 5 ramp. 18)										170
171							40	3	5					7661
172														172
173														7662
174														174
175							40	3	5					7663
176														176
177														7664
178														178
179							40	3	5					7665
180														180

7

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-24  
 Page 20 of 21; From 180 To 190  
 Project: Great Western Star

Logged by: P.R.

Date: 28/02/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY			Sample Number
	Struct	Log	Interval	Lithology	Alteration							
180			185.1-190	Andesite	chl 20% mt nil ca 5% plag 60%	py 2%						180
181												7666
182					Less altered zone. Only locally silicified. Phyric texture with 10% plag phenos, ± 1mm. ca. as gastri veinlets.							182
183						40	3	5				7667
184												183.5
185												7668
186												185.1
187												7669
188												186.5
189						20	0	2				7670
190												188
												7671
												190

±

N C G

DRILL CORE LOG

Logged by: P.R.

Date: 28/02/90

Sampled by:

Date:

Drill Hole No.: GWS-90-2A

Page 21 of 21; From 190 To 194.46

Project: Great Western Star

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY				Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
190			190-194.46	Intermediate volcanic (?) broken & rubbly.	as 104.60-185.1	py 5%								190
191	<del>50</del>		191.03-191.18	Banded texture with dark bands in g-t-ca rich zone.		chloritic 50%								7672
192														192
193														7673
194														194.46
195														
196														

7







N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 3 of 26; From 20 To 30  
Project: Great Western Star

Logged by: P.R.

Date: 28/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
20			22.25-22.64		CI ± 5 Kspar 60% ca 10% as units aligned 40° c.d.	py 2%					.001	.02	.019	7679
21							20	2	tr					21
22			22.87-22.94		ca-gt-chl unit, 3mm, 10°						.006	.01	.013	7680
23	ca gt chl	10	24.6-53.33	Monzo-Diorite	Kspar 65% CI ± 5 ca 1% as units chl 1% as units hm 1% as units mt 1% dissem	py, cp variable as noted.								23
24							20	2	tr		.001	.01	.008	7681
25					Bleached to mottled medium grey; comb of kspar and chl in groundmass. py + mt are locally variable, tend to be inversely proportional to each other.									25
26			24.6-28			py 1% avg.					.007	.05	.170	7682
27			28-32			py 1% cp tr								27
28			32-46			py 1/2% cp tr	5	1	1					28
29											.002	.01	.032	7683
30											.021	.06	.142	7684

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 4 of 26; From 30 To 40  
Project: Great Western Star

Logged by: P.R.

Date: 28/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
30			32-46											
31			35-35.77	ca-chl-(hm) vult, 1 mm at ends to 1 cm in center, sub -11 ca.		py 1/2 % cp tr	5	1	1	tr	.021	.06	.142	7684
32			37.29-37.44	ca-chl-(hm) vult, 3 mm, 0.50							.005	.01	.015	7685
33			38.26-38.70	2x ca-chl vults, 3-20 mm, 20°										33
34											.002	.01	.008	7686
35		(ca chl (hm)								tr				35
36											.001	.01	.027	7687
37		ca chl (hm) 0.05					5	1	1/2					37
38		ca chl 0.20									.001	.01	.013	7688
39														39
40											.002	.02	.040	7689

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 5 of 26; From 40 To 50  
Project: Great Western Star

Logged by: P.R.

Date: 28/02/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	x Pyrite	x CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
40			40.37-40.54			py 1%, coarsely		1/2	tr					
41			46-46.9			kspar 75% cu 5% chl 5% dissem. py 1%, cp 1/2%		1	0	.002	.02	.040	7689	41
42			46.12			Local zone more intense with irregular ca-chl vint's. 24 ca-chl-hm vint's, 2 mm, 35°	5	1	1/2	.003	.04	.047	7690	
43			46.4-47			py 1/2%							43	
44			47-53.83			py 1% cp tr			tr	.005	.02	.012	7671	
45							5	1					45	
46								1/2		.007	.03	.043	7692	
47								1	1/4				47	
48								1/2		.007	.05	.102	7693	
49							5	1	tr				49	
50										.008	.13	.219	7694	

cu  
chl  
hm  
35°

N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 6 of 26; From 50 To 60  
Project: Great Western Star

Logged by: P.R.

Date: 28/02/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	* Pyrite	* CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Lag	Interval	Lithology	Alteration	Mineralization								
50			53.83 - 88.77		CI nil	py, cp variable as noted.					.008	.13	.219	7694
51					kspar 75% cb+ 16% ca 1% mt nil chl unts 1%									51
52					kspar alt. more intense; matics + mt gone; rock hardened. Relict m texture has been preserved as color variations in kspar.		5			tr	.005	.02	.079	7695
53			53.83-56			py 1% cp tr								53
54			55.46-55.58		kspar 95% vein-like contacts @ 25° c.a.	py nil cp 2%				1/2	.004	.03	.138	7696
55			56.56		qt-py unlt, 3 mm, 25°					0				55
56			56-57.3			py 2% cp tr	0			1	.018	.11	.076	7697
57			57.3-60.67			py 1%, cp tr				2				57
58			59.92		kspar unlt, 1cm, irregular, 20°						.008	.05	.009	7698
59														59
60											.013	.09	.007	7699

kspar 25

qt py 25

kspar 20

N C G			DRILL CORE LOG				Drill Hole No.: GWS-90-25 Page 7 of 26; From 60 To 70 Project: Great Western Star							
Logged by: P.R.			Date: 2/2/99		Sampled by:		Date:							
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
60			60.67 - 61.31			py 2%								
			61.03											
61	30 ksp qt		61.32		ksp vnt, 30° 1 cm.				1	tr	.013	.09	.007	7699
									2					61
62			61.31 - 63.00			py 1%								
			63.00 - 65.00			py 1/2%			1		.003	.05	.005	9001
63	41 ksp ca		62.55		ksp - ca vnt, 1 cm, 41°									
														63
64	40 ksp py		63.16		ksp vnt, 1 cm, 40°	py 10% in vnt.								
64	55 ca chl		64.11		ca - chl vnt, 2 mm, 55°						.001	.07	.017	9002
65	67 ca chl		64.82		ca - chl vnt, 3 mm, 67°				1/2					65
			65.00 - 69.94			py 1/2%								
66			66.9		chl vnt, 1 mm, 40°	cp tr					.009	.10	.011	9003
67	20 chl		66.52 - 66.70		3 x chl vnts, 3 mm, 20°									
67	40 chl		69.05		ca - chl vnt, 3 mm, 65°	py 5% in vnt.				tr				67
68									1/2		.001	.02	.004	9004
69	65 ca chl										.003	.01	.014	69
70									2					9005





N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-25  
 Page 9 of 26; From 80 To 90  
 Project: Great Western Star

Logged by: P.R. Date: 01/03/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
80			80.72-88.77		chl specks 1%	py 1%								
81			81.96-83.54		kspar has pinkish tinge.						.006	.05	.008	9010
			83.2		qt vult, 1 cm, 19°									81
82			84.05		ca-chl vult, 5mm, 45°						.004	.06	.019	9011
83			88.77-90.63	Lamprophyre bi 20% cu 30% diag 140%	bi → chl. contacts @ 35°	nil								83
84			90.63-111.15	Monzo-Diorite	intense kspar. kspar 75% cu 2% chl 2% on fractures. nil	variable as noted.					.005	.07	.040	9012
85														85
86					Medium Grey, vix, hard, brittle. Variably shattered; healed by hairline vults ca and or chl. Tends to break along chloritic seams.						.004	.06	.011	9013
87			90.63-98.15			py 1%, cp tr								87
88											.008	.06	.023	9014
89														88.77
90							20	2			.001	.02	.005	9015



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-25  
 Page 11 of 26; From 100 To 110  
 Project: Great Western Star

Logged by: P.R. Date: 01/03/90 Sampled by: Date:

Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
100			103.6 - 103.76		kspar 70% qt 20%	py 5% cp 2%							100
101					vuggy, pinkish idiomorphic qt xstals vugs.	kspar. Vugs lined with py, cp occur in vugs.				.014	.13	.022	9021
102			106		qt vnt, 1/2 cm, 30° vuggy.		1	tr					102
103			103.76 - 108.37			py 1% cp tr							
104			105.61 - 105.82		qt-ca vnt, 1/2 cm, vuggy 10°	py 2%, cp 1% in vnt.		5	2	.013	.12	.055	9022
105			108.37 - 109.42			py 1/2% cp tr							104
106			109.40			speck sp.				.006	.02	.048	7023
107			109.42 - 111.15			py 2% cp 1/4%		2					106
108			111.15 -	Monzo-Diorite									
109								tr		.009	.11	.102	9024
110													108
109							1/2			.008	.01	.081	9025
110							2	1/4					110

qt 10  
 plg  
 qt 30









N C G

DRILL CORE LOG

Drill Hole No.: GWS- 90-25  
 Page 16 of 26; From 150 To 160  
 Project: Great Western Star

Logged by: P.R.

Date: 02/05/90

Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
150			151.8-152		mt 1/2%									150
151			151.8-152.8			py tr								
			152.8-155.8		Spec. hm. 2% (coating fract.)	py 1%, cp tr		1	tr		.002	.02	.026	9046
152			155.8-156.9			py 1/2%, cp 1/2%								
			156		ca vult, 1/2 cm, 500									152
153			156-7		ca vult, 1/2 cm, 350			tr	0					
			156.9-157.1	Monzo-Diorite	CI ± 10, as chl. kspar 60% ca 10%	py 1/2%					.002	.01	.019	9047
154					mt nil spec hm 1/2%									154
155			157.1-157.35	Monzo-Diorite	CI ± nil kspar 80% ca 5%	py 1/2%, cp 1/2%					.001	.01	.047	9048
156	ca 150		157.35-179.92	Monzo-Diorite	CI nil mt nil kspar 70% cvt 15% ca 2% chl 1% spec hm 1% on fract.	py, cp variable as noted.			1/2					156
157							10				.002	.03	.150	9049
158					Intensely altered to mottled medium grey; vfx, xstals kspar, cvt (ca), (plag?). ca on fract., ± chl.			1/2						158
159			157.35-159.5			py 1/2%, cp tr					.006	.07	.099	9050
160			159.5-160			cp 1/2%, py tr								
								tr	1/2					160







N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 19 of 26; From 180 To 190  
Project: Great Western Star

Logged by: P.R.

Date: 03/03/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Au	Ag	Cu	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
180			181.6-183.2		CI nil mt nil kspar 70% ca 20% chl 1% fract. coating hm 2% fract. coating	py 1% cp tr							180
181								1/2		.013	.23	.074	9061
182			183.2-186	Monzo-Diorite	Intensely Altered kspar 80% ca 5% hm 1% conc. on fract.	variable as noted.							182
183										.009	.04	.058	9062
184				Broken, most pieces < 10 cm.				1					184
185			183.2-189.5 185.5-186			py 1%, cp 1/2%		1/2		.002	.11	.231	9063
186			186-191.6	Monzo-Diorite	CI nil mt kspar 90% ca 2% hm 1% fract coatings	variable as noted.		1/2		.007	.09	.243	9064
187													
188				Differs from preceding interval in hardness & rock quality. Most pieces greater than 10 cm.				1					188
189			186-187.2 187.2-188.2 188.2-188.65			py 1/2%, cp 1/2% py 1%, cp 1/2% py tr				.004	.01	.086	9065
190			188.65-191.6		hm 1% on fract.	py 1%, cp 1/2%		1					190







N C G

## DRILL CORE LOG

Drill Hole No.: GWS-90-25  
Page 23 of 26; From 220 To 230  
Project: Great Western Star

Logged by: P.R.

Date: 04/03/90 Sampled by:

Date:

Depth	Graphics		Description				Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
220			215.45		ca vult, 4mm vsg, 380	py 10% in vult.								220
221			216.15-216.40		kspat 70% CI 5 mt nil	py 2% cp tr	20	3	1	tr	.001	.01	.014	9081
222			217.57		ca vult, 3mm 550									222
223			217.37-217.70		kspat 60% CI 5 mt 3%	py 10% cp 10%					.003	.02	.017	9082
224			219.7-222.63			cp 2%								224
225			223.63-226.7	Monzo-Diorite	CI 10 mt 3% kspat 50% ca 2%	py tr, cp tr except as noted.	10				.018	.01	.041	9083
226					chl on fract 1% red hm 1%				tr					226
227			223.63-225.4		Slightly bleached zone.		5		1		.002	.01	.030	9084
228			226.17-227.92	Monzo-Diorite		py 10% cp tr fracture controlled.			2	0				228
229					kspat 70% CI 5 mt 2% ca vults 2%	py 10%	10		1/2		.002	.01	.021	9085
230														230

50  
 pt  
 ca  
 45  
 ca  
 55  
 cr



















N C G			DRILL CORE LOG					Drill Hole No.: GWS-9020 Page 6 of 37; From 40m To 50m Project: Great Western Star						
Logged by: C. Popper			Date: 2/3/90		Sampled by:		Date:							
Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
40	45		21.60-81.75	altered monzodiorite	see P4								40	
41										.004	.02	.005	9344	
42			42.10-47.75	chl increases; also as mat. interstitial filling (again, ? repl. of mts);		py 23% esp. at top; also 2-3 mag frags							42	
43	31 16		43.47-45.60	text. slight. chl 5-10%		py 4% 5-10% chl 8-10%				.003	.01	.004	9345	
44				* NOTE: low % (to ca.); high % frs sets bit dip in directions, not opposite directions									44	
45	110 10		44.45-44.47			ca-chl unit 30% to c.a.								
45			45.05-45.38			py nil				.001	.03	.003	9346	
46			45.71	stained		ksp 80%								
46			46.80	stained		ksp 100% (ksp-chl unit)							46	
46			46.38-49.90											
47	15		45.65-47.71	ry discolored due to ksp; esp. a mag; low % to ca.; frs/vn's w intense ksp + chl alt'n		py 12% as blebs; esp. in cov. to ch. altered frs				.007	.02	.009	9347	
48			48.21-48.23			ca 5% cbl 15%							48	
48			47.75-57	texture of rock no longer "washed out" or overprinted in appearance; equigranular blebs of mt mins occurs in 1° texture; now altered chl		tr opt in ca unit								
49						ca 10%; cbl 15%				.003	.02	.008	9348	
50			49.90-52.60			chl 10-15% (rem of mineralogy presumably diag. tic) py 5% mag							50	

disms































N C G

DRILL CORE LOG

Logged by: C. Pothorin Date: 4/3/90 Sampled by: Date:

Drill Hole No.: GWS-90-26  
Page 20 of 37; From 180m To 190m  
Project: Great Western Star

Depth	Graphics		Interval	Description			Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log		Lithology	Alteration	Mineralization								
180	010/45	Fr sets dip in L dir'n	83.41-234.82	altered monzodiorite - see p. 4.									180	
181			160.72-120.40 180.22-120.30 180.40-180.75	1 <sup>st</sup> intrusive texture largely preserved, rx mgr & perthite ca 5% ; clt 15% clt 20-22% rx wkly-mod. bleached of mts ca 5% ; clt 15% clt 12-15%	py. 5% ; chca vnt, fr string					.001	.04	.095		
182			180.75-191.60	1 <sup>st</sup> intrusive texture ca 5% ; clt 15% clt 20-22%									182	
183	010/40				py. fr-1%, mgr on fr surfaces; hem also occurs commonly on fr surfaces					.001	.03	.018		
184													184	
185										.001	.01	.048		
186	10/50												186	
187										.003	.01	.071		
188													188	
189	010/25									.001	.01	.088		
190			189.97			fr cpv-bleb in qtz vnt							190	















N C G			DRILL CORE LOG				Drill Hole No.: GWS-9D-26 Page 27 of 37; From 250m To 260m Project: Great Western Star						
Logged by: C. Pothof			Date: 6/3/90		Sampled by:		Date:						
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
250	10-20		234.82-269.19	monzodiorite;	intense potassic alteration, see p. 25								250
251										.003	.07	.064	9571
252			248-251.57										252
253	20									.002	.07	.076	9572
254	40		251.15-256.654.42	rx have faint pink staining	due to increase kspat alt'n								254
255										.007	.06	.090	9573
256	30		255.57-264										256
257										.003	.06	.090	9574
258													258
259	25									.020	.05	.018	9575
260			259.80	stained									260

py 25% ± mgr  
disms & blebs, also  
22-5%, esp. as mm-scale units on frs  
cpx 10-15% pervasive

py. as above  
cpx 4-10%

rx have faint pink staining due to increase kspat alt'n  
kspat 80-85%; strong, pervasive flooding

ca 2-2% f-mgr  
disms  
cpx nil

ca <2%, most as mm-scale units  
cpx 10% pervasive  
hem common on fr. surfaces  
kspat 75-85%; strong, pervasive alteration





N C G

## DRILL CORE LOG

Drill Hole No.: GWS- 90-26  
Page 30 of 37; From 277 To 287  
Project: Great Western Star

Logged by: P.R.

Date: 04/05/90

Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
277			270.10 - 270.95										277
278			273.45 - 269.65	irregular patch	ca brx, similar to 269.19-			1/2	tr	.003	.06	.056	9856
279			278.95 - 281.63	Monzo-Diorite:	CI nil mt nil kspars 80% qt 10% veinlets ca 2%, vults chl on fract, 2% clt 10%, hairline fract.	py 1% cp 2%, local conc.							279
280								1/4		.004	.06	.031	9857
281													281
282			279.17		Interval characterized by greater incidence of ca vults and appearance of qt vults.								282
283			279.75 - 280.15		qt vult, 1cm, 50% also qt-vein vult, 4mm, 18°	cp 1% in 2nd vult.		tr		.003	.05	.004	9858
284			281.63 - 285.95	Monzo-Diorite	CI nil mt nil kspars 80% clt 10% ca 1% as veinlets clt 1% as veinlets.	py 1%, cp 1% in vult. py variable as noted.				.002	.06	.024	9859
285													285
286			281.63 - 282.65 282.65 - 285.95							.001	.05	.042	9860
287								1/2					287





N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-26 Page 2 of 37; From 297 To 307 Project: Great Western Star					
Logged by: P.R.			Date: 05/03/90		Sampled by:		Date:						
Depth	Graphics		Description			Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
297			298.95		ca vult, 2mm; vuggy, 30°	cp 1% in vult.							297
298			299.52		qt vult, 1cm, 75°				.001	.06	.074		9866
			299.59		ca vult, 1mm, vuggy, -	cp 1% in vult.							299
299	ca 30 cp		300.8		ca vult, 2mm; vuggy, 20°	cp 1% in vult.							
300	qt 75 ca 75 cp		304		ca vult, 2mm; vuggy, 20°	cp 1% in vult.			.001	.04	.117		9867
301	ca 20 cp		306-313	Monzo-Diorite	mt-enriched interval, mt 4% as erratic concentrations CIS5, mainly, mt. ksp 40% st 40% chl 5% mainly, fract coatings. ca 5% as vults.	py 1% cp trace, mainly in ca units.							301
302									.001	.04	.016		9868
303													303
304	ca 40 cp				Interval distinguished mainly by magnetic character, increase of ca vults, & chlorite. mt occurs as spots + patches, concentrated to as much as 15% locally. Interval broken + rubblely.				.001	.06	.059		9869
305			307.53-308.27						.004	.05	.052		9870
306					ca 20% mt 15%								306
307							4		.004	.06	.174		9871

N C G			DRILL CORE LOG					Drill Hole No.: GWS-90-26 Page 30 of 37; From 307 To 317 Project: Great Western Star					
Logged by: P.R.			Date: 05/23/90		Sampled by:		Date:						
Depth	Graphics		Description			Color Index	Magnetism	Σ Pyrite	Σ CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
307			308.5	qt vint, 1cm, 60°	cp 10% in vint					.004	.06	.174	9871
308			311.26	qt vint shattered, healed by with ca.	ca. cp assoc.								308
309			313-321	Monzo-Diorite	CI nil mt tr ksp 40% ca 20% vints + groundmass. hm 1%	py 1% cp tr, ca vints.		1	tr	.002	.05	.082	9872
310							4						310
311				Superficially resembles but lacks mt. B raker, rubble. Most ca vints vuggy. Contacts gradual over a few cm.	qt 50% other vints reduced 50%)	chl 5% on fract. st 30%				.001	.05	.067	9873
312			316.15-316.36										312
313				Patchy qt veining, 2-4cm thick, too irregular to measure.						.001	.05	.019	9874
314													314
315										.004	.04	.012	9875
316													316
317										.005	.06	.080	9876

N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-26  
 Page 34 of 37; From 317 To 327  
 Project: Great Western Star

Logged by: P.R. Date: 05/05/90 Sampled by: Date:

Depth	Graphics		Description				Color Index	Magnetism	% Pyrite	% CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration	Mineralization								
317			321-323.5	Monzo-Diorite	kspar 60% cu 30% mt nil ct nil	py 15% cp tr					.005	.06	.080	9876
318					Almost sugrosic texture with mm granules kspar in calcite cement. py + cp dissemin.									318
319			321.23		ca vlt, 3mm; 42°						.004	.06	.093	9877
320			322.46		vug lined with fine greenish crystalline calcite, contains one 3mm cp + sd.									320
321			323.5-325.14	Monzo-Diorite	kspar 70% ca 20% st 1% roating some fract.	py 1% cp tr					.008	.05	.057	9878
322					Slight increase in kspar and hardening of rock. Local dusting of mafic flecks, unidentifiable.									322
323			323.9		ca vlt, 2mm; 75°						.004	.05	.038	9879
324			324.30-324.50		broken, pebbly.									
324			325.14-322.86	Monzo-Diorite	kspar 50% mt 3% ca 20% st 20% ca mts 2%	py 2%								324
325					Dusting of fine mt through most of interval.						.001	.05	.020	9880
326			325.74		vlt chl-ca-qt-mt, 4cm; 20°									326
327					Composite veinlet, at least two stages, qt. brotd by rd. mt as single seam, 3mm.						.004	.01	.010	9881



N C G

DRILL CORE LOG

Drill Hole No.: GWS-90-26  
 Page 36 of 37; From 337 To 347  
 Project: Great Western Star

Logged by: P.R.

Date: 05/03/90 Sampled by:

Date:

Depth	Graphics		Description			Color Index	Magnetism	Pyrite	CPY	Au opt	Ag opt	Cu %	Sample Number
	Struct	Log	Interval	Lithology	Alteration								
337			335.6-336.83										337
338			336.83-340.1 337.62-337.92										9887
339				Composite vein; kspar earliest, 5 cm. Gt followed same, opening + formed remaining bulk of vein. kspar + gt cracked + healed with ca-tour. Contacts approx 40° c.a.									339
340			340.1-340.91	Diorite (Andesite?)	mt nil except as noted CI 30, black chlorite Plug 50 ep 10 cu 1% as veinlets kspar 5%								9888
341													341
342													9889
343			341.26 342.29-342.40 342.40										343
344				ca-(chl) vntt, 1cm, vuggy, 60°									9890
345			342.5-342.77 343-346		mt 10%								345
346			346.38 346.91		Py-(ca-chl) vntt, 15mm, 41° gt-(ca) vntt, 1cm, 22°								9891
347													347

