

Volume 2

**ASSESSMENT REPORT ON THE HOMESTAKE RIDGE
PROJECT**

SKEENA MINING DIVISION

BRITISH COLUMBIA

LONGITUDE 129° 35' WEST
LATITUDE 54° 45' NORTH
NTS Map Sheets: 103P/12 and 103P/13
TRIM Map Sheets: 103P072 and 103P073

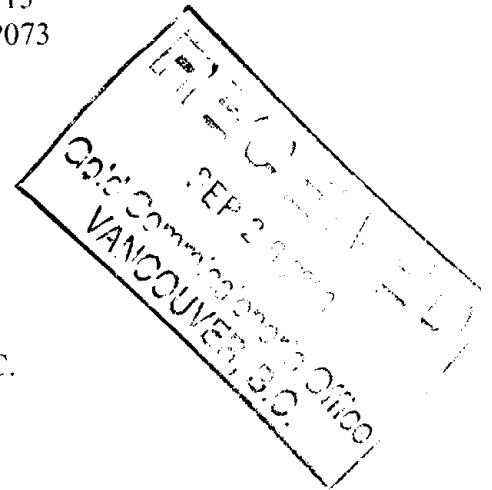
Prepared For

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October 29th, 2007

GEOLOGICAL SURVEY BRANCH
SKEENA DIVISION

29755

Appendix I: 2006 Surface Sampling Summary

Sample #	UTM (E)	UTM (N)	Width (m)	Description
427501	462752	6178761	2.5	Chip across quartz-sericite-pyrite altered crystal lapilli tuff (?) Quartz stringers < 1 mm throughout. Abundant limonite-jarosite.
427502	462767	6178757	0.2	Chip across vuggy, grey quartz vein with 3% pyrite.
427503	462813	6178724	1.2	Chip across quartz-pyrite vein/ breccia. Bluish grey, very siliceous breccia, with angular, pale clasts < 1 cm and 15-20% disseminated pyrite, partly leached and with abundant limonite-jarosite, hosted in intermediate, massive lapilli tuff.
427504	462695	6178456	1.6	Pyritic zone in very fine grained granodiorite (possibly andesite?). Abundant FeOx
427505	462730	6178485	Composite	Area of quartz-pyrite (sericite) alteration with 15-20% disseminated and clots < 2mm of pyrite in a siliceous, pale, grey-green matrix. Area of feldspar-phyric rock, with very fine grained to aphanitic, grey-green matrix. Very abundant FeOx. Nodular weathering
427506	462754	6178499	0.6	Chip across very siliceous zone, with 20% disseminated pyrite and very abundant jarosite along cleavage. Sheeted barite veins < 3 cm.
427507	462731	6178554	1	Chip across fracture zone, including a 20 cm barite vein. Bleached, with 2-5% disseminated pyrite, <1% sphalerite, malachite stain and weak FeOx.
427508	462270	6178574	0.6	Chip across calcite-breccia zone through chloritic MSB(?). Minor quartz, <1% chalcopyrite
427509	462230	6178741	1.5	Chip across dense stockwork through feldspar-hornblende porphyry. Calcite-limonite veins, including a 10 cm wide, vuggy quartz breccia zone.
427510	462181	6178769	5 x 5	Composite (panel) in area of bleaching, weak siliceous and 3-5% disseminated pyrite. Quartz-calcite veins < 1 cm, various directions, vuggy with <1% galena and trace of chalcopyrite. Overall area limonitic.
427511	462321	6178769	High grade	High grade grab of same as 427512
427512	462321	6178769	3.6	Chip across calcite vein stockwork, various directions, with veins < 15 cm wide, vuggy with minor barite and quartz, mineralized with various amounts up to 10% chalcopyrite, 3% galena and 3% sphalerite. Hosted in hornblende-feldspar-phyric flow.
427513	462231	6178528	0.7	Chip across calcite breccia (calcite matrix with <1% chalcopyrite, sphalerite, galena combined and very angular black siltstone fragments).
427514	462329	6178798	High grade	High grade grab of calcite-chalcopyrite veins, hosted in fine grained andesitic flow (carbonate altered). Up to 20% chalcopyrite in vein
427515	462312	6178792	1	Chip across calcite-chalcopyrite vein zone (shear?). Veins of coarse calcite <10cm, with chalcopyrite clots < 5 mm. Abundant malachite-limonite. Hosted in feldspar-phyric flow breccia
427516	462478	6178704	Float	Mineralized quartz-barite boulders in area of chlorite-carbonate alteration. Veins banded, with chalcopyrite towards vein margins

Sample #	Alteration	Mineralization	Structure	Au (g/t)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppm)
427501	QSP	~10% disseminated pyrite.	Jointing at 165/52W	0.11	8	101.1	31	1.8	0.3
427502			Trends 154/39 SW	0.21	26.5	154.2	15	2.7	0.2
427503	Silicification	15-20% disseminated py	Trends 060/84NW	0.21	16.3	18.6	45	0.6	0.2
427504		15-20% very fine disseminated py.	Zone tends 170/85 W	0.06	15.3	54.3	59	1.6	<.1
427505	QSP	15-20% fine disseminated and clots <2mm of pyrite	Strong fracture at 136/65SW	0.03	11.9	28.9	86	1.8	<.1
427506	Silicification	20% disseminated pyrite	Cleavage: 073/87N Sheeted barite veins 004/44W	0.1	12.1	47.6	49	3.6	<.1
427507		2-5% disseminated pyrite, <1% sphalerite, malachite	Zone trends 170/83W	0.92	2759.7	7.4	>10000	2.7	0.8
427508	Chlorite	<1% chalcopyrite	Trends 100/72N	1.08	1088	28.1	74	1.2	0.8
427509			Zone trends 176/subv	<.01	15.8	7	87	0.1	<.1
427510	Weak silicification, bleaching	3-5% disseminated pyrite <1% galena, trace of chalcopyrite		0.47	181.7	3686.1	7306	3	0.5
427511		Up to 10% chalcopyrite, 3% galena and 3% sphalerite.		0.11	1418.8	523.2	6104	2.2	<.1
427512		Up to 10% chalcopyrite, 3% galena and 3% sphalerite.	Zone trends roughly 082/78N	0.37	>10000	4884.1	>10000	29	0.2
427513			Several metres of strikelength	0.02	127.2	370.2	7680	2.6	<.1
427514	Carbonate; ankerite-limonite	Up to 20% chalcopyrite	Veins at 100/75N and at 158/63SW	0.06	>10000	211.7	1844	19.9	<.1
427515		chalcopyrite clots < 5 mm	Trends 140/90	0.03	4321.1	490.9	2956	1.6	<.1
427516	Chlorite-carbonate alteration area	10% pyrite and 3-5% chalcopyrite		1.18	5195.8	360.3	>10000	3.6	1.5

Sample #	UTM (E)	UTM (N)	Width (m)	Description
427517	462496	6178736	1.3	Dark grey to black carbonate breccia zone in MSB. Vuggy quartz veins and calcite crosscut zone with ~10% disseminated pyrite and trace of chalcopyrite. Grey, very fine grained calcite in fractures and open space fillings. 5% disseminated pyrite in MSB fragments
427518	462503	6178718	1	Chip across calcite +/- quartz +/- barite breccia zone, with fragments of chloritic MSB. Hangingwall 20 cm with 1% combined sphalerite and chalcopyrite, with malachite-smithsonite, and approximately 5% disseminated pyrite.
427519	462521	6178724	2	Chip across calcite-barite breccia with MSB fragments. Cross cut by barite veins. Bands of punky oxide, with malachite and 1-2% chalcopyrite. Overall <1% combined chalcopyrite-sphalerite-galena with 2-3% pyrite.
427520	462536	6178816	2.4	Chip across chlorite altered, feldspar-phyric flow, with 5-15% disseminated pyrite and various vuggy quartz veins. Includes one 10 cm vein with coarse, euhedral sphalerite (<10% of vein) and < 1% chalcopyrite. Vuggy with abundant limonite.
427521	462528	6178672	1.0	Shear-alteration zone in fragmental andesite. Includes massive pyrite pods < 10 cm with calcite-barite-quartz veins + clots of chalcopyrite. Abundant malachite-azurite. Weathered, limonitic. Zone crosscut by barite-calcite veins < 3 cm.

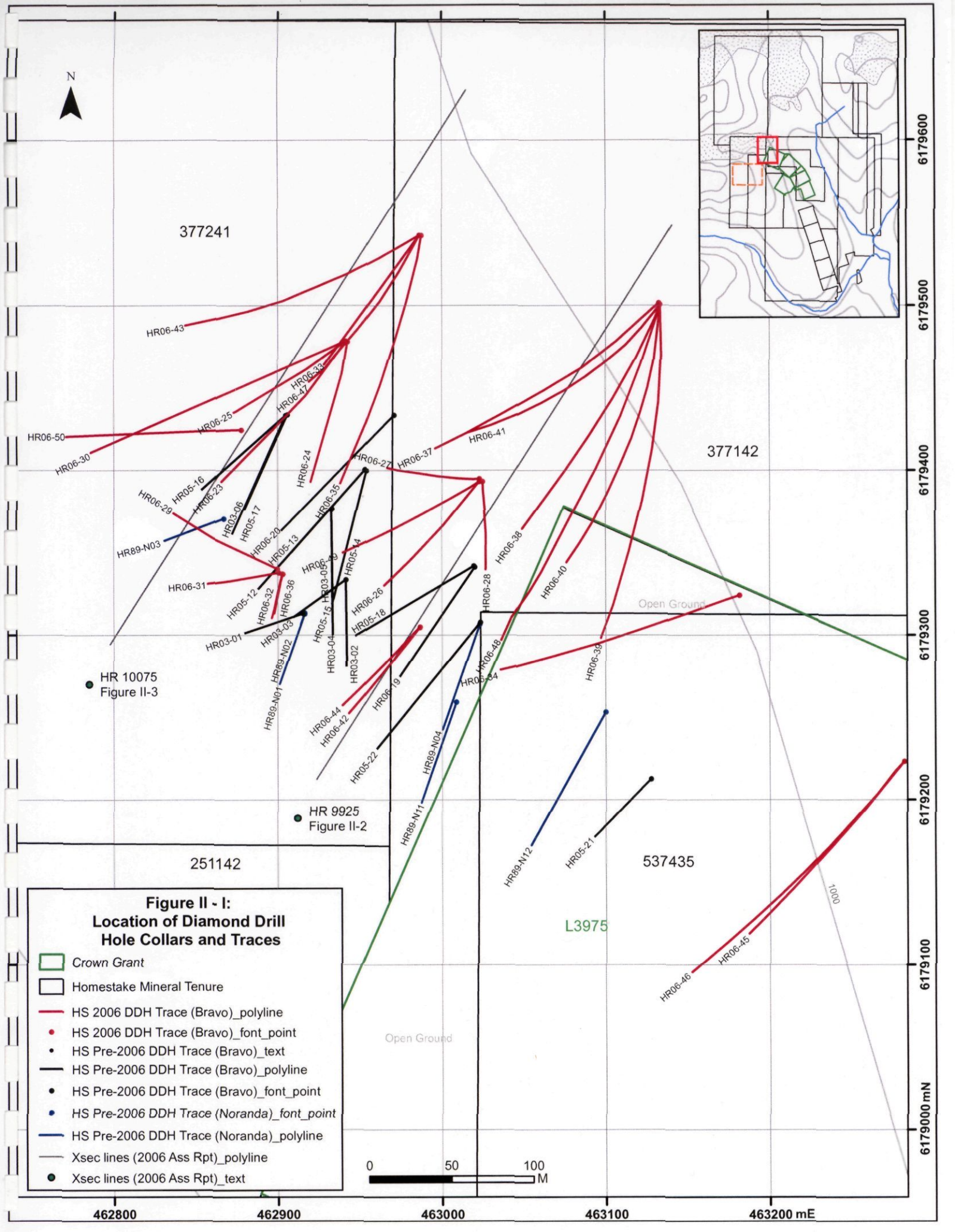
Sample #	Alteration	Mineralization	Structure	Au (g/t)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppm)
427517	Carbonate.	Up to 10% disseminated pyrite and trace of chalcopyrite	Zone trends ~110/subvertical with 25 to 30 metre strikelength.	0.02	65.1	33.7	142	0.4	<.1
427518	Chlorite-carbonate alteration area	5% disseminated pyrite and 1% combined chalcopyrite and sphalerite.	Trends 145/68NE	0.07	1245.2	276.5	2287	2.7	<.1
427519	Chlorite-carbonate altered MSB	<1% combined chalcopyrite-sphalerite-galena	Breccia trends 048/subvertical. Veins trend 119/66N	0.08	750.8	772.1	4892	3.3	<.1
427520	Chlorite-pyrite-limonite alteration area	<10% sphalerite and <1% chalcopyrite in vein; less than 1% combined of total rock	Trends 050/87SE	0.04	15	58.6	2221	0.5	<.1
427521	Chlorite-limonite-pyrite	Disseminated pyrite, and clots of chalcopyrite, variable amounts	Zone trends 092/86N, crosscut by barite-calcite veins trending 140/80SW	0.31	3139.4	68.3	262	7.1	0.4

Appendix II: 2006 Descriptive Diamond Drill Logs

Drill core information was recorded in two logs. Primary logs were written descriptions of the lithologies and other prominent characteristics of the core. To compliment and summarize the descriptive logs, attribute logs were also produced. Attribute logs quantify the characteristics of the core for quick reference especially useful when reviewing assay results.

In this report sample intervals have been matched to Au, Cu, Pb, Zn and Ag assay results in the attribute logs (Appendix III). Full assay results are in Appendix IV: Certificates of Analysis.

Targets explained within the descriptive logs can be referenced to the surface traces of in Figure II-1. Old diamond drill traces (prior to 2006) are coloured green and 2006 diamond drill holes are coloured red.



377241

377142

251142

537435

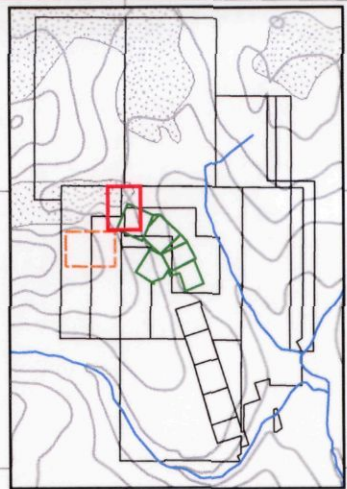
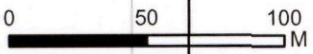
L3975

HR 10075
Figure II-3

HR 9925
Figure II-2

**Figure II - I:
Location of Diamond Drill
Hole Collars and Traces**

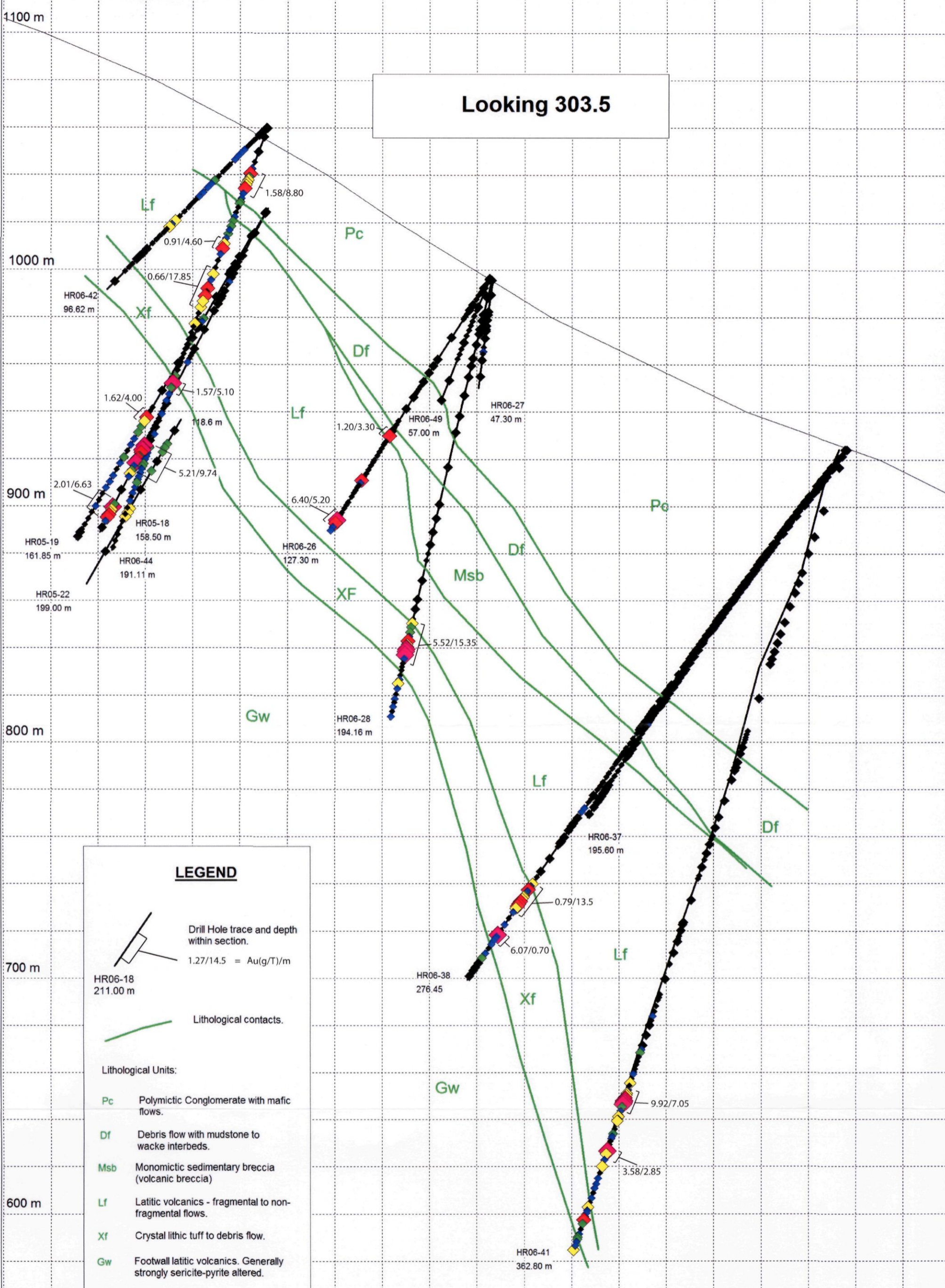
- Crown Grant
- Homestake Mineral Tenure
- HS 2006 DDH Trace (Bravo)_polyline
- HS 2006 DDH Trace (Bravo)_font_point
- HS Pre-2006 DDH Trace (Bravo)_text
- HS Pre-2006 DDH Trace (Bravo)_polyline
- HS Pre-2006 DDH Trace (Bravo)_font_point
- HS Pre-2006 DDH Trace (Noranda)_font_point
- HS Pre-2006 DDH Trace (Noranda)_polyline
- Xsec lines (2006 Ass Rpt)_polyline
- Xsec lines (2006 Ass Rpt)_text



462800 462900 463000 463100 463200 mE

6179600
6179500
6179400
6179300
6179200
6179100
6179000 mN

Looking 303.5



LEGEND

Drill Hole trace and depth within section.
 1.27/14.5 = Au(g/T)/m

Lithological contacts.

Lithological Units:

- Pc** Polymictic Conglomerate with mafic flows.
- Df** Debris flow with mudstone to wacke interbeds.
- Msb** Monomictic sedimentary breccia (volcanic breccia)
- Lf** Latitic volcanics - fragmental to non-fragmental flows.
- Xf** Crystal lithic tuff to debris flow.
- Gw** Footwall latitic volcanics. Generally strongly sericite-pyrite altered.

Drill Core Au Results in g/T

	5 to 100	(14)
	1 to 5	(23)
	0.5 to 1	(35)
	0.3 to 0.5	(35)
	0.1 to 0.3	(93)
	0.001 to 0.1	(228)

Figure II - 2
 Homestake Ridge Project
 Cross Section
 HS9925
 Scale 1:1,500
 25 m area of influence

Looking 303.5

1100 m
1000 m
900 m
800 m
700 m
600 m

LEGEND

Drill Hole trace and depth within section.
1.27/14.5 = Au (g/T)/m

Lithological contacts.

Lithological Units:

- Pc Polymictic Conglomerate with mafic flows.
- Df Debris flow with mudstone to wacke interbeds.
- Msb Monomictic sedimentary breccia (volcanic breccia)
- Lf Latitic volcanics - fragmental to non-fragmental flows.
- Xf Crystal lithic tuff to debris flow.
- Gw Footwall latitic volcanics. Generally strongly sericite-pyrite altered.

Drill core sample results Au (g/T)

Red diamond	5 to 100	(16)
Orange diamond	1 to 5	(36)
Yellow diamond	0.5 to 1	(37)
Green diamond	0.3 to 0.5	(53)
Blue diamond	0.1 to 0.3	(112)
Black diamond	< 0.1	(164)

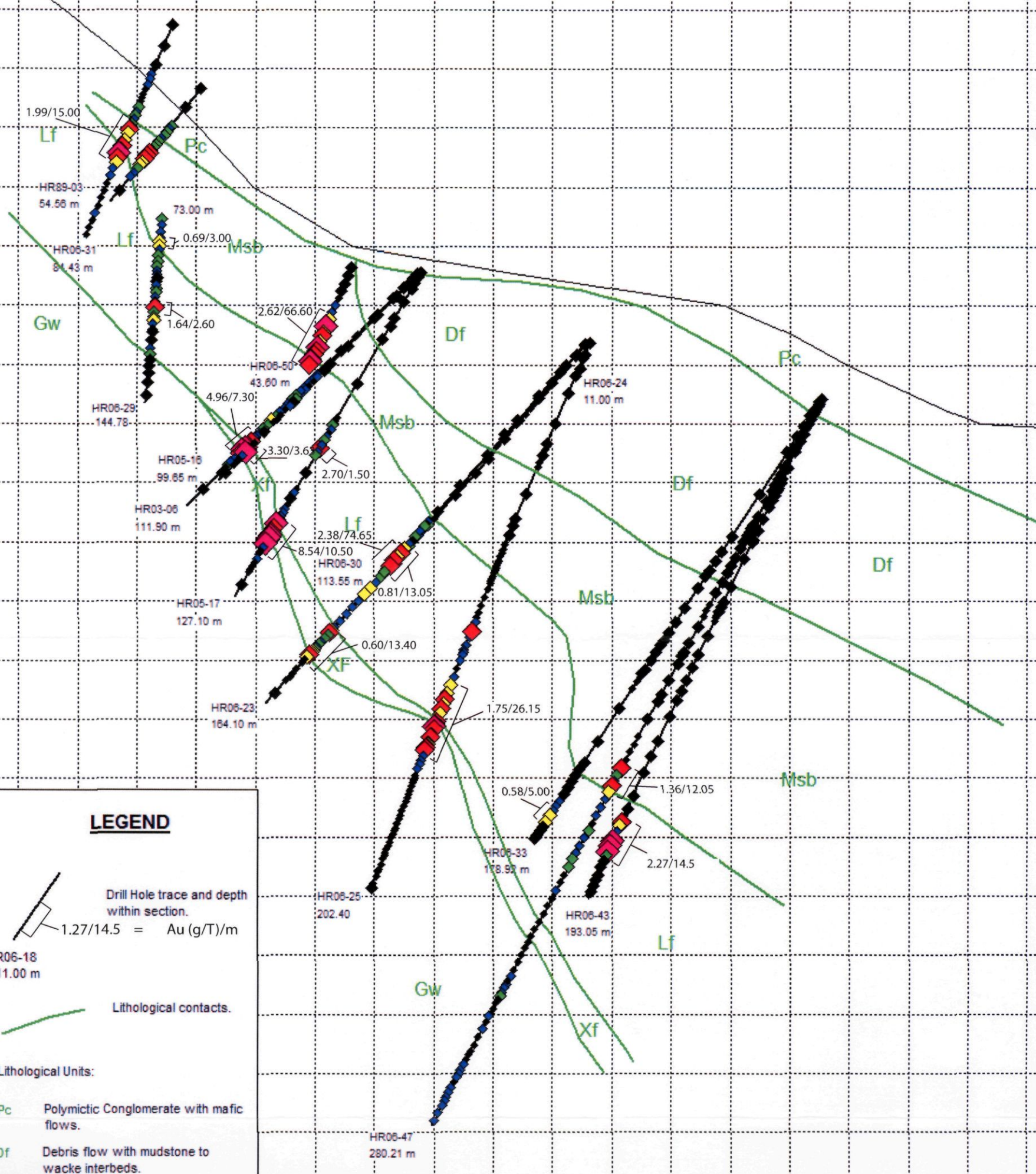


Figure II - 3
Homestake Ridge Project
Cross Section
HS 10075
Scale 1:1,500
25 m area of influence

Abbreviations In Descriptive Logs Homestake 2006

Abbreviation	Full Term
AltN	Alteration
amph	amphibole
ank	ankerite
approx	approximately
ave	average
ba	barite
brx	breccia
CA	core axis
calc	calcite
carb	carbonate
cgl	conglomerate
chl	chlorite
cnb	cinnabar
cpy	chalcopyrite
CS	clastic sediment
DF	debris flow
diss	disseminated
dk	dark
EOH	end of hole
ep	epidote
feox	iron-oxide
fld(s)	feldspar(s)
frac	fracture
frag(s)	fragment(s)
FW	foot wall
FZ	fault zone
gln	galena
GW	Footwall Unit/Zone
hb	hornblende
hem	Hematite
HW	hanging wall
kfs	potassium feldspar
LC	lower contact

Abbreviation	Full Term
LF	Latite Flow
LF a	fragmental latite flow
LF b	crowded feldspar
LF c	feldspar and hornblende equigranular
LF d	fragmental felds and hblnd equigranular
LF e	fragmental crowded feldspar
lt	light
mag	magnetic
MC	Monomictic Conglomerate
med	medium
MF	Magnetic Flow
min(s)	mineral(s)
MSB	Monomictic Sedimentary Breccia
ob	overburden
PC	Polymictic Conglomerate
po	pyrrhotite
py	pyrite
qsp	quartz-sericite-pyrite alteration
qtz	quartz
rdc	rhodochrosite
sed	sedimentary
ser	sericite
si	silica
sph	sphalerite
STS	Silt stone / wacke
sx	sulphides
tet	tetrahedrite
tr	trace
tw	true width
UP	upper contact
vn(s)	vein(s)
WG	Wacke with Grit
XF	Crystal rich fragmental
xtal	crystal

Homestake, 2006
HR06-23

Homestake Ridge 2006

Drill Hole Name: HR06-23

Area: Homestake Ridge Zone

Drill Log HR06-23:

Easting 462944
Northing 6179468
Elevation (m) 948
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Pad Date July 13,2006

Start Date July 14, 2006

Logged By A. Bryson

Finish Date July 17, 2006

Core Type/Size BTW

Log Date July16 to July 20, 2006

Length (m) 168.56

Azimuth 228.1

Dip -47.4

Ave Core Rec. 97%

Ave RQD NC

Target Test for the extension of the HS zone ddh holes HR03-06, HR05-16 and -17 at the 885 m elev. Drilled from Pad A.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-23

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		217	-50	Collar
32.61	21.5	173.7	195.2	-48.2	Not usable azimuth
78.33	21.5	202.1	223.6	-47.1	Good Test
114.91	21.5	202.9	224.4	-47.2	Good Test
163.68	21.5	205.6	227.1	-47.4	Good Test

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	1.85	Casing				
1.85	9.05	DF				<p>Debris Flow</p> <p>Medium grey conglomerate containing subangular to subrounded clasts up to 4cm in a fine grain wacke matrix. Clasts are light grey volcanics which have undergone weak to moderate carbonate alteration without Fe and medium to dark grey STS. Clast size and abundance varies through section (see below). Very fine disseminated py is present in SST liths and less often in the matrix and volcanic liths. Moderate to strong fracture intensity. Lower contact with MC is a fracture 65 CA.</p>
			5.70	7.90	Grading	Sequence of grading finer down hole from 45% of rock being clasts up to 4cm to very fine grained with no visible clasts at 9.10m. Lower contact with the next subunit is a fracture 68 to CA.
			7.90	8.80	Grading	Sequence of grading coarser down hole. Contact with next subunit is a fracture 65 to CA.
			8.80	9.05	Grading	Fine to medium grained wacke matrix without the clasts of prior subunits.
9.05	11.45	MF				<p>Hornblende phyric, amygduoidal dacitic (?) intrusive.</p> <p>Light green-grey, highly fractured with calcite filled vesicules. Consists of <1-2 mm euhedral to anhedral hbl phenos and < 1 mm anhedral to subhedral feldspar phenos within a vfg groundmass. Strongly bleached and sericite altered with 3-5% disseminated py. K-alteration without Si weak. Calcite alteration is weak. Chlorite + py alteration weak. White +/-</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						grey or +/- pink calcite + qtz + py + rhodochrosite veins are 2% of unit and show hematite staining. Veins vary from 1cm bands to irregular shaped interconnected veins <1cm. Weak to moderate fracture intensity. Lower contact with DF is ~67 to CA.
			10.00	11.55	Alt'n	Alteration has made rock type almost indistinguishable. Hornblendes are army green (altered to chlorite?).
11.45	14.40	DF				Debris Flow Medium grey polymictic debris flow with light grey angular to subrounded volcanic and STS clasts in med grey fine-grained matrix. Volcanic clasts show different strong calcite and qsp (quartz, sericite and pyrite) alteration. The lower contact with the dacite tuff is ~80 to CA.
			12.20	12.50	STS	STS subunit with in the DF. Mottled med to light grey fine-grained laminations. Disseminated py follows laminations.
			14.20	14.40	Vein	White calcite veins and grey opaque silica filling almost crackle breccia. Calcite veins are 20% of section and range in size from <1mm to 1cm wide. Si filling has irregular shape and composes about 20% of this small section. Fracture intensity is strong.
14.40	35.40	MF				Mafic Flow Light to medium grey hornblende-phyric, amygduroidal dacitic flow similar to above.
			14.40	21.40		Light green finely crystalline tuff (?). Few green-black anhedral hornblendes <4mm. Carbonate alteration is subtle to moderate. Chlorite +

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						py alteration is strong. White calcite veins 1-4mm wide are ~2% of the unit. Most veins are sheeted with occasional irregular shaped blebs. Few irregular shaped white and grey cal +/- qtz veins with strong chl halos <<1mm are cross-cut by the white cal veins. Fracture intensity is moderate.
			21.40	35.40		Medium green-grey hornblende-phyric flow. Hornblende is black anhedral to subhedral, <5mm and is average 5% of rock. Matrix is medium green-grey and finely crystalline. Few hornblende crystals have calcite centers. Chlorite alteration is moderate. Up to 3% of rock is cream coloured clay blebs (ser?). K-alteration is weak. Bleaching is none to moderate. None to moderate hematite staining. Veining includes Cal + sil +/- py +/- rhodochrosite veins that occur as laminations and as irregular shaped interconnected blebs and compose ~3% of the unit. These veins often have a dark green chlorite halo <1mm. Euhedral py crystals <1mm occur adjacent to these veins. Some veins brecciate the flow to crackle breccia. Grey opaque sil-filling also occurs as irregular shaped nodules and veins <5cm and compose ~1% of the unit. Moderate fracture intensity. Lower contact with DF 40 to 50 to CA.
			29.40	29.64	Vein	Large pink-white calcite + qtz + py (<1%) + rhodochrosite vein at least 5cm wide composes 40% of core in this section. MF has up to 5% disseminated euhedral <1mm py crystals within 1cm of the vein. Thin <<1mm very dark chl envelope adjacent to vein.
			33.83	34.43	Brx	White and pink cal + sil + chl veins and green-grey opaque sil veins brecciate dacite.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
35.40	48.10	DF				<p>Debris Flow</p> <p>Light grey to medium grey polymictic debris flow with light grey angular to subrounded volcanic and STS clasts in med grey fine-grained matrix. Clasts are volcanic and STS <7cm. Disseminated euhedral py crystals <2mm occur occasionally in the volcanic clasts and in disseminated smears within the STS locally up to 10%. Weak to moderate K-alteration. Chl-hem alteration is none to moderate. Py-ser alteration weak to moderate. Bleaching weak to moderate. Average fracture intensity is moderate. Lower contact with MSB is a fracture 85 to CA.</p>
			36.60	39.90	Altn and sx	Moderate bleaching, weak carbonate alteration without Fe (associated with volcanic clasts). Five blebs up to 1x3cm of massive and euhedral py occur in the bleached matrix. Chlorite + hem alteration is moderate.
			45.00	45.23		Rubble zone.
			48.50	49.15	Fault	Strongly fractured. At 48.7 there is ~1cm of grey clay fault gouge.
48.10	60.60	MSB				<p>Monomictic Sedimentary Breccia</p> <p>Medium grey breccia with subangular feldspar-phyric latite clasts <12cm in a fine to medium grained wacke matrix. Alteration is weak carbonate. Clasts are weakly chlorite altered and contain trace to 1% euhedral <<1mm py crystals. Fracture intensity averages moderate over the unit. Lower contact with CS is gradual.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			48.48	48.52	Vein	White calcite vein in fault. Grey fine clay fault gouge on both upper and lower contact of vein. Contacts are both 70 to CA but at different orientations
			52.73	52.78		Rubble zone.
			52.57	52.85	Pyroclastic flow	Subunit of andesitic tuff? Rock is medium grey with army green to black vitreous angular anhedral long hornblende crystals <1cm and white subrounded anhedral <2mm feldspars. Trace calcite alteration in phenos. Matrix is aphanitic medium grey.
			58.79	58.81		Rubble zone.
60.60	77.45	WG				Wacke with Grit Dark grey massive wacke with occasional subangular calcite or STS clast <1cm. Calcite in matrix increases down hole from trace to moderate. Veins are composed of white calcite ranging in size from 1mm to 2 cm wide. Lower contact with MSB is gradual.
			73.63	74.35		Rubble zone with artesian well.
77.45	80.55	MSB				Monomictic Sedimentary Breccia Medium to light grey breccia with subangular feldspar-phyric dacite

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						clasts <12cm in a fine to medium grained wacke matrix.
80.55	131.85				Latitic Volcanic	Strongly ser altered and felds phyric. At 107.30 becomes highly fragmental with matrix being of similar composition as the clasts. Feldspar crystals still present but crystal edges blurry. Some flds replaced by light green sericite. 3-10% disseminated py 3-10%. Py also fills fractures <5mm. White qtz-cal veins 1mm-10cm appear to be unaffected by qsp alteration, therefore veins assumed to be introduced after alteration. Some vitreous silica infilling in matrix. Lower contact with DF is gradual.
			99.65	99.70	Vein	Vuggy qtz-cal vein with euhedral contact twinned 1cm white cal crystals.
			112.10	112.50		Rubble zone.
			112.50	130.50	Brx	Green angular DAC clasts in finely crystalline light purple hem stained strongly sil-altered matrix.
131.35	143.70	XF				Crystal-rich Debris Flow Purple matrix with angular liths of white flds <5mm and <4cm volcanic clasts strongly qsp altered (flds to green sericite). Shows general flow direction, which distinguishes it from the MSB. Fractures are py filled and show chl cleavage. Lower contact with MSB is gradual.
			131.35	131.70	Sx and Brx	Rock is light grey and brecciated by sil-intrusion. Shows 5mm vuggy qtz + cal (?) vein containing 3-5% py, 2% gn, 3% sp and trace cp. Vein has

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						dark sulphide selvage containing disseminated py. Vein is ~35 to CA.
			132.65	133.3	Sx and veins	Parallel set of qtz + cal veins <1cm wide, ~55 to CA. Veins contain trace to 3% cp, 1-5% py, trace gn and trace tt? Subtle K-alteration in surrounding rock.
			135.30	138.75	Sx	Subangular to angular fld-phyric LF clasts in light-med grey fine-grained matrix. Contains 6 < 1cm qtz + cp + py veins and py + cp + tt (?) stringers. Very fine disseminated py throughout matrix and in qsp altered clasts.
			138.75	139.9	Veins	3 qtz + cal + py veins >1cm. Chl-halos <1mm also occur within the veins with py. Very fine disseminated py selvages are 1-7mm.
			139.9	140.15	Brx	Si-flooding has brecciated rock to a class 5 breccia. Clasts are angular <5m green with blebs of 5% cp associated with blebs and smears of py, 3%. Trace tt. Matrix is white with regions of grey and pink rhodochrosite.
143.70	164.10	LF				Latite Flow Light grey latite with flds liths. Strong bleaching and qsp alteration. Top of section is more brecciated and mineralized than down hole. Part of the footwall unit (GW).
			141.10	143.05		50% of section is bleached ca>sil filled fractures. These zones are mottled light to dark purple (hem) with black irregular shaped blebs (sulphides?) <2cm. Zone has a general swirled fluid appearance. Also

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						contains 3% white to pink (hem?) <1mm an-subhedral flds and 1% light green <1mm sericite blebs. The flds may indicate that this is actually a volcanic unit, but alteration makes it difficult to determine. Sulphides are 2% py and 1% cp and trace sp. The rest of this subunit is med grey green feldspathic with 5% py and tr cp. Small qtz + cal veins are discontinuous non-sheeted veins.
			143.05	146.70	Sx	LF here is strongly qsp altered (ser>qtz) and contains abundant sil + ca fracture filling. Sulphides include 5% py, 1% cp, 1% sp and tr gn. Qtz + cal veins are not continuous. Again, alteration and later fracturing makes determining the original characteristics of the rock.
			146.75	164.10	Altn and veins	Light grey. Strongly qsp altered, ser >> qtz. Occasional qtz + cal + rhodochrosite veins <1cm.
			151.70	151.80	Vein	Large dark grey sulphides> cal + qtz vein.
			151.94	151.96	Vein	Large dark grey sulphides> cal + qtz vein.
			154.40	154.47	Vein	Large dark grey sulphides> cal + qtz vein.
			158.40	158.47	Vein	Large dark grey sulphides> cal + qtz vein.
164.10	168.56					Last box (164.10m to 168.56m) dropped from helicopter in transit from drill to camp. Not recoverable.
	168.56	EOH				

Homestake, 2006
HR06-24

Homestake Ridge 2006

Drill Hole Name: HR06-24

Area: Homestake Ridge Zone

Drill Log HR06-24:

Easting 462944

Northing 6179468

Elevation (m) 948

UTM Zone 9

Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson

Core Type/Size BTW

Start Date July 17, 2006

Finish Date July 20, 2006

Log Date July 20-25

Length (m) 232.60

Azimuth 196.8

Dip -68

Ave Core Rec. 100%

Ave RQD NC

Target Similar to hole HR06-23 but trying to intersect the zone 60 m to the southeast. Drilled from Pad A.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-24

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5	167.5	189	-67	Collar
98.5	21.5	174.3	195.8	-68	Good Test

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0.0	1.15	Casing				
1.15	9.00	DF				<p>Debris Flow</p> <p>Medium grey poorly sorted debris flow. Clasts are strongly ser and cal altered subrounded volcanic and bleached and dark grey STS rip up clasts in medium grey wacke matrix. Moderate cal-alteration without Fe throughout. Occasional cal vein <1cm associated with dark grey halos that are <3cm unevenly distributed around the veins. No significant sulphides. Does not have the general flow direction like the DF unit down hole, however described as DF as opposed to PC because there is poor sorting. Fracture intensity is moderate. Lower contact with MC is proximal to fractures within a 20cm gradation.</p>
			1.15	8.50		Grades from nearly clast supported clasts <5cm to fine-grained.
			8.50	9.00		Grades from fine grained to <2cm clasts. Matrix supported.
9.00	11.00	MF				<p>Hornblende Phyric mafic flow.</p> <p>Short unit of light-med green-grey hbl-d-phyric mafic volcanic. Black hbl-d. Contains cream coloured clay blebs <<1mm. Moderate ser and cal alteration. Two% very fine diss py. Contains 1% cal sweats which show <1mm chl rim in adjacent rock. Moderately fractured. Large frag of MF at lower contact with DF.</p>
				10.10		1cm cal vein filling fracture 60 to CA. Contains 3% sub-euhedral <1mm

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						py tarnished red.
11.00	14.10	DF				Debris Flow Medium grey poorly sorted debris flow. Clasts are strongly ser and cal altered subrounded volcanics, beached and dark grey STS rip up clasts in medium grey wacke matrix. Interbedded with STS. Three% disseminated py concentrated in STS and clasts. Lower contact with MC is uneven.
			11.40	12.00	STS	STS layer. Fine grained. Has fluid appearance and sil filling. Maybe fault gouge lithified and underwent silica filling? 3% py.
				12.28		3cm cal vein 85 to CA.
14.10	30.20	MF				Hornblende Phyric mafic flow. Medium green-grey, hbld-phyric and amgyduloidal with cal filled amygdules. Hbld anhedral to subhedral. Moderately carbonate altered, qsp alteration decreases down hole from moderate to trace while hem staining increases to mod with pervasive propylitic altn. With qsp alteration, disseminated py decreases from 1% to trace.
			14.30	14.34		4cm light grey cal > qtz sheet vein.
			19.40	19.70		Cal > qtz sweats brx MF. Sweats compose 35% of this unit. Frags have chl <1mm rims.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			28.86	29.20		Subunit of light grey laminated fine-grained CS. 20% late stage sheeted white cal veins <1cm. Vein at 29.00 on fracture 65 to CA.
			29.29	30.20	MF	MF moderately bleached light grey and not hem stained. Cal alteration moderate. Hblds anhedral
30.20	42.30	STS				Siltstone Medium to light grey laminated wacke. Grades from fine sandstone to poorly sorted layers composed of fine to angular 5mm liths. Moderate to strong cal alteration. Strong to moderate bleaching.
				30.70		1cm white cal vein + .5% sulphides (py?). 60 to CA on fracture.
				31.90		Laminations 60 to CA.
				34.70		Laminations 65 to CA.
				36.25		Laminations 65 to CA.
			38.05	38.50	DF	Small interval of debris flow. Not strongly bleached like STS.
				39.00		Laminations 70 to CA.
			41.10	42.30		Bleaching in STS decreased to moderate.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
42.30	47.15	DF				Debris Flow Med-light to medium grey flow. Fracture intensity is 4. Volcanic clasts are qsp altered. 3% py occurring in massive blebs <3 x 1cm. Lower contact with MSB is gradual.
				42.55		6cm grey and white cal vein. Within fault, see below.
				42.61		Dark grey clay + grits fault gouge. 0-10 to CA.
			43.10	43.25		Cal veins <5mm crackle brx DF.
			43.25	43.70		Rubble zone.
			46.10	46.30		Rubble zone. Sheeted cal-veins break up rock 80-85 to CA.
47.15	87.45	MSB				Monomictic Sedimentary Breccia Subangular 5 to 20cm LF fragments in a poorly sorted medium grey matrix. Majority of clasts are strongly altered to qsp (s > q), 3-15% py. Large clasts contain cal sweets. Abundant cal veins, most 1mm-1cm, almost crackle brx. Veins rarely penetrate into clasts.
			65.33	64.45		Cal + qtz vein brx MSB. Clasts of LF strongly qsp altered.
			68.75	68.84		White 1cm cal vein 25 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			68.00	72.60	CS	Subunit of med-grey wacke. <5% LF clasts, which are < 7cm.
				72.60		Change from weak bleaching to moderate.
				74.55		1cm cal-vein 45 to CA.
				74.55		1cm cal vein 75 to CA.
			75.10	87.45		Moderate to strongly bleached. Strongly fractured with white qtz infilling.
				76.20		4cm qtz + cal + tr py vein.
				76.51		3cm qtz + cal + py vein 50 to CA.
			77.19	77.33		Qtz + cal vein brx MSB.
				78.45		Qtz + cal +py ~1cm vein 70 to CA at fracture.
			80.20	80.70		50% qtz + cal + py infill in irregular shapes, which have <1mm black rims (sulphides?). Rock here is strongly qsp altered.
			81.50	83.55		Crackle brx. Strongly fractured and in filled with milk white and vitreous grey qtz, which has black <1mm rims. Py 7% of rock. Pink-cream flds 1mm 5%. Strongly ser altered.
			86.30	87.45		Mottled greys. Strongly sil-altered. Py concentrated at fractures where there is qtz infill. Py 10%.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
87.75	232.60	LF				Latite Flow Light grey bleached fld-phyric latite. Some subangular clasts of latite within latite. Flds are white with blurry rims. Silica alteration is moderate to strong. Qsp alteration is strong; often flds are altered to apple green sericite. Veins are typically sheeted qtz + cal + py or qtz + cal sweets that have chl rims in the adjacent rock. Most of the unit contains crosscutting hairline fractures that are sil-filled (resemble a crackle glaze on pottery).
			87.45	91.50		Fractured and qtz in filled. Py 7%. Later stage milk white qtz > cal veins cut through all other features.
				87.88		2 cm qtz > cal vein. No sulphides. 55 to CA.
				88.47		1cm qtz > cal vein. No sulphides. 83 to CA.
			93.20	95.65		Strongly shot up with crosscutting hairline fractures that are sil filled. Occasional larger fractures (<2cm) filled with opaque light green-grey sil-fill.
			94.55	94.67		<3cm irregular shaped white qtz > cal + tr py vuggy vein. Vugs are <3cm and filled with white -clear euhedral qtz crystals < 3mm. Py selvage <2mm around vein.
				106.65		1cm qtz > cal + diss tr py 55 to CA.
			120.92	120.96		1.5cm cal + qtz + chl vein 50 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			122.20	122.60		Qtz > cal + 25% cp + 10%py + chl veins/sweats brx DLT. Vein material is 45% of rock here.
			123.10	124.60		Rubble zone. Occasional fault gouge with in rubble. Clasts have angles 25 to 50 to CA.
			124.90	127.20	XF	Xstal-rich debris flow. Light grey-green sil fill with med purple <7cm clasts further broken up by cross-cutting hairline fractures filled with sil and containing tr sp (124.90-125.02). Mottled purple and light green-grey "granite" appearance (125.02-125.14m). Med purple matrix with 3% off-white subhedral flds <1mm 4% diss py (125.14-125.70m). Mottled purple and green "granite" unit again (125.70-125.80) and then the fractured sil-filled unit again with 2% diss py (125.80-125.90).
			127.2	136.00	LF	Fragmental Felsic volcanic. Bleached light grey, strong ser-py altn overprinted by mod to strong si altn.
				130.15		3-5cm wide qtz > cal vein. Sulphides are as blebs 10% gn, 5% cp, 2% py and tr sp.
			130.80	130.90		Qtz > cal grey and white vein 5%cp. Surrounding rock is 5% blebs of cp + 3% diss py.
			131.55	131.66		Qtz > cal > rhodochrosite vein, 10% py + 2% cp.
			136.00	137.65	XF	Xstal rich debris flow. Frags of equigranular latitic flow within a groundmass varying from a cg crystal hash to vfg mudstone? Strongly

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						bleached light grey and sil-ser altered. Grades into overlying crowded felds flow but in sharp ct with underlying equigranular latite.
			140.30	143.45		Breccia 4. Matrix is gray sil infill further brx by white cal > qtz veins. Contains 3% diss py, 0.5% diss sp and tr diss gn in clasts. Flds indistinguishable.
			145.00	145.90		Strongly fractured with clay gouge.
			148.65	218.20		Original fabric indistinguishable. Intense qsp alt (?), moderate cal-alteration. Highly fractured and in filled with grey silica. Brx crosscut by cal + qtz veins and sweats.
			145.90	148.75		Contains 10-15% fine diss py in groundmass and 1-2% cp in qtz + cal sweats and on fractures.
			148.65	148.75		Cal + qtz vein brx surrounding rock. Clasts are intensely sil-altered green-grey. Tr py within vein.
				149.53		5cm cal>qtz + tr py vein.
				152.00		Contains blebs of cp 2-3% in cal + qtz sweats and in groundmass. Groundmass also contains 5% diss py and tr sp.
				155.18		6cm cal > qtz > rhodochrosite irregular shaped sweat/vein. Contains 1% fine diss py and 0.5% gn.
			157.45	157.70		Intense cal alteration. 15% diss py.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				160.01		2.5 cm cal > qtz + tr py sheet vein 55 to CA.
			162.95	169.20		Grey cryptocrystalline sil-veins from <1 to 5cm wide. Contain 5-15% py. Frequency is 1 to 2 every meter.
			170.30	171.02		Discontinuous white <1cm cal > qtz veins brx host rock. 10-15% diss py.
			172.10	174.70		Discontinuous white <1cm cal > qtz veins brx host rock. 5-10% diss py.
			179.30	179.54		Discontinuous white cal>qtz vein brx host rock.
			180.75	232.62		Maybe GW footwall or a continuation LF. Lacks the abundant hairline fractures and fracture infill of the above LF unit. Qtz > ser + py alteration with diss py. Occasional 1-10 cm band of grey cryptocrystalline qtz. Crosscut by rare cal>qtz vein. Moderately to strongly bleached to 202.10.
			196.40	197.00		Long irregular shaped grey crystalline qtz vein/infill. Cross cut by cal>sil veins <1mm that do not continue into the surrounding rock.
			197.45	197.74		Irregular shaped grey crystalline qtz vein/infill.
			203.60	204.40		Breccia. Clasts of altered rock in a dark brown, sil altered matrix with 7-10% diss py.
			213.70	215.80		Strongly fractured zone with fractures in filled with qtz-cal-rhodochrosite veins. Some veins host blebs of greenish brass coloured py.

Homestake, 2006
 HR06-24

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				224.40		Sil alt increases and chl (regional) alteration. Increase in fracture intensity. Fractures show chl cleavage. Py content is 1-2%.
	232.60	eah				

Homestake Ridge 2006

Drill Hole Name: HR06-25

Area: Homestake Ridge Zone

Drill Log HR06-25:

Easting 462944
Northing 6179468
Elevation (m) 948
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson

Core Type/Size BTW

Start Date July 20, 2006

Finish Date July 23, 2006

Log Date July 25-28, 2006

Length (m) 202.40

Azimuth 235

Dip -66.0

Ave Core Rec. 98%

Ave RQD NC

Target Similar to hole ddh HR06-23 but trying to intersect the HS Zone 60 m to the northwest. Drilled from Pad A.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-25

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5	235		-66	Collar
139.30	21.5	194.8	216.3	-66.8	Good
191.11	21.5	114.4	136	-66.6	Not usable azimuth
197.21	21.5	198.4	219.9	-66.9	Good

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	0.90	Casing				
0.90	11.50	DF				<p>Debris Flow</p> <p>Medium grey poorly sorted debris flow. Clasts are strongly ser and cal altered subrounded volcanics, bleached and dark grey STS rip up clasts in medium grey wacke matrix. Moderate cal-alteration without Fe throughout. Does not have the general flow direction like the DF unit down hole, however described as DF as opposed to PC because of poor sorting. No significant sulphides. Fracture intensity is moderate. Contact with STS shows STS incorporated into DF.</p>
			2.15	6.45		Grades from nearly clast supported clasts <7cm to fine grained.
			6.45	7.32		Grades from medium grained to <2cm clasts. Matrix supported.
			7.32	7.60		Grades from medium grained to <2cm clasts. Matrix supported.
			7.60	7.90		Medium grey wacke.
			7.90	10.25		Mottled grey and green from weak qsp alteration.
			8.70	8.88		Rubble zone. Brown fault gouge (?) on HW.
				9.46		Cal + qtz vein 1.5 cm in fracture (fault?). HW shows brown silt.
11.50	13.75	STS				Siltstone

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Fine-grained med grey siltstone with flow structures. 2% fine diss py following flow structures. Contact with MC is at fracture with associated cal veins <1cm, ~70 to CA.
			13.20	13.26		Cal + qtz vein on FW and HW of fault. Light grey-brown fault gouge.
13.75	24.70	MF				<p>Hbld Phyric Amygduloidal Mafic Flow.</p> <p>Medium green-grey hbld-phyric with a fg groundmass. Contains 3% cal + qtz + tr py irregular shaped amygdules which show chl + py <1mm rims in adjacent rock. Amygdules are rarely crosscut by hairline fractures filled with cream coloured cal. Moderately cal-alteration. Seldom flds hem stained. Lower contact with CS is poorly defined but consists of large MF frags within a debris flow.</p>
24.70	36.10	STS				<p>Wacke with Grit</p> <p>Medium to light grey laminated wacke. Grades from fine sandstone to poorly sorted layers composed of fine to angular 5mm liths. Laminations are 65 to CA. Moderate cal alteration and weak bleaching. Occasional cal > qtz veins associated with fractures.</p>
			34.85	35.45		Rubble zone. Angular fragments 1-6cm.
36.10	45.30	DF				<p>Debris Flow</p> <p>Medium grey poorly sorted matrix supported flow. Liths are <12cm</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						volcanics moderately to strongly qsp altered and CS/STS <17cm clasts. Contains cal + qtz irregular veins associated with fracturing. Contact with MSB is gradual.
			39.55	40.10		Fault zone. HW has 17cm qtz + cal vein containing 5% orange-yellow feox. FW marked by ~8 cm of med grey gouge. Approximately 60 to CA.
			40.36	40.39		Fault gouge with cal + qtz veins and DF clasts <5mm.
			44.00	44.65		Py increases to 20%. At 44.45 to 44.64 there is a cal > qtz vein.
45.30	65.40	MSB				Monomictic Sedimentary Breccia Angular qsp altered LF clasts in a med-grey wacke matrix. Contains numerous fractures containing grey fault gouge. Py concentrated in liths and hairline fractures. Lower contact with WG is gradual as LF liths decrease in frequency.
			49.37	49.70		Rubble zone. Angular clasts 2 -10cm.
			52.30	52.55		Fault zone ~65 to CA. Grey fault gouge from 52.30 to 52.45m. 5cm cal>qtz vein at 52.50 to 52.55m.
			54.55	55.20		Fault zone ~60 to CA. Mix of grey fault gouge and fragments up to 10cm (most less than 5cm).
			63.90	64.10		Fault zone. 1cm of fault gouge at 64.04 surrounded by angular rubble.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
65.40	76.45	WG				<p>Wacke with Grit.</p> <p>Med grey wacke. Matrix of the MSB. Not laminated. Lower contact with MSB is gradual.</p>
				69.50		<p>Vuggy 1cm cal > qtz vein containing 10% massive py. Vugs are <5mm and contain <1mm white cal crystals.</p>
76.45	84.80	MSB				<p>Monomictic Sedimentary Breccia</p> <p>Strongly qsp-altered light grey-green angular latite clasts in wacke matrix. Also contains black irregular shaped blebs <1cm (tour? Sulphides?) 3%. 2% very fine diss py in matrix. Contact with LF is gradual</p>
			76.45	76.95		<p>Rubble zone. Fragments are pea size to 14cm.</p>
			76.95	77.90		<p>50% green LF clasts strongly qsp altered and less frequently <1.5cm black blebs in light grey-purple wacke matrix. Matrix is 0.5% very fine diss py.</p>
			77.90	78.60		<p>Matrix supported breccia with 55% qsp altered LF clasts. Matrix is light grey sil-altered with 2% fine diss py.</p>
			78.85	80.90		<p>Strongly fractured zone. Fragments are angular and show cal > qtz fracture filling.</p>
			80.90	82.35		<p>Strong sil-alteration over printing qsp alteration. 5% diss py.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				81.02		1cm cal + qtz + tr gn vein.
			81.18	81.28		Cal > qtz + tr py sweat. Cross-cut by <1mm cream coloured fracture fillings which are cut by hairline black (sulphides?) veins rarely.
			81.47	83.75		Patchy chl + sil overprints qsp.
			83.35	84.15		Cal > qtz sweats brx host rock. Sweats carry tr gn and tr sp.
				84.60		Cal > qtz sweat brx host rock for 12 cm. Sweat contains 5% sp and tr gn.
84.60	202.40	LF				Latite Flow Fld-phyric tuff (?). White feldspar crystals have blurry edges. Some light grey fracture filling, subtle appearance. Irregular shaped cal > qtz sweats and white cal > qtz sheet veins crosscut other features. Some (1-10mm) sheet veins contain small vugs (<1mm x 2mm). Rare black hairline veins crosscut all other veins.
			84.80	90.10		Up to 1% diss sp.
			88.35	88.90		Hbld-flds-phyric volcanic. 5% hbld anhedral to needle shaped army green (alt to chl?) <1mm. 15% white flds <2mm with blurry crystal edges. 3% fine diss py. Tr sp in 1cm cal > qtz sweat.
			92.50	102.20		Light yellow sheeted leached cal + qtz veins and occasional white cal + qtz sweats.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			92.65	93.20		6~1mm vuggy cal + qtz + tr sp (?) veins.
			93.30	101.10		Resembles MC. Clasts/ghosts-clasts of LF in matrix of the same. Some clasts chl-altered. Sweats contain chl. Cal + qtz veins are 1-10mm and vuggy.
			101.10	104.80		Mottled green-greys with grey sil-fill. Flds rarely distinguishable.
			104.80	115.25		Moderately bleached with patchy chl alteration. Flds white altered green, blurry edges. Contains <1% emerald green blebs of mica <1mm. Light grey sil filling continues. Faint cal + qtz veins are crosscut by later stage cal + qtz veins.
			106.95	107.39		Large white qtz + light yellow cal sweat. Chl rim in adjacent rock. 1% py.
			114.00	114.90		1cm vuggy qtz + cal vein ~10 to CA. Contains <1mm cal and qtz crystals. Chl rim and py selvage in adjacent rock. Surrounding rock is sil-flooded
			115.25	128.35		Bleaching stops. Rock is green with subtle maroon hem staining.
				119.45		Cream coloured 1cm cal + qtz vein with 30% chl.
			128.35	134.80		Bleaching increases to moderate. Hem staining is moderate. Qsp and chl alteration is patchy. Sil alteration is weak. Rock is light greens and purple-greys.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			134.80	138.70		Breccia with qsp fragments in a strongly bleached and sil-altered light purple-grey matrix with 3-5% diss py. Contains some crosscutting hairline fractures filled with yellow cal + sil.
			138.70	140.15		Moderately bleached with patchy chl alteration and brown patches containing 10% py. Lighter patches are strongly sil-altered. Contains some crosscutting hairline fractures filled with yellow cal + qtz.
			140.15	140.80	XF	Xstalline debris flow. Rock is purple-red-brown-green with fluid and patchy appearance. Diss py throughout, especially abundant in brown-green patches. Strong qsp alteration, subtle bleaching, moderate chl-alteration, and weak to moderate hem staining.
			140.80	156.65		Rock has waxy appearance from moderate to strong sil-alteration. Crowded flds, white and blurry. Contains diss py, sp, gn and tr cp. Shows hairline white fracture fillings.
			141.55	142.20		Strongly fractured and filled in with light grey sil. Contains 6% py, 5% diss sp and 2% diss gn.
			145.05	145.26		Med grey sil filling with 2cm zone of 25% diss py.
				148.50		Cal + qtz + rhodochrosite sweat containing 2% cp, 1% tt and 1% gn.
			149.65	149.95		Strongly fractured with vuggy cal + qtz veins <1cm containing 15% sp, 2% cp and 2% gn.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			150.14	150.35		Grey mottled qtz + cal vein containing 1% py, 1% sp and 1.5 % gn (tt?).
			150.50	150.75		Mottled greys and greens with flds replaced by light green sericite.
			150.75	151.45		1% <1cm grey liths in matrix that is brown from diss py.
				152.40		2cm cal + qtz sweat containing tr cp.
			154.54	154.90		Med grey sil filling with <1cm cal + qtz veins. 2% diss py.
			156.65	158.95		Strongly fractured and in filled with py + sil med brown-grey matrix. Secondary fractures in filled with white cal + qtz veins.
			161.10	162.20		Strongly fractured and sil + py infill. Brecciated to brx 5. Infill contains 1% diss sp and tr gn. Tr emerald green <1mm blebs of mica.
			162.20	163.15		Fault/rubble zone. HW has 7 cm of light grey sil fill and 9cm of white cal + qtz + 1% sp + tr gn + tr py vein/sweat. Rubble is mixed with grey gouge. Fragments rarely up to 14cm. Fault is ~70 to CA.
				164.75		Abundant cal + qtz sweats crackle brx LF. Flds crystals are white and blurry as well as subhedral <1mm off-white laths.
			166.60	167.55		Rubble zone. Fragments are angular most <10cm, one is 17cm. White cal + qtz veins and grey sil-fill crackle brx clasts.
				171.08		1cm vein containing 5% gn, tr sp and tr cp. Adjacent to vein there is a bleb

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						of sp.
			171.37	171.62		Fractured to breccia and filled with med grey sil.
			174.25	174.55		Fractured to breccia and filled with dark grey sil.
			180.05	180.80		Fault zone. Compact light grey gouge with liths showing white cal-qtz veins and grey sil fill brecciating the rock.
			185.80	186.70		Strongly fractured and filled with med grey sil fill which is cut by white cal + qtz veins.
			188.45	188.70		Cal + qtz vein, tr py.
			194.54	195.70		Rubble zone ~60 to CA. Rubble show grey sil fracture filling.
			194.97	195.07		Rubble zone ~ 45 to CA. Rubble show grey sil fracture filling.
			198.85	201.30		Strong to intense qsp and strong bleaching with 7% py as blebs or seldom as selvages around flds. Trace emerald green mica (sericite?) in <1mm blebs. Fractures show pronounced sericite cleavage.
	202.40	eah				

Homestake, 2006
HR06-26

Homestake Ridge 2006

Drill Hole Name: HR06-26

Area: Homestake Ridge Zone

Drill Log HR06-26:

Easting 463024
Northing 6179381
Elevation (m) 998
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson

Core Type/Size BTW

Start Date July 24, 2006

Finish Date July 26, 2006

Reclaim Date

Log Date July29-Aug2

Length (m) 160.4

Azimuth 220

Dip -57

Ave Core Rec. 97%

Ave RQD NC

Target Testing the HS Zone extension in between and down dip from ddh HR05-14, -15 and -18 at the 885 m elev. Target depth 135 m. Drilled from pad B.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006

HR06-26

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		220	-57	Collar
30.25	21.5	175.1	196.6	-57.2	Good Test
90.53	21.5	179.1	200.6	-57.9	Good Test
136.95	21.5	181.3	202.8	-58.0	Good Test
160.40	21.5	182.2	203.7	-58.2	Good Test

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	0.20	Casing				
0.20	9.55	MF				<p>Magnetic Flow</p> <p>Medium grey moderately magnetic medium crystalline flow. Denoted as 'massive wacke' in previous years. Occasional brick red blebs <1mm of jasper (?). Contains numerous cal > qtz +/- chl with 5-7% py veins. Strong carbonate alteration. Moderately to strongly fractured. Fracture surfaces show feox, some follow veins. Lower contact with DF is within a breccia subunit</p>
			0.20	5.85		Moderately magnetic. Lower contact with nonmagnetic is ~20 to CA.
				0.55		7cm of cal > qtz + rhodochrosite vein with mm bands of chlorite and py (10%). Appears to be sharply offset at 60-70 to CA and continues at 0.82m.
			0.82	1.15		Cal > qtz + rhodochrosite vein with mm bands of chlorite and py (15%). Contains 2 fractures ~60 to CA.
			5.85	7.95		Nonmagnetic. The nonmagnetic subunit is visually noted by larger (= <1mm) and more frequent clasts/phenos giving it a slightly mottled appearance, resembling MC. It is weakly to moderately qsp altered (without the quartz) with 3% diss py. It has been suggested that magnetite has been altered to py resulting in the loss of magnetic properties.
			7.95	9.55		Breccia. Strongly ser-py altered green fragments in light grey qtz-chl-py matrix. Contains 25cm section where cal > qtz + 5% py which occurs on hairline fractures and diss. Breccia unit ends with fracture ~25 CA that has 1cm cal + qtz + chl vein on FW.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
9.55	11.55	DF				Debris Flow Light green-grey strongly ser-py altered debris flow. Strong carbonate alteration. Clasts include strongly qsp altered light grey liths <2cm and less frequently dark grey <2cm STS. Grades in to STS.
11.55	16.70	STS				Silt Stone Light grey occasionally laminated sed-unit ranging from siltstone to medium fine-grained wacke. Strong carbonate alteration. Occasional angular black <3cm lith. Rarely cal + qtz + rhodochrosite sweat that have py selvages. Lower contact with MC is gradual.
			14.10	15.30		Laminated unit. Laminations are 60 to 65 to CA.
16.70	44.70	MC				Monomictic Conglomerate Hornblende-phyric qsp altered flow clasts in matrix of the same and grey wacke. Moderate carbonate alteration. Contains some cal + qtz sweats that show <1mm chl rims in adjacent rock. Lower contact with DF is somewhere near a fault.
			21.78	38.10		Weak to moderate hem staining. Clasts differentially altered. Abundant cal-qtz sweats <5mm. Trace to 2% diss py. Strong carbonate alteration. Moderately to strongly fractured. Fractures are typically along cal + qtz veins and show feox.
			38.10	50.50		Moderately qsp altered and bleached.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			43.50	44.70		Moderately qsp altered and bleached.
44.70	55.25	DF				Debris Flow Subangular to subrounded qsp altered volcanic and STS clasts in medium grey wacke matrix. Crosscut by sheeted cal + qtz veins and some short (<5cm) discontinuous cal + qtz veins. Fractures are typically along sheet veins, few show minor feox. Grades into grey wacke.
			44.70	50.50		Moderately bleached and strong qsp altered. Clasts are vaguely distinguishable.
			50.50	55.25		End of bleaching and strong qsp alteration. Clasts still qsp altered, matrix relatively unaltered and medium grey.
			53.62	55.25		Abundant hairline anastomosing py veins and discontinuous cal + qtz veins <5cm x 3mm.
55.25	58.90	STS				Siltstone Fine-grained medium to dark grey wacke that grades into debris flow. Contains layers of debris flow <50cm and cal + qtz veins.
			55.77	56.25		Rubble zone. Rubble is angular and long. Most prominent fracture is along a cal + qtz vein <1mm at 5 to CA.
			56.86	57.60		Moderately fractured. Fractures have uneven surfaces and show moderate feox. Generally ~40 to CA, few ~80 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			57.60	57.95		Large cal + qtz sweat containing 1.5% cp.
58.90	74.60	DF				Debris Flow Qsp altered volcanic and STS clasts in medium grey wacke matrix. Interbedded with STS. Cut by sheeted cal + qtz veins. Gradual contact with MSB.
				58.95		3mm white cal + qtz sheet vein offset 5mm by yellow, white and grey irregular shaped 1-5mm cal + qtz + tr py fracture filling. Fracture filling is ~10 to CA.
			65.05	66.60		Subunit of fine-grained siltstone and medium-grained wacke.
				67.50		1cm white cal > qtz vein 18 to CA.
			72.50	74.60		Increase in diss py to 10-15%.
74.60	80.75	MSB				Monomictic Sedimentary Breccia Subangular qsp altered LF clasts up to 13cm in a med grey wacke matrix. Weakly cal-altered. Moderate bleaching and weak to moderate qsp alteration of the matrix.
			75.50	76.20		Fault zone. Mix of rubble and grey gouge.
			79.80	80.45		Fault zone. Mix of rubble showing discontinuous cal-qtz veins and grey fault gouge. ~35 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				80.46		3cm cal + qtz + rhodocrosite sweat carrying tr cp.
			80.30	80.75		Brecciated MSB. Matrix is dark grey-brown chl-ser-qtz with 10% diss py.
80.75	123.75	LF				Latitic volcanic. Varies from fragmental felds-hbl phytic to non-fragmental. Phenos and groundmass generally strongly altered.
			80.75	103.15	LF	Fragmental latite. Fragments of latite within a matrix of the same. Margins of the fragments difficult to see. Matrix is totally qsp altered and strongly qtz altered. Bleaching increases to moderate. Flds crystals are <5mm, white and show blurry crystal edges. Py occurs along fractures and as blebs.
			91.80	92.60		Strong to intense sil alteration. 1% diss sp. <1% emerald green mica in <1mm rounded blebs.
			95.20	97.05		Patchy chl alteration with py on strongly qsp and sil altered sections. Fabric of MSB obliterated.
			100.45	100.75		Irregular shaped cal + qtz veins containing 1% gn, tr py, tr cp, and tr sp in sil flooded rock that shows 7% py following fractures and veins.
			102.10	103.15		Mottled greys and greens with patchy chl and ser alteration. Diss py is 2% of rock.
				102.50		Light grey fault gouge mixed with pea-size rubble. 42 to CA.
			103.15	123.75	LF	Latite Flow

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Medium light grey feldspathic with hornblende dacite. Feldspars are subhedral <5mm off-white laths (10%) and pinkish subhedral <1mm squares (1%). Hornblendes (5%) are army green anhedral altered to chl (?). Most of the unit is brecciated with qtz-healed matrix. Clasts in brx are strongly qsp altered and flds with in clasts are white with blurry crystal edges. Grades into GW footwall.
				101.42		Fault. Grey fault gouge. HW 40 to CA.
			103.15	104.20		Patchy chl and ser alteration and hematite staining. Diss py is 1%. Flds occasionally visible.
			107.30	108.10		11% flds with sharp crystal faces and 5% anhedral green hblnd (?) in med-fine crystalline strongly qsp altered matrix. Not brecciated.
				108.10		Weak bleaching and moderate qsp without qtz. Green from regional chl-alteration? Py fills fractures in blebs.
			108.70	109.47		Py + qtz + cal + chl <1mm veins with up to 5mm light green bleached envelopes criss-cross to almost crackle brx.
				113.55		3cm light grey irregular shaped cal + qtz + tr py vein/sweat ~20 to CA.
				113.90		1-2cm light grey irregular shaped vuggy cal + qtz + 1% py vein/sweat ~ 60 to CA.
			114.14	116.70		Rubble zone with small amount of light grey fault gouge. Upper wall is marked by 1cm broken qtz + cal vein ~45 to CA. Clasts are angular and generally larger than 3cm.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			116.95	117.08		Cal + qtz + chl + tr py sweats with few vugs. Patchy hem staining in host rock.
			118.20	119.05		Mottled light green-greys and light purple. Moderate bleaching, strong ser-alteration, strong qtz alteration. Ser-alteration grades into hem alteration. 3-5% diss py. Strongly fractured, most fractures are 15-25 to CA.
			119.05	120.55		Purple with hem staining. Fractured and infilled with sil. Clasts are strongly qsp altered <1 cm. Py occurs locally as blebs along fractures and in qsp altered clasts.
			120.55	122.00		Sil-altered and bleached with 2% cp and 5% py occurring within qtz + chl filled fractures as massive irregular blebs. Overall, rock is mottled greys with subtle purple. White cal + qtz veins discontinuous and diffused into host rock giving a blurry appearance. Sil-alteration overprints white cal-sil veins. Qtz + chl + sulphide fracture filling also overprint the cal + qtz veins.
			122.00	123.75		Sulphide abundance decreases to 2% py and <1% cp. Grades into GW.
123.75	160.40	GW				Grey Wacke Medium grey poorly sorted fine to medium grained wacke. Liths include white flds and dark grey-black clasts. Patchy bleaching. Cross-cut by cal-qtz veins, some carrying sulphides.
				124.90		Series of 4 nearly parallel 1mm vuggy qtz + cal veins ~10 to CA.

Homestake, 2006

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Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				128.15		~1 cm irregular shaped cal + qtz + tr gn + tr sp vein.
			130.10	131.15		Moderate bleaching and sil-alteration overprints moderate ser-py alteration. Diss py is 1%.
				130.80		3cm broken cal + qtz + 1% py + tr gn + tr sp. On fracture 20 to CA.
				135.45		1cm cal-qtz sweat with 5% cp. Shows chl rim <1mm in adjacent rock.
				135.45		Increase in patchy bleaching which continues down hole. Also down hole occasional grey and pink cal + qtz + rhodochrosite veins almost the same colour as host rock. No significant sulphides in these veins.
			139.00	139.30		Light grey irregular shaped cal + qtz + chl sweat containing 2% cp, 5%py, and 2% sp in wisps of cal + qtz sweat.
				144.25		8cm of light grey opaque sil fill. Show fine diss py selvage.
				144.06		White-grey and green qtz + cal + chl vein 2cm and ~42 to CA, shows 0.5% py. Host rock contains <1% emerald green mica.
				154.15		1cm cal sheet vein 22 to CA.
			156.40	156.70		Breccia. Anastomosing light grey cal + clay matrix. Strongly fractured, some light grey gouge on surface ~30 to CA.
			157.27	157.50		Breccia. Anastomosing light grey and brown (py) cal-clay matrix. Upper boundary of breccia is a 3cm cal + qtz vein ~55 to CA.
	160.40	EOH				

Homestake, 2006
HR06-27

Homestake Ridge 2006

Drill Hole Name: HR06-27

Area: Homestake Ridge Zone

Drill Log HR06-27:

Easting 463024
Northing 6179381
Elevation (m) 998
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson and T. Schöttler

Core Type/Size BTW

Start Date July 26, 2006

Finish Date July 31, 2006

Reclaim Date

Log Date August 1-5, 2006

Length (m) 242.90

Azimuth 265.0

Dip -77

Ave Core Rec. 97%

Ave RQD NC

Target Test the down dip extension of the HS Zone intersected in ddh HR05-14 and -15 at the 830 m elev. Target depth 173 m. Drilled from pad B.

Stopped for: Penetrated through target area and mineralization.

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		265	-77	Collar
32.60	21.5	228.7	250.2	-76.3	Good Test
87.50	21.5	231.5	253	-76.3	Good Test
133.20	21.5	234.5	256	-76.4	Good Test
175.87	21.5	233.8	255.3	-76.6	Good Test
236.83	21.5	239.1	260.6	-76.7	Good Test

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	16.40	MF				<p>Mafic Flow</p> <p>Medium grey moderately magnetic fine to medium crystalline flow. Denoted as 'massive wacke' in previous years. Crosscut by numerous cal-chl veins. Strongly fractured. Fractures show chl-cleavage and strong feox-gossan. Lower contact with PC is gradual.</p>
			0	13.75	Mag	Moderately magnetic. No diss py.
			13.75	16.70	Nonmag	Nonmagnetic. Diss py increases to 1%. Magnetite to py?
			13.85	14.13		Abundant cal filling between grains, 1% diss py.
			14.45	16.70		Moderate hem staining colours unit maroon. Weakly fractured.
16.40	61.55	MC				<p>Monomictic Conglomerate</p> <p>Subrounded to rounded MF clasts weakly to strongly qsp altered in medium grained green-grey matrix. Lower contact with DF is gradual. Py is diss and associated with qsp or regional chl-alteration, rarely in veins.</p>
			16.40	18.85		Clasts are differentially hem stained and generally <3cm. Matrix supported.
			18.85	21.58	PC	Polymictic conglomerate. Same as monomictic, but with angular dark grey STS (?) chert (?) clasts <2cm and ~5% of subunit. Matrix is strongly qsp altered

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			21.58	21.94	Brx	Mottled greys with sil + py infill. Py occurs as blebs 5%. Breccia 5.
				22.64	Vein	7cm light green sil + chl + py fracture fill?
			21.94	23.05	Altn	Strong qsp alteration, rare distinguishable clast.
			23.05	31.20		Clasts increase in size; generally 5cm, but occur up to 30cm. Occasionally clast supported with cal filling between clasts. Crosscut by cal>>qtz veins and sweats. Rarely sweats have py halo. Moderate to strongly qsp altered. Rare hem staining in clasts. Moderate fracture intensity, fractures show moderate feox. Fractures along cal>>qtz veins are generally shallow (10 to 20 to CA), however other fractures range from shallow to 90 to CA.
			31.20	31.75		Solidified fault fill? Mottled greys, sil and tr py fracture fill cut by white sheet cal veins.
			33.10	37.35		Moderate hem staining at 33.10m decreasing down hole to weak at 37.35m. More concentrated in clasts. Upper alteration starts sharply after a chl + cal + tr py sheet vein, which breaks at 90 to CA. Fracture surface shows moderate feox. Lower alteration gradually decreases. Moderately fractured along cal veins various angles.
			38.35	55.25		Approximate boundaries of strong to intense fracturing. Most fragments are angular, some subrounded pebbles.
			43.00	44.50		Rubble zone. Top of zone is rounded pebbles for ~25 cm grading down

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						hole into <10cm subangular to angular fragments.
				47.30		Approx where bleaching increases from subtle to moderate.
			49.15	50.50	Fault	Grey fault gouge mixed with subrounded to angular fragments ranging from pea size to 8cm. Surface with fault gouge are too hackly to determine fault angle to CA.
61.55	68.40	DF				Debris Flow Flow composed of qsp altered volcanic and grey STS and white cal (broken veins?) clasts in med grey wacke matrix. Occasionally crosscut by cal>>>qtz sheet veins. Interbedded with STS. Lower contact with STS is gradual.
			56.70	61.55		Moderately bleached with volcanic clasts up to 9cm and subrounded. Maybe polymictic conglomerate unit between the MC and the DF boundaries. Classified as DF because of angular calcite clasts and poor sorting of clast size.
			61.55	63.00		Bleaching stops. DF grades coarser down hole from medium grained to medium grained with 1cm clasts.
				63.00	Fault	Fault. Medium grey fault gouge with subangular to subrounded liths. ~20 to CA.
			63.05	64.29		Grades from medium grained with 3% clasts <1cm to 40% clasts <1cm.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			64.29	65.16		Grades from medium grained sandstone to sandstone with 40% clasts <5mm and 5% blebs of diss py.
			65.16	68.40		Interbedded DF and STS.
			65.80	65.92		Rubble zone. Liths are subangular pebbles.
68.40	72.50	STS				Siltstone Mottled light and med grey fine to coarse-grained semi-laminated sandstone. Patchy bleaching. Occasional layers of DF. Diss py 1-3% often follows laminations. Contains abundant cal (cal cement?). Lower contact with DF is at irregular shaped cal>>qtz + 1%py vein which brecciates host rock.
				69.95		Bedding 37 to CA. Beds offset by 1cm from fault, which is 52 to CA.
				70.50		Bedding 38 to CA. Beds offset by 7mm from fault, which is 55 to CA.
				70.80		Bedding 35 to CA.
				71.57		Bedding 55 to CA.
				72.13		Bedding 55 to CA.
72.50	81.70	DF				Debris Flow

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Flow composed of qsp altered volcanic and grey STS clasts in med grey wacke matrix. Some clasts completely overprinted with massive py. Grades coarser down hole from a medium grained wacke to up to 5cm 20% clasts. Occasionally crosscut by cal>>>qtz sheet veins. Interbedded with STS. Lower contact with STS is ~40 to CA.
			80.90	81.35		Matrix is moderately bleached. Upper contact of this alteration zone is ~37 to CA, lower contact is not a strait line.
81.70	91.05	STS				Silt Stone Mottled light and med grey fine to coarse-grained semi-laminated sandstone. Patchy bleaching. Occasional layers of DF. Diss py 1-3% often follows banding. Contains abundant cal (cal cement). Lower contact with shows DF lifted into STS.
				85.86		Bedding 60 to CA.
			86.23	86.32	Sandstone	Layer of coarse-grained sandstone strongly qsp altered.
					86.46	Bedding 52 to CA.
					87.70	Bedding 63 to CA.
					87.86	Bedding 65 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
					90.85	Bedding 65 to CA.
91.05	94.00	DF				Debris Flow Subangular to angular qsp altered volcanic and STS clasts in med-grey wacke matrix. Clasts compose 5-20% of the unit. Contact with MSB is within fault zone.
			92.66	95.00	Fault	Fault zone. Light grey to medium grey fault gouge with angular rubble. Cleavage apparent at 60-65 to CA. Rubble contains cal-veins. Somewhere in this fault zone is a contact with MSB.
94.00	101.50	MSB				Monomictic Sedimentary Breccia Variably altered subangular LF clasts in med grey wacke matrix. Crosscut by qtz>cal sheet veins and sweats. Lower contact with fragmental latitic flow is gradual and difficult to distinguish. Taken where composition of the matrix equates that of the clasts.
				97.45	Vein	7cm cal>qtz vein at 60-70 to CA.
			98.45	100.03	Fault	Rubble zone. Series of nearly parallel fractures at HW ~45 to CA. Minor gouge at FW. FW 40to CA.
				100.40		Beginning of bleaching. Bleaching strong, sil alteration moderate to strong, ser alteration is weak. Gradational contact. Clasts occasionally

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						distinguishable. Diss py 2-3%.
101.50	194.40	LF				Latitic flow. Mainly fragmental. Continuation of strong bleaching and sil and ser altn.
				104.82	Fault	5mm of light grey gouge in fracture ~50 to CA.
				105.14	Vein	7cm white and grey qtz > cal vein 60 to CA.
			117.40	120.25		Rubble zone. Fractures and slicks in various angles to CA.
			120.25	120.80		Strong bleaching after rubble zone. 1% fine diss py. Contact with adjacent moderately bleached rock is ~40 at upper and lower contact. Contains 1.5 x 1 cm rectangular subrounded clast, which is 35%, an emerald green massive translucent mineral (fuchsite?). Clast is zoned roughly from outside to center with a rim of py, emerald green mineral, py and then white center of altered parent rock.
			130.50	158.70		Approx boundary where bleaching decreases and there is an increase in patchy chl-alteration. Still occasional regions of patchy moderate bleaching for 50cm. Cross cut by qtz > cal veins and sweats showing chl-rims <1mm in adjacent rock. Fine diss py tr to 1%. Weak K-alteration.
			136.80	136.95	Fault	Fault gouge. HW 40 to CA.
				138.45	Vein	Rubble zone. Subrounded to rounded pebbles of white and cream coloured qtz > cal + albite (?) + chl vein.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				139.30	Vein	Rubble zone and qtz>cal + albite (?) + chl vein. Rubble is subangular vein material <4cm. HW 50 to CA, FW 58 to CA.
			153.30	154.60	Vein	Rubble zone enveloped by butter-yellow qtz + cal veins. The yellow coloured material does not effervesce.
			158.70	170.85	PSB	Polymictic sedimentary breccia? Weak to moderate hem stained 161.95 to 167.83. Reddish maroon colour. Locally up to several mm sized irregular jasper specs grading into prominently diss hem. Prominently fragmental. Fragments are yellow green soft outlines which are up to approx cm sized altered volcanic glass fragments which show +/- irregular to wavy squished appearance. Some volcanic glass fragments are highly chl bearing. Also green with ser and diss euhedral py clasts, which are presumed to be highly qsp (with out quartz) altered LF clasts.
			158.70	161.30	Altn	Moderate K-alteration.
				188.40	Sx and vein	Pale cream slightly pinkish coloured highly cal-bearing and minor rhodocrosite bearing 2cm vein at steep angle to CA. Up to 2cm cp blotches. Adjacent rock contains minor fuchsite (?).
194.40	212.75	XF				Xstalline debris or pyroclastic flow. Latitic clasts within a crystal-rich matrix. Strongly overprinted by si and ser altn.
			194.40	201.90	Sx	Mineralized zone. Mottled green-grey and cream MSB with patches of sx (py + cp) that are up to 5cm and faintly developed stringers. Contains sweats of qtz > cal. Unit ends proximal to fault.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			194.40	195.35	Sx	15% py and 10% cp in patches and stringers.
			201.90	212.75		Pyroclastic flow? Assumed fragments that are elongated 45 to 90 to CA. Rock is dirty mottled appearance with greys, creams, and browns (diss py). Somewhat same appearance as mineralized zone, but lacking in cp and high py.
212.75	242.90	GW				Greywacke Footwall (Latitic volcanic) Dirty olive green-grey cream mottled variably fragmental to dense unit. Presumably sedimentary material. Up to several mm sized subhedral to euhedral feldspar laths embedded in fine-crystalline matrix. Up to ~5mm sized subrounded to irregular shaped cream colour spots assumed to be fragments. Waxy, green, translucent appearance assumed to be the result of moderate to strong ser alteration. Coarser appearing subsections are alternating with fine/dense sections up several meters width. Majority of assumed fragments are not well defined. Locally up to several cm sized opaque med grey very fine grained/crystalline silica rich beds/veins at steep angles to CA. Crosscut by white and grey cal + qtz veins locally associated with strong fracturing (weakly developed coin pattern). Very fine to locally weakly cloudy to blebs up to a percent of py. Finely diss carbonate throughout.
				225.20		Bleaching is increased from weak to moderate due to qsp (q<s) alteration.
	242.90	eah				

Homestake, 2006
HR06-28

Homestake Ridge 2006

Drill Hole Name: HR06-28

Area: Homestake Ridge Zone

Drill Log HR06-28:

Easting 462024
Northing 6179381
Elevation (m) 998
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Start Date July 31, 2006

Logged By A. Bryson and T. Schöttler

Finish Date August 2, 2006

Reclaim Date

Core Type/Size BTW

Log Date August 5-8, 2006

Length (m) 194.16

Azimuth 179.0

Dip -73

Ave Core Rec. 98%

Ave RQD NC

Target Test the down dip extension of the HS Zone intersected in ddh HR05-18 at the 835 m elev. Target depth 170 m. Drilled from pad B.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-28

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		179	-73	Collar
32.6	21.5	152.9	174.4	-73	Good
78.33	21.5	154.6	176.1	-74.1	Good
139.30	21.5	158.2	179.7	-74.6	Good
185.00	21.5	337.6	359.1	-74.8	Unusable azimuth
197.20	21.5	164.7	186.2	-75.1	Good

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	1.52	Casing				
1.52	15.50	MF				<p>Mafic Flow</p> <p>Medium green-grey magnetic medium-fine to medium crystalline volcanic flow denoted as MW because that in years past. Contains dark black-green <1mm to rarely 2mm subrounded spots 20% interpreted as chloritized mafic phenos. Crosscut and seldom brecciated by cal + chl veins. Strongly fractured in various directions. Some fracture surfaces show Feox. Contains <1% spots of red jasper (?) which occasionally follow veins. Lower contact with MC is gradual over cm.</p>
			6.30	6.60		White, green and pink-banded cal + chl irregular shaped vein shallow to CA.
			9.50	10.55		White, green and pink-banded cal + chl irregular shaped vein shallow to CA, contains subangular clasts of the host rock.
15.50	65.80	MC				<p>Monomictic Conglomerate</p> <p>Dirty dark green grey rock. Subangular MF clasts in medium wacke matrix. Clasts are presumably dacite composition. Most clasts qsp altered to some degree. Clasts are mm size to rarely decimeter. Occasionally clasts not well defined (psuedoclasts?). Variable chl alteration and hem staining. Finely diss py assumed to be associated with alteration. Crosscut by occasional cal+/-chl veins and sweats. Lower contact with PC is gradual.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			21.05	23.07		Rubble zone. Liths are cm to dm size. Variable fracture orientations. Locally brecciated.
			24.10	24.50		Strong qsp alteration decreasing downwards grading into patchy chl-alteration.
			33.06	47.75		Moderate to strong chl alteration. Within this alteration zone (37.70 to 39.20), weak hem staining with no visible py.
65.80	69.95	PC				<p>Polymictic Conglomerate</p> <p>Variably grey to dirty green-grey to dark grey mm to 5cm sized subrounded to subangular fragments in grey to dark grey matrix. Matrix supported grading locally towards clast supported. Differs from MC because in addition to the volcanic clasts, this unit contains dark grey very hard very fine grained subrounded clasts (chert?) with white ~1mm carbonate halos, as well as, <1.5cm rounded sulphide clasts confined to the lower region of the unit, defining a polymictic composition. No sorting. Possibly is part of the underlying DF and/or transition zone between overlying MC and underlying DF. Lower contact with DF chosen to be associated with white carbonate veins 1mm to ~1cm at 60 to CA.</p>
69.95	96.25	DF				<p>Debris Flow</p> <p>Polymictic mm to rarely larger than 6cm sized angular to rarely rounded fragments in predominately dark grey silt to sandy matrix. Reminiscent of</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						preceding unit. Generally poorly sorted, but locally up to several decimeters wide weakly to discreet subsections which grade down hole from silt to sand to poorly sorted with up to 3cm clasts. Diss to locally cloudy py <1% occurs with in clasts and matrix. Occasionally crosscut by cal>>qtz veins <1.5cm increasing in frequency towards fault. Occasional STS (silt to sand) interbeds up to decimeters wide with sharp contacts with variable orientations. Interbeds suggest a sequence of clastic sediments, further suggesting that this unit is possibly not a true debris flow, but denoted as DF for consistency with other holes in area. Lower contact with MSB is assumed to be with in rubble zone.
			88.70	89.08	STS	STS interbed. Upper contact irregular ~35 to CA, lower contact 60 to CA.
96.25	102.75					<p>Fault Zone</p> <p>Fault zone containing DF and MSB contact. Intensively broken core. Fragments are <1 cm to >dm. Silt to sand gouge sections up to dm. Larger core pieces with locally intense tectonic breccia textures/breccia quartz +/- carbonate veins containing mm to cm size angular host rock. Veins are variably orientated. Angle of fault is uncertain.</p>
102.75	125.80	MSB				<p>Monomictic Sedimentary Breccia</p> <p>LF clasts in a grey wacke matrix. Clasts are generally subrounded, rarely angular. Crosscut by qtz + cal veins. Lower contact arbitrarily chosen with ~1.5cm wide grey distinct band 20 to CA (interbed?).</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			102.7	114.25		Rubble zone. Minor light grey fault gauge mixed in with angular fragments cm to several dm size. Variable fracture angles. From 108.95 – 109.95 series of subparallel fractures following quartz + calcite veins @ 40 – 65 degree to CA.
			114.75	151.10		Bleaching increases from subtle (confined to clasts) to moderate and pervasive. Fragments appear less well defined, ghostly developed, blurry.
				120.45		3cm wide calcite + quartz vein @ 45 degree to CA.
				122.65		~3mm light grey gouge associated with ~1mm cal + qtz vein @ 55 to CA.
				124.32		2cm butter yellow albite (?) and quartz vein @ 35 degree to CA.
125.80	151.10	LF				Fragmental latite flow. Feldspar bearing clasts in feldspar rich matrix. Over all subunit is mottled greys, grey-green, and grey-brown (from fine diss py) with blurry white <5mm flds. Usually difficult to distinguish between matrix and clasts. Clasts are ghostly developed subangular to subrounded. Subunit is assumed to end in strong bleaching section that begins at 143.35. Following bleaching is moderate patchy chl alteration (145.45 to 154.15); rock looks like green subrounded clasts in yellow matrix of variable amounts of clasts. This chl-altered zone may be a continuation of the LF or the MSB; alteration makes it difficult to determine parent rock.
			128.00	128.13		Rubble zone. Light grey fault gauge mixed with grits and angular pebbles.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			142.40	151.10		Moderate to strong, patchy chlorite alteration.
151.10	172.80	XF				Pyroclastic flow to debris flow with latitic clasts.
			151.10	157.15	XF	Polymictic pyroclastic flow. Weak to moderate hem-stained. Reddish maroon colour. Locally up to several mm sized irregular jasper specs/ clasts (?) approx 2 cm wide bands and prominently diss hem. Prominently fragmental, bearing yellow green soft outlines that are up to approx cm sized altered volcanic glass fragments which show +/- irregular to wavy squished appearance. Some volcanic glass fragments are highly chl bearing. Also green with ser and diss euhedral py clasts that are presumed to be highly qsp (with out quartz) altered LF clasts.
				153.09		Fracture plane @ 30 degree to CA, associated with 5 mm light grey fault gouge
				156.85		1 cm quartz + calcite vein @ 55 degree to CA overlies 2 cm grey fault gauge.
			151.10	172.80	XF	Mineralized zone. Assumed to be a debris flow, but difficult to determine. May be a continuation of LF. Mottled greys, whitish green, olive green-grey, brown-grey, maroon. Dirty chaotic appearance and intensely qsp altered. Weak to discreet mm to greater than cm sulphide stringers generally trending subparallel to CA. Up to 15% sulphide in several dm subsections, cp>>py. Locally particularly in the vicinity of the mineralized zones patchy to squirly dark green chl alteration and bright white qtz flooding grading into pervasive strong silicification. General trend of zone down hole is local qtz + sulphate (?) vein containing sp > gn, py

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						mineralization grading into cp grading into py.
				157.55		Cp crosscutting into qtz vein indicating mineralization younger than vein.
			166.45	172.80	XF	Subsection with abundant olive-green grey soft dense highly sericitic py bearing, noncarbonate bearing, elongated to slightly irregular outlines +/- aligned at 50 to CA interpreted as stretched fragments. Results in a very faintly banded/foliated appearance. Fragments are embedded in light mottled grey cal-bearing matrix.
				170.75		Cm sized gn (tt?) associated with up to mm's honey brown sp specs associated with <1 cm cream white irregular shaped carbonate sweat that is 20-40 to CA.
172.80	194.16	GW			LFb	Grey Wacke Lack of distinct features makes it difficult to determine protolith, denoted as GW for continuity between holes (ie believed to be the same rock as noted in other holes as GW). Light green-grey to olive green-grey to dirty green to slightly maroon, variably dense massive to white spotted. Spots 1mm to 5mm white amounting to 25% (reminiscent to feldspar volcanic). Locally fragmental texture (?). Approx 2% fine diss py. Alternating down hole sequence of dense sections, feldspar-phyric and patchy green chl-altered sections. Crosscut by usually cm wide bright white tabular, rarely irregular qtz or qtz + cal veins and veinlets with a preferred orientation of 20 to 30 to CA. Veins are associated with chl alteration and bleaching.
	194.16	coh				

Homestake, 2006
HR06-29

Homestake Ridge 2006

Drill Hole Name: HR06-29

Area: Homestake Ridge Zone

Drill Log HR06-29:

Easting 426901
Northing 6179328
Elevation (m) 1055
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By T. Schöttler and modified by B.
Kasper and H. Samson.

Start Date 2-Aug-06

Finish Date 4-Aug-06

Reclaim Date

Core Type/Size BTW

Log Date

Length (m) 144.78

Azimuth 296

Dip -61

Ave Core Rec. 95%

Ave RQD

Target Test the upper extension of the HS Zone between surface and ddh's HR03-06 and HR05-16 and -17 at the 965 m elev. Target depth 103 m. Drilled from pad C.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006

HR06-29

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		296	-61	Collar
32.61	21.5	352.1	373.6	-60.2	Unusable azimuth
142.34	21.5	279.9	301.4	-60.3	Unusable azimuth

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0.0	0.90	Casing				No recovery.
0.90	28.2	MC				<p>Monomictic Conglomerate</p> <p>Material is variably dark olive green grey - pale cream bleached, bears +/- ghostly outlined, sub round - predominantly rounded, variably altered (bleached, hematite bearing, chlorite bearing, calcite bearing) fragments from < cm - approx dm sized fragments with dacite (?) resembling appearance. Matrix supported throughout. Silty - sandy matrix with dirty appearance and approx 20 %, sub mm - mm sized, light coloured, +/- carbonate bearing clasts and estimated % range disseminated pyrite (amounts locally up to > 10 %). Siliceous patches and small subsections (fragments?). Crosscut by predominantly highly carbonate bearing, rarely sulphide bearing, light coloured, predominantly irregular, rarely tabular, variably orientated veins, locally resulting in a weakly - moderately shattered appearance. LC not well defined, indistinct, gradational, chosen with incipient, polymictic composition of fragments (vesicular fragments) and colour change of matrix from green grey - maroon brown.</p>
			0.90	12.00	MC	Strongly - locally intensively, gravelly broken core with variably orientated, rusty coated fracture planes, indicating weathering.
			6.00	8.00	MC	Light buff colour, mod carbonate- si altn with 1-2% diss py. Mod bleaching. Includes a rubble zone from 6.95 to 7.30 m.
			10.50	11.00	MC	Strong ser-py altn and bleaching crosscut by white qz vns. LC at 40 to CA. 7-10% f diss py. Strongly frac.
			10.40	11.10	MC	Strong ser-py altn and bleaching with patches of strong si altn where cross cut by qz vns. 2-3% diss py.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			13.15		MC	2-3 mm size sp blebs within calcite vn.
			16.30	20.05	MC	Intervals of strong bleaching and silty altn with 2-3% py.
28.2	45.3	PC				<p>Polymictic Conglomerate</p> <p>Polymictic conglomerate with several intervals, up to 3m, of chl-phyric greywacke. From UC - approx 31.8 m a predominantly dark red brown (hematite bearing) silty - sandy matrix. Throughout the remainder of the interval the matrix is fine- to med-grained, olive green grey - grey, silty - sandy, variable pyrite content (trace to 3 %) and bears variably ghostly - discrete outlined, approx mm - several cm sized, rounded - irregular, variably coloured (olive green - pale cream - light grey - light and dark spotted), chlorite replaced fragments with variable composition (dacite?, chert?, highly pyrite bearing). No sorting, matrix supported. Hematite and sulphide content appear to be reverse proportional.</p>
			33.7	41.76	Bx	<p>Crackle bx</p> <p>From 33.7 - 44.0 m primary textures are +/- obliterated by strong, irregular, variably orientated, predominantly sub mm wide, +/- wavy, mm - several cm spaced, highly carbonate bearing veinlets resulting in a shattered appearance. Several cm fault gouge between variably orientated fracture planes at 40.6 - 41.8 m, preferably @ 25° to CA? Weak trend of downwards increasing silicification? From 39.2 - 40 m intensively fractured core (coin pattern) @ 50° - 70° to CA. LC: Gradational, indistinct, arbitrary chosen with decreasing fragments size, increasingly common angular fragments and increasingly prominent fragmental texture/ well defined fragments.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>Pyrite content highly variable from 1-5%. Py is very finely diss throughout the altered matrix and occurs as 2-3 mm size blebs to replacing small, cm size clasts in areas of higher concentrations. Large altered clasts from 37.25 to 38.60 m consisting of qz-ser-py replacement.</p> <p>From 38.60: increase in si altn and cal filled frac.</p>
45.3	59.8	DF				<p>Debris Flow</p> <p>Consists of an alternating sequence of predominantly fragmental (up to > 1.5 m width) and predominantly fine grained subsections (up to several dm width), some of which display bedding @ 40° to CA and are somewhat reminiscent to a chert. The fragments are variably coloured (pale, beige, grey), variably sized (approx mm - several cm) and are dominantly subrounded - rounded, partially somewhat irregular shaped and variably composed (siltstone, andesite, variably sulphide bearing). Matrix supported throughout, fragmental sections generally unsorted. The matrix is predominately very fine - fine grained, hard (silicification?) and predominantly very dark grey - olive green grey near LC.</p> <p>Mineralization: Very few fragments are highly sulphide bearing, typically pyrite is enriched near center and decreasing towards it's margins (concentrically zoned). Accessory - % range disseminated pyrite in matrix, rarely grading into speckled - cloudy pyrite. Few vns are sulphide bearing containing pyrite (within quartz- and quartz/ carbonate veinlets) and/or sphalerite (+/- very minor galena, +/- carbonate). Sphalerite-galena bearing</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						veins up to several mm width. LC is gradational over approx 1.5 m and chosen with incipient presence of several cm sized angular, latitic green grey, white felds-phyric fragments.
			44.00		Si altn	Grey matrix strong si altered with py as f diss or rimming altered clasts. Some clasts altered with si and fe-carbonate. Fine fracturing throughout with calcite infill.
			46.25	47.35	Vns	2-5 mm qz>>cal vns at 25-40 deg to ca. Some are vuggy with terminated qz xstals. Yellow-red coloured sp (?) on qz vn contact at 46.70 m.
				48.70	Sulphide	Py ± tt within qz-cal filled frac.
				49.05	Sulphide	Cm wide py layer at contact between debris flow and underlying silicified sltst/fine ash.
				49.45	Sulphide	Mm wide qtz sweat with trace cpy blebs
				52.45	Sulphide	5-10 mm wide qtz-cal vn with 2-3% cpy and 1% tt at 25 deg to CA
			54.60	54.80	Sulphide	1 mm wide fracs filled with qtz-cal, containing 5% sph, 1% tt, and trace cpy.
			57.50	58.00	Fault	Intensively broken core (approx cm sized core pieces) and minor gauge on

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						fracture planes @ 60° to CA.
59.80	95.90	MSB				<p>Monomictic Sedimentary Breccia</p> <p>Consists of strongly bleached, angular, crowded feldspar clasts within a purple, fg matrix. Clasts or fragments are subrounded - rarely angular - irregular, up to 2 dm sized, latitic composition (light grey - olive green grey, feldspar-phyric (crowded Feldspar) and variably disseminated pyrite bearing (up to 15%, pyrite partially enriched near center of fragments, resulting in a concentric zoning). Few, dirty olive green grey, coarse, subangular sandstone clasts can be identified and suggests a potentially polymictic composition? Fragment margins are partially frayed and locally display jig saw fit, suggesting a debris flow?</p> <p>Matrix is dark grey - slightly mauve tinted and predominantly fine grained, with little % coarse sand. No signs of sorting and fragments/clasts are matrix supported. The matrix appears to bear trace - minor disseminated pyrite, locally grading into small (approx cm) confined clouds and specks (fragments?).</p> <p>Veins are predominantly quartz, +/- albite(?) +/- locally trace carbonate and iron-carb bearing veins amount to several % and are variably orientated. Quartz-, +/- albite(?) +/- carbonate veins bear minor sphalerite within upper part of interval and pyrite, +/- chalcopyrite(?) within lower part of interval.</p> <p>Gradational, fining downwards over approx 2 m and associated with colour</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						change to light grey - olive green grey and increase in qz-ser-py altn.
				60.25	Vn	6 cm thick, vuggy qtz vn at 45 deg to CA.
			74.90	95.90	Altn	<p>Quartz-Seri cite-pyrite alteration.</p> <p>Upper part of unit consists of fg wake matrix with bleached clasts and mega-clasts of crowded feldspar and hbl-feldspar flow. Hard to distinguish though, due to strong ser-si altn and bleaching. At 86.00 m depth, unit changes (?) to green crowded feldspar clasts in a vfg, grey, chl-phyric wacke matrix with 3-5% Fe carb-qtz vns.</p> <p>Colour varies from dirty green grey - dirty pale grey mottled in upper portion to dirty beige grey to reddish grey (hematite) with red (hematite) and green (chlorite) patches within center of interval and pale beige grey - olive green grey in lower parts. Few, < dm size, feldspar-phyric fragment ghosts can be identified (suggesting the same protolith as overlying interval) grading into feldspar bearing patches and subsections. Material is siliceous throughout and bears an estimated > 5 % quartz veins (+/- albite). Carbonate is restricted to veins/ veinlets and detectable only within subsections. The majority of the interval is variably weakly - strongly bleached and results together with the light coloured, variably oriented veins/veinlets in a very chaotic, dirty and shattered appearance.</p> <p>Accessory - < % disseminated pyrite locally grades to cm sized clusters/ specks and pyrite veins (The silica and carbonate bearing veins bear trace - minor sulphides only, which suggests a different event for pyrite bearing</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>veinlets). Sulphide (pyrite) content overall amounts to approx % range.</p> <p>Sub mm - several mm wide, rarely irregular, variably orientated (somewhat preferred @ 40° - 60° to CA?) quartz- and quartz carbonate bearing veins/ veinlets (abundance increasing near center of interval).</p> <p>From 81 - 90 m several, up to several dm wide, intensively fractured subsections with approx cm wide gauge on fracture/ fault planes @ 15° to CA.</p> <p>Fault at 93.2 m. Silicification of host rock is somewhat decreased in the vicinity of this fault. Irregular, up to several mm wide pyrite veins (accessory chalcopyrite) are orientated preferably @ shallow angle to CA and are increasingly common in the vicinity of this fault.</p>
95.90	131.95	LF				<p>Latitic flow of variable composition.</p> <p>Generally dark green grey, feldspar-hornblende phyric volcanic consisting of predominantly subhedral - anhedral, mm - 4 mm size, white, carbonate altd feldspar (10%) and 1-2 mm size, chl altd hornblende phenocrysts embedded in a very fine- to fine-grained, dark green-grey matrix. Moderately chlorite bearing throughout.</p>
			95.90	97.00	Vns	<p>Strongly to intensively veined with carbonate bearing, white, irregular, and variably orientated veins and breccia veins (up to approx cm sized, angular - sub angular fragments of host rock embedded in vein material, matrix supported).</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			97.00	105.60	Vns	Crosscut by white, partially irregular, variably orientated (preferably @ 20° - 40° to CA/ subparallel to CA to a lesser extend) carbonate bearing, partially sulphide bearing (pyrite + trace - minor chalcopyrite bearing) veins and veinlets (approx 5 % of host rx).
			105.10	106.60	LFc	Hbl-felds flow. Lithology appears to be the continuation of overlying interval, but moderately altered and with up to several dm wide, strongly - intensively brecciated subsections, that are interpreted as breccia veins of unknown width, orientated @ shallow angle to CA. The central, non-brecciated subsection is pervasively chlorite altered with approx 5 % black chlorite spots and approx 5 % disseminated pyrite. The breccia veins comprise up to several cm sized, angular, cusped fragments of host rock, embedded in a locally predominantly quartz bearing (dirty appearing with disseminated chlorite) and locally predominantly white carbonate bearing matrix. The veins bear minor sulphides (pyrite >> chalcopyrite), which is preferably located near the veins contacts, where it forms up to several cm wide bands, which extend +/- into host rock. A fracture plane (@ 20° to CA), associated with a very thin, light grey, clayey - silty, soapy coating (fault gauge?) and few, scattered, several mm sized euhedral quartz crystals occurs at 106.60 m depth where there is a decrease in chlorite bearing alteration.
			106.60	115.20	BRX	Breccia

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>This interval is broken out based on prominent breccia textures, that are assumed to be associated with sulphide mineralization (chalcopyrite > pyrite, trace galena). Lithology is assumed to be the continuation of overlying interval but feldspar phenocrysts are +/- lacking within subsections, possibly as a result of alteration? The material is crosscut by white, (quartz +/- albite and carbonate) - pinkish (rhodochrosite), variably orientated (subparallel - vertical to CA) veins, which frequently display approx mm - several cm sized, angular - irregular inclusions of host rock. Locally fragment - predominantly matrix supported. Vein material is estimated to amount to approx 15 % - 20 % and bears up to several % sulphides (chalcopyrite, +/- trace pyrite and locally accessory galena). The several mm - rarely > cm sized specks and cloudy aggregates are preferably associated with the host rock fragments, typically with a chlorite bearing halo, resulting in a dirty appearance of mineralization. From 114 - 114.4 m intensively fractured core: cm sized core pieces.</p>
			115.20	124.80	LFc	<p>Hornblende-phyric latitic volcanic</p> <p>Hornblende-phyric volcanic with 5-10%, crowded feldspar (CF) clasts. Hornblende-phyric volcanic consists of approx 10% f to mg (mm - several mm) sized, variably light green - dark green - brownish coloured, sericite (+/- chlorite?) altered hornblende phenos within a vfg, ser altered matrix. CF clasts are distinguished by white felds phenos.</p> <p>The entire interval with a dirty appearance and colour very variable from dark red brown - pale beige - dirty olive green grey - dark greenish, with colour transition variably very sharp - gradational. Locally (at 119.4 - 120</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>m) a foliation @ steep angle to CA, with dark green spots (chlorite) aligned to foliation. The variably coloured patches and sections can be up to several dm, rarely > 0.5 m wide and possibly indicates boulder-sized fragments? At 124 m the interval grades over several cm to a discretely feldsparphyric texture (associated with decreasing alteration/ silicification and significantly increased carbonate content in variably orientated veins.</p> <p>Material is crosscut by variably orientated veins and veinlets (preferably @ approx 40° to CA, partially zoned, partially crack - sealed textured, comprising albite, +/- quartz, +/- trace - minor carbonate, +/- trace sulphides, +/- trace chlorite. Carbonate content of the vns increases towards the lower part of the interval and is associated with decreasing silica alteration.</p> <p>The majority of this interval is strongly bleached and siliceous altered over moderate chlorite- and sericite altn.</p> <p>Trace disseminated sulphides (pyrite). Locally trace - speckled sulphides in veins (pyrite and chalcopyrite). Within upper approx 1.5 m, sulphide mineralization is increased to approx % range as a result of gradational transition from overlying interval.</p>
			124.80	127.10	LFe	<p>Fragmental crowded feldspar volcanic.</p> <p>Mg, white felds phenos. Strongly silicified and brecciated with moderate chl and local hm altn and staining. Prominent, bright white to variably grey</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						carbonate-quartz-albite and pinkish rhodochrosite vns infilling brecciated host. Vns are highly irregular, variably orientated (preferably @ shallow angle to CA?) and mm to several cm in size with angular fragments of dark green grey, +/- feldsparphyric host rock (> 30 %). Indication of multiple veining; veins cross cutting veins. Chlorite is present in the vns either disseminated in the quartz and/ or associated with the host rock fragments. Similar to 106.6 - 115.2 m the material bears speckled sulphide mineralization, amounting to trace - % range and typically associated with fragments and the quartz rather than albite or carbonate.
			127.10	131.95	LFa	<p>Fragmental latite flow</p> <p>Dirty dark green - brownish green - dark green, moderately - strongly chlorite and strong si altered, patchy - mottled, feldspar-phyric (15-20% sub mm - several mm sized feldspar phenocrysts) presumably intermediate volcanic with 5% hornblende-phyric volcanic fragments. The patchy - mottled textures suggests variable alteration (pseudo fragments) or a primarily fragmental texture (flow brecciation?). Within approx 1.5 m of LC, there is few, up to several cm sized, irregular, very ghostly appearing (marginal colour difference) outlines, with fewer feldspar phenocrysts, supporting a fragmental texture of the material. Particularly near LC, material is assumed to bear finely disseminated leucoxene. Brown - reddish patches are assumed to be the result of local hematite altn and staining.</p>
131.95	133.20	MSB				<p>Monomictic sedimentary breccia</p> <p>Chlorite altered, hornblende-phyric volcanic clasts in a fg. hm altered</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						matrix. Primary textures obliterated as a result of strong - intense alteration (chlorite, hematite, sericite, and silicification) and locally strong, pale coloured, carbonate bearing veins; resulting in a very dirty, mottled - patchy appearance. Locally, particularly near UC few, irregular, ghostly developed patches with (+/- sericite altered?) feldspar crystals suggest a latitic protolith? Contains patchy disseminated to speckled to cloudy pyrite and finely disseminated leucoxene throughout. This interval possibly a transition zone between overlying latite and underlying volcanoclastic sediments with up to > dm sized rip up clasts from underlying interval near LC. LC is very sharp and highly irregular.
133.20	139.00	WG				Volcanoclastic wacke This interval a sequence of light olive green grey - beige grey, dirty wackes.
			133.20	135.10	WG	Silty to coarse sandy matrix with irregular, not well defined patches of predominantly silty material of the same colour. Up to few % of predominantly dark green and highly chloritic (rarely quartz), fine gravel sized, fragments within the sandy matrix. This subsection truncated by several cm size silty - sandy gouge.
			135.1	136.3	WG	An olive green grey, medium-grained sandstone with minor silt, coarse sand and gravel, particularly near UC (of subsection). LC of this subsection is very sharp, @ 20° to CA.
			136.3	138.90	WG	A beige grey, poorly sorted wacke with few, up to several cm sized, variably sericite altered, highly siliceous (quartz) and felsic (feldspar-

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						phyric) latitic fragments. Last m of this subsection has strong to intensively fractured core @ steep angle to CA. LC is defined by a 4 cm wide quartz carbonate vein within intensively fractured core (core pieces with slickensides; fault contact(?) presumably @ steep angle to CA).
138.90	144.78	MSB				Monomictic Sedimentary Breccia Clasts of latitic volcanic (LF) and equigranular hbl-felds flow (LFC) in fg wacke matrix. Matrix supported, no sorting.
			138.90	140.00	MSB	Clasts are olive green grey - beige grey, feldspar-phyric, mod chl altered, variably pyrite bearing (locally grading into sulphide clasts), subround - angular - irregular, mm - several cm in size. Matrix is very dark brown - black, silty - sandy and weakly ser altered with intervals of hm staining. Weak, pervasive carbonate altn throughout. Trace - minor, disseminated pyrite. Upper half of interval with few, up to several dm wide, strongly - intensively fractured subsections, with preferred orientation of fracture planes @ 40° to CA. Some fractures display slickensides(?).
			135.0	135.05	Fault	Approx 5 cm of silty - gravelly, light olive green grey fault gouge.
			138.95	139.00	Fault	Approx 5 cm of flaky broken core, presumably @ steep angle to CA, slickensides on fracture planes.
			142.0	144.78	MSB	This interval basically a seamless continuation of overlying interval, but with olive green grey colour, greater hardness (less soft) and poorly sorted silty to coarse-sand matrix. Very fine-grained mudstone (well defined, irregular patches up to several cm in size, may be defined as fragments?)

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						and very dark coloured, silty and pale grey, rarely up to several cm sized, latitic(?) fragments suggest a polymictic composition. All are matrix supported. Moderately - locally strongly fractured throughout. Few highly sulphide bearing (pyrite) fragments subrounded and up to cm sized, similar to sulphide clasts described for overlying interval. Finely disseminated - weakly speckled pyrite +/- throughout. Disseminated carbonate +/- throughout.
	144.78	EOH				End of hole.

Homestake, 2006
HR06-30

Homestake Ridge 2006

Drill Hole Name: HR06-30

Area: Homestake Ridge Zone

Drill Log HR06-30:

Easting 462944
Northing 6179468
Elevation (m) 948
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson; Modified by H
Samson, Nov/06

Start Date August 2, 2006

Finish Date August 5, 2006

Reclaim Date

Core Type/Size BTW

Log Date Aug8 to Aug 11, 2006

Length (m) 238.70

Azimuth 247.0

Dip -44

Ave Core Rec. 95%

Ave RQD NC

Target Step out to test the extension of the HS zone ~ 30 m to the northwest and 30 m below the expected intersection for ddh HR06-25 (at 885 m elev).
Target depth 147m. Drilled from Pad A.

Stopped for: Penetrated through target area and mineralization.

Survey Data

Homestake, 2006

HR06-30

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
16.77	21.5	359.0	380.5	-45.7	Unusable azimuth
85.35	21.5	5.0	26.5	-45.2	Unusable azimuth
185.47	21.5	357.9	379.4	-44	Unusable azimuth

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	3.05	Casing				
3.05	10.40	DF				<p>Debris Flow</p> <p>Subangular to subrounded light grey to dark grey siltstone/sandstone (STS) clasts and light olive green ser altered volcanic clasts <1.5cm, rarely <5cm, in grey wacke matrix. Matrix supported. Usually poorly sorted. Abundance of clasts varies. Occasionally crosscut by mm size cal veins occurring in variable orientations. Trace to 0.5% diss py associated with clasts and less often in matrix. Lower contact with MC is chosen arbitrarily within gradational contact.</p>
				7.70		~17cm very irregular shaped bleb of olive green dense massive sericite.
10.40	12.70	MF				<p>Fragmental magnetic mafic volcanic.</p> <p>Olive green amphibole-phyric (hbld altered to chl) volcanic clasts in green-grey matrix. Alternates between clast and matrix supported. Clasts have subhedral hexagonal dark green <5mm amphiboles 4% and <1mm spots of cream-coloured clay. No visible sulphides in clasts or matrix. Contains <1mm to 2cm cal-sweats which have +/- tr py and +/- chl rims <1mm around larger sweats. Lower contact with MC is chosen arbitrarily within gradational contact.</p> <p>This unit is the hornblende-amphibole flow. Unit is fragmental.</p>
12.70	17.45	DF				Debris Flow

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Subangular to rounded qsp altered volcanic clasts and subangular up to 10cm STS clasts in grey wacke matrix. Poorly sorted. Possible STS interbeds dms in size. Diss 1% py in clasts and in matrix. Crosscut by cal veins mm to cm size. Lower contact with MC is chosen arbitrarily within gradational contact.
				14.95		~1cm light brown-grey band/bed with 7% fine euhedral diss py.
17.45	35.45	MF				<p>Hbld Phyric mafic volcanic</p> <p>Dirty mottled olive green amphibole-phyric (hbld altered to chl) volcanic clasts in green-grey matrix. Alternates between clast and matrix supported. Clasts have <5mm anhedral to subhedral hexagonal dark green amphiboles and <1mm spots of cream-coloured clay. 1% diss py. Clasts usually ghostly outlined. Contains <1mm to ~10cm cal>qtz sweats/veins which have +/- tr py and +/- <1mm chl rims around larger sweats. Sweats/veins brecciate MC and sometimes there is bleaching in the adjacent rock. Veins are often associated with fractures subparallel to CA. Lower contact with DF is gradational within 1cm.</p> <p>Unit is a fragmental, hbl-amph flow.</p>
			18.80	19.60		Fracture subparallel to CA associated with bright white 1mm cal vein.
				23.15		~10cm bright white irregular cal vein.
				24.85		Fracture containing med-grey-brown gouge/dirt (?) with feox, host rock

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						and associated with cal vein. 20 to CA.
				27.85		Fracture showing slicks at 10 to CA. Associated with cream-white cal vein.
			30.85	32.60		Fracture subparallel to CA showing feox and associated with cal > qtz vein that varies from 1mm to 3cm wide.
35.45	49.85	DF				<p>Debris Flow</p> <p>Fine to coarse semi-laminated light to medium green-grey sandstone overlying (at 40.80m) debris flow as described above. Sandstone darkens in colour downhole. Strongly fractured. Some fracture surface show feox or gouge +/- cal veins. Crosscut and seldom brecciated by cal>qtz 1mm to 30mm. Lower contact with MSB is arbitrarily chosen with in a gradational contact.</p>
				38.00		Laminations 40 to CA.
				39.15		Laminations 30 to CA.
				39.86		Laminations 45 to CA.
			41.80	42.30		Cal veins crackle brecciate DF. Breccia starts with 4cm cal-vein 70 to CA.
			43.30	44.15		Rubble zone. Subangular to subrounded dm sized fragments.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			45.40	45.50		Series of <1cm parallel disks ~90 to CA with 1cm dark grey gouge mixed with white broken cal-vein.
			47.75	48.40		Rubble zone. 1-10 cm angular to subangular fragments. FW shows light grey fault gouge mixed with broken white cal vein(s) ~90 to CA.
			48.40	49.85		Transition between DF and MSB? Mix of subrounded feldspathic DAC up to cobble sized clasts, <2cm green ser clasts and occasional bands of sorted sandstones 70 to 85 to CA.
49.85	61.20	MSB				<p>Monomictic Sedimentary Breccia</p> <p>Up to cobble size subangular to subrounded clasts of olive green feldspathic intermediate volcanic in medium dark grey medium grained wacke. Frequency and outlines of clasts are variable throughout section. Lower contact with DF is ~60 to CA.</p> <p>Clasts are composed of LF and hbl-amph flows. LF clasts are marked by mg, white felds phenos.</p>
			49.85	61.20		Qsp altered clasts well defined in dark grey medium grained wacke rarely crossed by yellow-white cal-veins <1mm.
			49.95	52.30		Rubble zone. Light grey gouge and pulverized DAC clasts mixed with angular gravel and pebbles.
			56.13	56.20		Volcanic clast containing 1% brass coloured diss pyrrhotite. No py.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
61.20	79.25	WG				Lacks volcanic clasts. Med-dark grey wacke with occasional subrounded light grey to white cal-rich fragment and rarely pistachio green sericite fragment. Seldom crosscut by discontinuous light grey cal-bearing elongate outlines associated with (or exploited by?) discontinuous white cal-veins. Few continuous white cal-veins ~1mm run subparallel to CA. Contains fine diss py, rarely <1mm py blebs and py in cal-veins. Lower contact gradational with introduction of <1cm ser and chl clasts grading to dm sized ser altered volcanic clasts.
79.25	167.30	MSB				<p>Monomictic Sed. Bx.</p> <p>Mottled green latitic clasts in light dirty pink-grey to yellow-grey wacke or latite matrix. Contains mineralized zone. Varies from matrix supported grading to clast supported and somewhat difficult to distinguish clast outlines. White flds blurry. Introduction of patchy sil-alteration at ~93.00m continuing to vary from moderate to strong down hole. Patchy chl alteration from nil to moderate. Occasional subtle hem staining. Crosscut by sheeted and irregular white and butter-yellow +/- cal +/-qtz (+ ankerite?) +/- py +/-tr tt (?) veins. Very rarely <1mm emerald green mica blebs (fuschite?).</p> <p>Clasts and megaclasts of crowded feldspar with mg, white felds phenos. Clasts are weakly altered to strongly chl-ser alt and unbleached to strongly bleached.</p>
				80.40		1-2cm white cal vein 40 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				81.80		2cm white cal vein 40 to CA.
			87.53	87.83		Large dirty white and butter yellow vuggy qtz (+ankerite?) vein with <1% py and black stringers (tt?). Vugs contain ~2 mm euhedral qtz crystals.
			91.15	127.60	LFa	Fragmental Latite Flow.
			96.50	96.75		Rubble zone. Angular clasts ~cm to dm size showing slicks. Variable fracture orientations.
				99.13		Fracture with slicks and ~2mm light grey gouge. HW ~65 to CA, HW ~50 to CA.
			101.10	101.45		Irregular shaped white qtz>>cal sweat with up to 2.5cm py patches and tr sp and tr tt/gn. Surrounding host rock is strongly sil-flooded.
			102.65	103.34		Irregular shaped white qtz>>cal sweat with mm sized patches of py, mm rim of py, and tt/gn. Surrounding host rock is strongly sil-flooded.
			106.30	106.80		~1cm white and butter-yellow qtz>>cal vein running subparallel to CA. Contains tr py and tr tt (?). Surrounding rock is moderately sil-flooded.
			115.55	120.00		Rock is moderately to strongly silica flooded. Matrix supported. Matrix subtle hem stain, clasts moderate chl-alteration giving rock overall look of green clasts in pale purple matrix.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				118.55		~1cm white and butter-yellow qtz>>cal containing 15% <1mm euhedral py.
			124.10	124.40		White and butter-yellow qtz>>cal irregular shaped vein with ~mm py rim and cm size patches of massive py possibly running subparallel to CA.
			125.65	126.10		White qtz>cal vein with 5% diss py occurring in patches and tr tt (?). Associated with cm sized py veins.
			127.60	145.90	LFb	Clasts medium green from chl-alteration. Blurry flds still evident. Gives rock patchy green appearance. Matrix is pale grey-green. Moderate to strong sil-alteration.
			128.20	128.55		Rubble zone containing pale pink cal vein at least 3cm wide with void space in the center of it. Subhedral cal crystals grow into void space.
				141.00		Fracture 20 to CA showing mica cleavage on fracture surface and associated with 1mm qtz>>cal vein
			143.50	167.30	MSB	Monomictic Sedimentary Breccia
			143.90	148.30		Rubble zone. Angular clasts of strongly sil-altered rock up to dms in size mixed with minor light grey gouge. First showing of gouge is on surface 20 to CA. Few slicks, fractured in various directions. Contains ~cm qtz>cal vein showing 1% gn and tr sp.
			150.45	153.60		Mineralized zone. Mottled dirty green and pale grey-green, grey-yellow, and pink-grey MSB brecciated by qtz veins. Moderately to strongly qsp

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						altered (pale green ser blebs throughout). Sil flooded. Patchy chl alteration envelops zone. Veins carrying py, sp, gn +/-cp +/- tt. There are two main veins which may be a continuation of the same vein, see descriptions below.
			150.45	151.60		Vein runs subparallel to CA varying in size from <1cm to at least 5cm wide. Composed of grey vitreous qtz > white opaque to butter yellow cal + chl with py + massive gn associated with massive honey sp + trace cp. The host rock that this vein brx is pink-grey strongly sil-altered with angular blebs of pale green ser 3% and 3-5% diss py.
			151.95	152.60		Vein, which may be a continuation of vein described above, runs subparallel to CA. Composed of vitreous pale grey qtz + white and butter yellow cal with sulphides. Sulphides in this vein are patched of massive sp, py, gn and cp occurring an estimated 7% of vein material for each sulphide. There is also a ~ 2cm ² patch of massive med-dark grey sulphide possibly tt. Host rock around this vein is pink-grey with green ser blebs grading to dirty green-yellow-grey with green ser blebs.
			156.00	156.70		Rubble zone. Top of rubble zone light grey gouge followed by 4cm wide white qtz>cal vein showing 1% massive py. Lower contact of vein shows slicks and is 20 to CA. The remaining portion of the rubble zone is angular clasts cm to dm size.
			161.80	162.50		Rubble zone. Angular mm to dm size clasts showing fractures surfaces with chlorite and light grey gritty gouge. Surfaces generally subparallel to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				164.15		Decrease in Fe-carb altn and increase in chl altn.
				163.20		Fracture with irregular surface generally 20 to CA. Contains <1mm light grey gouge. Cuts 1cm wide discontinuous white qtz>cal vein.
			166.85	167.00		Rubble zone angular mm to cm sized fragments minor gouge. Fracture surfaces in variable directions.
167.30	169.30	DF				<p>Debris Flow</p> <p>Off-white subangular to rounded qsp altered intermediate clasts <2mm and dark soft subangular chl (?) clasts <5mm and rarely py clasts in medium grey wacke matrix. Denoted as DF because of polymictic composition and texture; poorly sorted gravel to pebble sized clasts in medium grained wacke. Section is increasingly sheared down hole. Near contact with MSB, clasts are elongate and stretched. Lower contact with MSB is arbitrarily chosen where clasts are indistinguishable from shearing.</p>
169.30	238.70	MSB				<p>Monomictic Sedimentary Breccia</p> <p>Top of section is sheared and mineralized. Lower section shows typical characteristics of MSB and is not mineralized; please see descriptions of subsections below.</p>
			169.30	181.05		Shear zone, qtz + cal heeled. Overall rock has fluid mottled green-grey and white appearance with abundant qtz + cal veins and stringers of fine py. Occasional qtz + cal vein with +/- sp +/- gn +/- cp or stringer with py

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						+/- cp +/- gn +/- sp. Clasts occasionally distinguishable, stretched, feldspars apparent. Shearing ends at rubble zone where there is a series of fractures ~60 to CA.
			169.30	170.90		Mottled pale green, grey and white sheered rock strongly sil-flooded and increasing from moderate to intense bleaching down hole. Contains ~0.5% <1mm blebs of cp. Sheering and alteration makes determining parent rock difficult, included in MSB unit due to proximity to visible intermediate volcanic clasts in shear zone down hole. Contact with subtle bleached zone is sharp within top cms of rubble zone at approx right angle to CA.
			179.90	238.70		Characteristic MSB. Angular to subangular intermediate volcanic clasts in light-med-grey wacke matrix. Clasts are generally darker colour than matrix, however, few m sections where matrix darkens and clasts are bleached. Clasts are qsp altered, showing varying amounts of diss py vs. ser. Rarely emerald green mica blebs in clasts (fucshite?). Cross cut by occasional cal > qtz veins, rarely <1cm. Intermediate clasts are LF clasts. Clasts contain fg to mg white felds phenos in a commonly green matrix.
			181.05	181.25		Rubble zone with subparallel fractures at ~right angle to CA, assumed contact between sheared MSB and unsheared MSB at top of this rubble zone.
			184.50	185.00		Rubble zone. Top of rubble zone contains broken pieces of cal > qtz vein. Fragments are angular and show surfaces subparallel to CA and

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						~50 to CA.
			191.74	191.90		Rubble zone. Millimeter to dm size angular clasts. Most prominent fracture surface is on FW at 30 to CA.
				206.34		White 2.5cm cal>>qtz vein with parallel fractures 45 to CA.
			211.10	212.25		Matrix dark grey and clasts are bleached white to very pale green with ser and do not exceed 4cm. Upper contact with lighter coloured MSB sharp at 40 to CA.
			216.45	217.05		Irregular shaped light grey opaque massive aphanitic sil + cal infill/veins. Often seen in the GW footwall of other holes.
			224.20	225.10		Matrix darkens to med-grey with clasts variable shades of white.
			225.10	226.15		Matrix bleached pale green yellow. Clasts variable degrees of chl alteration.
			226.15	232.80		Patchy chl alteration in clasts and matrix.
238.70		eoh				

Homestake, 2006
HR06-31

Homestake Ridge 2006

Drill Hole Name: HR06-31

Area: Homestake Ridge Zone

Drill Log HR06-31:

Easting 462901
Northing 6179328
Elevation (m) 1055
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson; Modified by H
Samson, Nov 26, 2006

Start Date August 4, 2006

Finish Date August 4, 2006

Reclaim Date

Log Date Aug. 12 to Aug. 13,
2006

Core Type/Size BTW

Length (m) 84.43

Azimuth 260.0

Dip -58

Ave Core Rec. 87%

Ave RQD

Target Test the upper extension of the HS Zone between surface and ddh's HR03-06 and HR05-16 and -17 at the 1010m elev. Target depth 53m. Drilled from Pad C.

Stopped for: Penetrated through target area and mineralization.

Homestale, 2006

HR06-31

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0			260	-58	Collar
32.61	21.5	238.4	259.9	-59.1	
84.43	21.5	240.9	262.4	-59	

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	2.13	Casing				
2.13	35.25	MC				<p>Monomictic conglomerate</p> <p>Mottled olive green, forest green, greys and subtle maroon rock composed of amphibole-phyric volcanic clasts and massive py patches in grey matrix. Clasts blurry to less common sharp outlines. Amphiboles are dark green anhedral to euhedral hexagons, assumed hornblende altered to chlorite. Unit crosscut by cal > qtz +/- albite (?) +/- py sheet veins and sweats. Contains sharp and gradual colour changes throughout unit. Moderate to strong fracture intensity with variable directions to CA. Fracture surfaces show feox and sometimes occur along sheet veins. Lower contact is assumed within siliceous zone.</p>
			7.15	9.00		<p>Zone of moderate bleaching. Rock is light grey to very pale yellow-green. Contains 3% py patches and stringers. Near bottom of bleaching 10cm of sand, silt and gravel mixed against fracture surfaces 50 and 75 to CA. Ends with sharp contact with subtle bleaching 55 to CA.</p>
			19.70	20.25		<p>Irregular shaped white cal >> qtz + massive py vein. Py concentrated at rim of vein and composes ~25% of vein. Surrounding rock subtle sil-flooding with few py veinlets.</p>
				21.16		<p>Discontinuous cal vein ~1cm with py rim which continue as py veinlets.</p>
			21.95	25.10		<p>Rubble zone. Zone starts with fracture surface 50 to CA followed by ~10 cm of subangular cm sized clasts. The remainder of the rubble zone is angular cm to dm-sized fragments with feox on fracture surfaces ranging from 15 to 60, rarely 80 to CA. Fragments contain occasional cal > qtz vein and py veinlets.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			29.40	30.15		Rubble zone. Zone starts with fracture surface with mm of grey gouge 65 to CA. Fragments are mm to less frequently dm size. Smaller fragments concentrated at bottom of rubble zone. Feox on fracture surfaces. Ends with surface that has ~5mm of gouge on it 60 to CA.
				30.15		Increase in py patches. Patches are cm size rounded grading into veinlets of massive py.
				32.10		Patch of light grey opaque sil fill with hairline crisscrossing cal-fracture filling/veinlets. Reminiscent of sil infill found on footwall of other holes.
				32.80		Introduction of visible sp and gn. Occurs as mm to cm size patches usually associated with cal + qtz veins.
35.25	38.70	PC?				<p>Polymictic conglomerate?</p> <p>Light grey moderately sil-flooded mottled rock. Occasional clasts distinguishable including dark to light grey well outlined <40cm fine grained siltstone (?) clasts and white <3cm not well defined, broken, py + ser + fld (?) + chl bearing volcanic clasts and olive green up to 45cm somewhat outlined hornblende to chl + py + ser clasts (the same as those clasts found in the MC unit) and mm size blurry flds laths and <1cm white round sulphate (?) clasts. Abundance and size of siltstone clasts suggests DF unit, however, denoted as PC because the large size of the amphibole-phyric volcanic clasts. Strong to intense fracturing in various orientations. Fracture surfaces show minor feox. Reminiscent to unit found within the last meters of HR06-29. Lower contact assumed where polymictic composition changes to subangular ~5cm flds-phyric clasts in</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						light grey flds-phyric matrix.
			36.30	36.65		Millimeter size py veins running into ~3cm cal + rhodocrosite vein where py runs within and around cal in <2cm wide veins/rims.
			36.80	37.00		Likely continuation of veining described above. Vuggy cal vein with 1mm to 2cm massive py rim and py filling cm sized oval vugs. Vein fractured away from host rock on irregular surfaces and is associated with coarse sand to gravel sized fragments, this may indicate fracture or may a result from banging the core out of the rod as it is found at the start of a box.
				37.50		Decimeter section where there is light grey opaque siltstone with criss-crossing hairline white cal + py + cp fracture filling, reminiscent of sil filling in footwall of other holes.
38.70	49.60	MSB				Monomictic sedimentary breccia Feldspathic subangular mm to cm sized olive green to pale grey LF clasts in pale dirty grey to medium blue-grey matrix. Clasts are poorly to well defined. Unit is silica flooded and moderately bleached. Crosscut by cal > qtz veins +/- sp, +/- gn +/- py. Contains mm size patches of sp and cm size patches fg py, which continue into veinlets throughout. Moderately to strongly fractured in various orientations. Lower contact is at fault zone where lithology is undetermined.
				42.12		4cm sp and gn + cal > qtz + py vein, 40 to CA. Vein is mostly composed of gn.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			43.00	44.80		Rubble zone. Angular to subangular fragments cm to dm size with various and uneven fracture surfaces.
			47.70	49.60	Fault Zone	Fault zone. Angular to subrounded cm and less often dm size blue grey sil-rich fragments showing feox on some surfaces. Mixed with light brown-grey gouge. Fragments show white cal veins and abundant py veinlets that frequent enough to brecciate the rock.
49.60	54.14	LF?				<p>Silica brecciated latitic flow?</p> <p>Intense silica flooding and brecciation make protolith hard to distinguish. In some areas though, felds phenos visible, suggesting LF or hbl-felds flows. Mottled light-grey, dirty light-grey, pink-grey and sea-green siliceous breccia. Fragments are angular to subrounded light-grey, pink-grey and some show blurry mm size flds suggesting crowded felds-phyric volcanic. Matrix varies from medium blue-grey to dirty med-grey to green and cannot be scratched with blade except in few chl-rich spots. Some of the rock shows vuggy grey and white qtz (+ albite?) veins. Patchy sulphide (+/- py +/- cp +/- gn +/- sp) veinlets up to 1 cm wide further brecciate rock. Lower contact with flow is determined to be where there is an introduction of flds occurring at a regular frequency and cp becomes trace.</p>
				50.00		5mm of light grey fault gouge containing <1mm euhedral py. Surface is 50 to CA.
				50.15		Fracture with 1mm of med grey gouge. Surface is 65 to CA.
				51.15		Up to 4cm irregular shaped vug, coated with massive py.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			51.40	51.70		10% vugs. Vugs are irregular shaped most elongate and mm to rarely cm wide, coated with <mm sized clear qtz crystals
				52.10		1.5cm vug containing cp and gn crystals <1mm. Cp runs in and around rounded dull white material (can be scratched with 5.5 hardness blade), which is shot through with grey hairline veinlets. White material covers about 5cm of core.
				52.50		1.5cm vug containing up to 2mm clear qtz crystals and <<1mm py + cp + gn crystals.
			52.60	54.15		Increase in chl and cp. Rock is mottled greens with few pink-grey clasts and shows 10% cp occurring as patchy veinlets +/-py+/-gn+/-sp and in vugs with qtz.
				53.00		Smokey grey and butter yellow qtz (+ albite?) irregular shaped vuggy ~3.5 cm wide sweat/vein showing up to 5mm flat cp crystals faces and massive cp.
54.15	84.43	LFc				<p>Footwall unit (GW) composed of felds-hbl phyric latitic (felsic) volcanics</p> <p>Felds-hbl phyric flow. Fg to mg, white felds phenos and fg, dark green to black hbl phenos in a fg, green matrix. Flow is fragmental in some areas. Top 4.5 m of flow is moderately to strongly silicified. At depth 58.50 m, si altn decreases to weak-subtle. Crosscut by qtz + cal +/- chl +/- rhodocrosite +/- vug veins and at the top of the section by py veinlets. Py veinlets disappear down hole after ~58.00 m as do veins containing qtz.</p>

Homestake, 2006

HR06-31

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						1cm cal veins often occur 20 to 40 to CA. Contains brick red cm sized angular jasper clasts and mm size jasper spots.
				59.23		~Cm of med grey gouge ~85 to CA.
			60.10	61.70		Cal>>qtz veins mm to cm size crackle breccia.
				61.24		1cm cal vein 30 to Ca cut by fracture showing gouge at 65 to CA (85 to vein).
			61.40	62.90		Series of parallel fractures 40 to CA. Rock here is weakly bleached.
				70.25		2cm vuggy cal + chl + jasper vein. Vug shows jagged <1mm cal crystals.
			71.00	71.15		Vuggy cal + rhodocrosite + chl vein. Irregular shaped. Contains jagged cal crystals <1mm.
			82.60	83.90		Rubble zone Angular cm to dm sized fragments showing various angles to Ca within the rubble. Fracture surfaces 40 to 50 near ends of rubble zone
	84.43	EOH				End of hole.

Homestake, 2006
HR06-32

Homestake Ridge 2006

Drill Hole Name: HR06-32

Area: Homestake Ridge Zone

Drill Log HR06-32:

Easting 462901
Northing 6179328
Elevation (m) 1055
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By T. Schöttler, revised by
H.Sampson (*italics*), Nov 22/06

Start Date Aug 4, 2006

Finish Date Aug 6, 2006

Reclaim Date

Core Type/Size BTW

Log Date

Length (m) 182.2

Azimuth 197.0

Dip -80

Ave Core Rec. 90.6%

Ave RQD 2.3m

Target Test the upper western area of the HS Zone. Target depth 91m. Drilled from Pad C.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-32

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag. Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0	21.5		197.0	-80	Collar
30.48	21.5	172.1	193.6	-81	Good Test
106.68	21.5	169.7	191.2	-81.5	Good Test
173.74	21.5	173.1	194.6	-81.7	Good Test

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	1.25	Casing				Casing, no recovery
1.25	35	MC				<p>Monomictic Conglomerate</p> <p>Based on similar appearing lithology logged in previous holes, this interval is identified as MC. Bedding near UC detected @ 50° to CA within a > m wide clastic sedimentary subsection from approx 2.5 - 3.7 m. Interval displays ghostly developed, not well defined, predominantly several cm sized - rarely > dm sized, subround - round, rarely somewhat irregular predominantly feldsparphyric and/or dark spotted (sub mm - rarely several mm sized, chlorite altered phenocrysts amount to < 10 %) monomictic? (colour/appearance may vary to some extent as a result of variable alteration?) presumably intermediate volcanic fragmental. Matrix supported. Matrix is silty - coarse sandy, dirty green grey and chlorite bearing in large subsections and the majority of the interval displays speckled pyrite. Within subsections the material is strongly - intensively fractured (near UC, from 3.7 - 6 m and 8 - 9 m) with rusty stained, variably orientated fracture planes @ variable angle to CA as a result of weathering) locally with minor muddy gauge sandwiched between fracture planes at 50° to CA. From 13.5 - 14; 20 - 21 and 29 - 35 m the interval displays prominent - strong silicification (primary textures are somewhat obliterated by light grey colour) and variably irregular - patchy - tabular, variably orientated, +/- sulphide bearing (pyrite, at 30 - 35 m sphalerite and trace chalcopyrite) quartz +/- carbonate veins, up to several mm wide sulphide veins (pyrite, +/- trace chalcopyrite) and dusty - prominently patchy (for example at 20.3 m: Up to several cm sized massive sulphide patches/</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>fragments?). Locally patchy bleaching, particularly at approx 14 - 19 m, associated with nearby faulting and or silicification? LC: Very indistinct, gradational, no plane, based on incipient change to dark grey and incipient lack of large (> approx cm sized fragments.</p> <p><i>Commonly occurring, cm to dm size hbl-flow clasts, +/- rare feld phenos. Fg Hbl phenos are green and chl altd/replaced. Fg to mg white felds phenos.</i></p> <p><i>Patches of weak to strong si altn, and patches of mod ser altn.</i></p>
			14.00	14.1	Fault	<p>Fault: Clayey, ductile - fine gravely olive green grey fault gauge sandwiched in-between fracture planes @ 60° - 80° to CA.</p>
35	47.1	DF				<p>Debris Flow</p> <p>Based on material logged in other holes, this interval tentatively identified as debris flow (DF): Upper part of the interval with subround - round, several mm - approx 2 cm sized, variably highly sulphide bearing (massive sulphide clasts?) - light grey (dacitic?) and pale whitish, highly siliceous fragments, in a dirty, dark grey, very fine - fine grained, dense, massive silt bearing sandstone. Only trace sulphides in the matrix, gradually increasing to several % near LC. Near LC a weak foliation/ fabric, subparallel to LC. LC: Fault contact with very well defined fault plane @ 40° to CA.</p> <p><i>Moderate si altn.</i></p>
			37.7	39.5	Fault	Fault Zone

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
					Zone	Strongly - intensively fractured core, up to approx dm wide, gravely subsections and 1 approx dm wide subsection with silty, ductile - fine gravely fault gauge. Very variably orientated, rusty stained fracture planes, partially with approx mm wide gauge material. Material displays partially very densely spaced, swirly, wavy - irregular, sub mm - > mm wide, wavy - dotted outlines of pale beige colour (hairline veinlets? and/ or feldspar crystal fragments? +/- leucoxene), which obliterates other textures and results in difficulty to identify the protolith. Larger core pieces display a clastic texture, suggesting a CS, DF or MC. LC: Decreasingly broken core, no plane.
			39.5	47.1	DF	Debris Flow The lithology of this interval is the seamless continuation of the overlying interval and tentatively identified as DF. Dirty pale grey - dirty grey mottled and (as a result abundant, wavy hairline veinlets with variable orientation) shattered appearing material: Predominantly < 2 cm sized, subangular - subround, rarely angular, variably composed (from pale whitish - very dark grey, +/- highly sulphide bearing) fragments in a predominantly very fine - fine grained matrix. It appears, that fragment sized clasts and gravel sized clasts are variably abundant within various subsections and locally (reverse) grading is prominent (44.7 m), suggesting, that at least part of this interval contains bedded sediments. Primary textures are obliterated to some extent by a.m. hairline veinlets. From 41.3 - LC material is moderately

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						- strongly silicified, which is associated with a somewhat lighter colour and a rather ghostly/ not well defined appearance of fragments and speckled - cloudy - patchy pyrite (trace galena) mineralization, locally wavy - irregular, up to several mm wide pyrite veins, preferably @ approx 10° - 20° to CA? LC: Based on abrupt colour change to pale grey and incipient presence of up to > dm sized, rounded fragments, not well defined, @ steep angle to CA.
47.1	143.7	LF				<p>Latite Flow</p> <p>This interval with dirty, chaotic appearance throughout. Colour varies from pale cream grey - olive green grey - dark green grey - yellowish, mottled - patchy with all transitions not well defined, ghostly - blurry. The material bears sub mm - rarely approx 4 mm sized, feldspar crystals (crystal fragments within the matrix and phenocrysts within the fragments) with a +/- even distribution and amounting to estimated 10 - 15 %. Particularly the upper part of the interval displays a fragmental texture (rounded, ghostly developed, not well defined fragments up to > dm sized and locally boulder sized fragments?) Fragments with variable appearance (very dark - pistachio green) as a result of variable alteration and/ or primary composition? As a result of strong silicification/ alteration/ bleaching in patches and sections, which partially obliterates primary textures, it is not possible to determine the protolith, but it is assumed to be a flow breccia or a MSB. Alteration: Interval is silicified throughout and crosscut by variably orientated, predominantly sub mm - rarely several mm wide, light coloured veins which amount to approx % range and variably bear quartz and/ or</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>carbonate (+/- a butter yellow mineral: Albite?, ankerite? +/- leucoxene?, clay minerals?: Similar/ same alteration mineral also disseminated - dusty throughout portions of the interval). Wavy, sub mm - rarely several mm wide pyrite veinlets (preferably @ shallow angle to CA?) establish a faintly developed stockwork. Moderate - strong bleaching, patchy or pervasive within up to > m wide sections. Mineralization: Trace - minor disseminated pyrite, rarely grading into faintly developed clouds or specks within the matrix and (recognisable) fragments. Sub mm - up to rarely few mm wide, wavy and variably orientated (preferably @ shallow angle to CA) pyrite veins amount to approx 2 %? and establish a faintly developed stockwork. From UC - approx 53 m the material displays up to several cm wide, +/- irregular quartz carbonate veins, predominantly @ shallow angle to CA, with up to several cm sized, irregular - subround, honey beige sphalerite aggregates and equally sized but less abundant, patchy galena mineralization, locally grading into up to several mm wide, massive sulphide vein mineralization. Structure: From 57 - 61 m strongly fractured core. LC: Lost in broken core.</p> <p><i>47.10 - 54.80 m depth. Fragmental Hbl-phyric flow. Vfg, grey matrix with fg hbl phenos. Strong to intense si>er altn.</i></p> <p><i>54.80 - 69.30 Fragmental crowded feldspar flow (CF). Minor (10%) clasts/intvls of hbl-phyric flow. CF unit is felds-phyric with white mg to cg felds phenos in a grey to dk grey, fg matrix. Strong to intense si>>ser altn. UC is gradational over ~1.5 m.</i></p>
			64.6	66.5	Fault	Strongly fractured core, locally grading into sandy - fine gravely,

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						gauged material. Locally several mm ductile - coarse sandy gauge sandwiched between fracture planes @ 10° to CA and 40° to CA. Underlain by approx 1 m wide, pale beige grey, bleached subsection with disseminated - dusty - cloudy, sub mm sized specks amounting to > 10 % (clay mineral? ankerite? albite?).
			69.3	74.4	Fault	This interval by variably moderately - strongly broken core, associated with strong - intense silicification. From UC - 70.5 m the rarely up to dm sized core pieces display feldsparphyric, presumably dacitic, subangular - subround, up to cm sized core pieces display feldsparphyric, presumably dacitic, subangular - subround, up to cm sized (pseudo?) fragments in a pale olive green grey, very fine - fine grained, locally very weakly feldsparphyric matrix. Tentatively this lithology may be identified as MSB? Downwards the material is increasingly bleached, resulting in primary textures +/- obliterated. The variably orientated (preferably @ 30° to CA?), rusty coated fracture planes, locally with thin layer of clayey ductile fault gauge. From 70.5 - 71.6 m the materials primary textures are completely obliterated by silicification (grading locally into quartz flooding) and brecciation, with the majority of the fracture planes being rehealed. The material displays abundant (15 - 20 %?) irregular - variably orientated, usually up to several mm wide quartz veins and dirty whitish - light grey, up to > cm wide, prominently vuggy, highly irregular and variably orientated quartz veins. Sulphide mineralization (approx 10 %?: Chalcopyrite > pyrite, trace galena and/ or tetrahedrite?) within irregular and variably orientated sulphide veinlets and finely disseminated - speckled - cloudy - patchy throughout, without showing prominent affinity to the host

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>rock, quartz veins or carbonate veins. Overall this subsection with a dirty mottled, pale light grey - olive green grey appearance. +/- rusty coated fracture planes @ 35° - 60° to CA. The lower contact of this subsection is associated with approx dm wide, prominent breccia textures (siliceous, beige grey - dirty grey - pinkish (hematite bearing), sub mm > cm sized, angular fragments in brown grey, highly pyrite bearing matrix. Slickensides on fracture plane @ 30° to CA. Approx cm wide, clayey ductile fault gauge is associated with fracture planes @ approx 70° - 80° to CA. From 71.6 - 73.4 m the material with a distinctly different light green (+/- sericite?), light red mottled (hematite/ jasper) texture, which obliterated primary textures. Only minor pyrite mineralization, predominantly in form of sulphide and sulphide carbonate veinlets with variable orientation. AT 73.4 m this subsection grades into a beige grey - light green - locally reddish (hematite) mottled, chlorite and highly sericite bearing subsection with trace disseminated pyrite. Rusty coated (+/- up to few mm clayey, ductile gauge) fracture planes are orientated from subparallel to 35° to CA. LC: Sharp, distinct (colour change from greenish - reddish), irregular, no plane. Associated with irregular, sulphate bearing (gypsum?) white breccia vein.</p> <p><i>Fault zone with clasts of overlying CF and underlying MSB. Strongly foliated and bxted.</i></p>
			74.7	80.1	QSP	<p>Quartz-Sericite-Pyrite</p> <p>Based on primary textures being obliterated by alteration throughout this interval, material is tentatively logged as QSP. From UC - 77.2 m a</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>highly siliceous, pale grey - olive green grey and red (hematite) mottled rock. Material is crosscut by +/- < cm wide, highly carbonate and/ or quartz bearing veins, which are predominantly orientated @ steep angle to CA. 1 approx 4 cm wide vein displays prominent breccia textures (mm - cm sized, angular fragments of host rock embedded in highly carbonate bearing vein material). Locally prominent shear textures can be detected, resulting in small (several cm - dm) subsections with a prominent foliation/ fabric @ approx 50° to CA, partially associated with relative softness (sericite?). Approx % range pyrite mineralization, predominantly as irregular and variably orientated veinlets (which are crosscut by a.m. white, quartz- and carbonate bearing veins, with sulphide mineralization +/- entirely lacking within the white veins). Disseminated - cloudy pyrite to a lesser extend. LC of this subsection is sharp and associated with a shear zone fabric @ approx 25° to CA. From 77.2 - 77.6 a prominent fragmental texture, with subround - subangular, several mm several cm sized, dense, massive, light grey fragments in a very fine grained, red, hematite bearing matrix. Clast supported. Associated with a chlorite, +/- sericite? bearing shear zone, subparallel to CA. From 77.6 - LC material is highly chlorite and sericite (+ abundant finely speckled leucoxene) bearing, soft, with silicification entirely lacking. Material with variably patchy - mottled, locally swirly wavy alteration textures. The subsection displays a gradual increase of feldsparphyric patches and prominent fracturing subparallel to CA, which may suggest a primary contact to the lithology of the underlying interval at 77.2 - 77.6 m, which has been cut @ very oblique angle.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<i>Due to intense altn, hard to distinguish protolith. Fg, hbl? Phenos indicate a highly sheared, hbl-flow.</i>
			80.1	99.4		<p>Flow Breccia</p> <p>Moderately - strongly siliceous material with a variably faint - discrete fragmental texture: Predominantly ghostly developed, not well defined, subround - rounded, < cm - > dm sized? fragments display variable appearance (feldsparphyric - dense and massive, dirty pale light grey - dark grey - beige, feldsparphyric - green spotted, with green spots representing altered phenocrysts with primary mineral unknown). Whether this interval is of polymictic or monomictic composition remains undetermined, however variance in colour (composition?) and texture favours polymictic composition. Fragments locally with jig saw fit. The matrix is variably dark green grey - pale light grey, reddish (hematite) and bears variable minor - predominantly abundant (> 10 %), sub mm - approx 5 mm sized, predominantly subhedral - anhedral feldspar crystals (crystal fragments?, phenocrysts?) The material is sericite altered throughout, weakly chlorite bearing, weakly - moderately hematite bearing and moderately - strongly siliceous throughout (from UC - approx 85 m only weakly silicified). The material is crosscut by variably orientated (preferably @ 50° to CA), partially irregular, +/- cm wide quartz- and to a lesser extent quartz carbonate, rarely carbonate veins, amounting to < 5 %. Alteration overprints primary textures to a large extent. Material bears estimated 3 - 4 % sulphide mineralization, predominantly as pyrite, which form irregular - swirly wavy, sub mm - rarely several mm wide, variably orientated veinlets and veins. Trace sphalerite and galena are locally</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>associated with quartz and/ or pyrite. Generally, only trace sulphide within white quartz- and quartz-carbonate veins. Small, up to several cm wide breccia zones, curving, without distinct orientation. Maroon - reddish coloured, highly siliceous, approx cm - several cm sized fragments with jigsaw fit and pyrite bearing interstices.. LC: chosen at a highly rhodochrosite bearing, pinkish white carbonate vein. Based on colour change to dark grey, incipient lack of fragmental texture and fading out of alteration, no plane.</p> <p><i>Fragmental crowded feldspar flow, interlayered with hbl-flow intvls/megacalsts? Strong si>>ser altn makes clast/fragment boundaries difficult to determine.</i></p>
			90.24	LF?		<p>Flow Breccia</p> <p>Approx 25 cm sized core piece from missing box 16. Dirty grey - jasper red, patchy - mottled material presumably with a fragmental texture based on locally detectable feldsparphyric texture (ghostly developed and reminiscent to feldsparphyric textures as described before). Assumed fragments are subangular and < cm - several cm sized. Based on colour and locally detectable, predominantly sub mm sized, pale green, soft specks: Moderate QSP alteration is assumed. Prominent hematite bearing alteration resulting in weak, common - pervasive reddish tint (very weak - discrete) - very prominent jasper red patches. Trace disseminated chlorite? Sub mm - rarely > mm wide, inconsistent, wavy - curvy - irregular and variably orientated quartz veinlets amount to % range. 1 approx 2 mm wide. quartz- and</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						carbonate bearing barite vein is orientated subparallel to CA. Pyrite veinlets/ pyrite bearing veinlets (pyrite as part of a.m. barite vein amount to approx 3 %). Pyrite rarely associated with a.m. quartz veinlets. Disseminated - speckled (patchy and/ or up to several mm sized aggregates) pyrite is particularly associated with jasper specks and amounts to approx 5 %. Trace sphalerite speck immediately outside of barite vein.
			99.4	144.2		<p>Andesitic Flow</p> <p>Variably dark grey - dark green grey, andesitic or dacitic flow. Material is feldsparphyric throughout with sub mm - 5 mm sized, predominantly subhedral feldspar phenocrysts, which amount to approx 10 % and are embedded in a very fine - fine-grained matrix. The material displays a variably very faint - discrete, from < cm - > dm size, feldsparphyric (same composition as host rock, but frequently with a pale beige, bleached appearance). Locally the fragments display jig saw fit, with interstices bearing and or entirely established by approx sub mm - mm wide, variably orientated pyrite veinlets. The fragments are interpreted as flow brecciation (+/- pseudo fragments?). Prominent fragmental subsections from 110.8 - 111.8 and 120.6 - 132.9 m. The material is crosscut by quartz- and/ or carbonate veins and veinlets with variable abundance (from entirely lacking - abundant within subsections) and width, grading into subsections with prominent tectonic breccia textures, where bright white - pinkish (rhodochrosite) and predominantly irregular, variably orientated veins amount to > 25 % and bear angular, mm - several cm sized fragments of host rock. The most prominent of these brecciated sections extent from approx 102.9 -</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>107.4; 111.8 - 113; 132 - 133.8 (with a fracture plane with slickensides @ 75° to CA at 132.9 m within highly calcite bearing vein). Mineralization: The interval bears trace - < 0.5 % finely disseminated (- rarely speckled) pyrite throughout. Irregular, variably orientated, mostly sub mm - several mm wide pyrite veinlets establish a variably discrete (near UC) to faintly developed (near centre) to entirely lacking (near LC) stockwork. Abundance and width of veinlets appears to be +/- increased within flow brecciated/ tectonically brecciated subsections. Particularly within 102.9 - 107.4 sulphide veinlets/ stingers are very prominent and sulphide (pyrite mineralization extends into whitish coloured quartz - carbonate veins, where it establishes prominent, mm - up to several mm wide seams around host rock fragments within veins and along the contacts of veins. However, at 132 - 133.8 pyrite veinlets are already +/- entirely lacking, following the trend of downwards decreasing sulphide mineralization. Sulphide mineralization overall is estimated at < 3 %. LC: with incipient presence of (sedimentary) fragments, @ 60° to CA?</p> <p><i>99.40 – 111.60 Crowded feldspar flow. Fg – up to 5 mm white felds phenos in a dark grey, vfg matrix. See above for bx and qtz-py desc.</i> <i>111.60 – 117.80 Hbl flow. Fg, grey to dark grey matrix with fg hbl phenos.</i></p> <p><i>117.80 – 143.70 Felds-hbl flow. Equigranular flow with fg to mg, feldspar and hornblende phenos in a fg to mg groundmass. Several intvls within the unit are fragmental. Felds phenos are altd to leucoxene.</i></p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p><i>Top of unit is subtly bleached with a slightly greenish grey matrix.</i></p> <p><i>Includes</i> 121.25 – increase in bleaching to weak – mod. Groundmass is a yellowish green colour with grey, unbleached intvls around qtz-carb/cal vns.</p>
143.70	153.5	XF				<p>Crystal Fragmental</p> <p>This interval with a dirty patchy - mottled appearance. Colour varies from olive green grey - pale grey - very dark brown. Variably sized, rarely up to approx dm sized subangular - rounded fragments of variable composition (felsic, dacitic, very highly siliceous, clastics?) establish a polymictic composition. This is only detectable within small subsections of this interval, the majority of the interval is strongly sheared, with assumed fragments showing strong elongation @ steep angle - approx 50° to CA, locally grading into irregular, swirly - wavy textures. Based on the softness of these elongated fragments and sections, which display this fabric, it also may be interpreted as volcanoclastic fragments (lapilli, pumice, ash), squished by overlying sediments. The interval with a variable hardness within different subsections and patches, which is presumably the result of compositional differences between volcanic material (very soft altered) and relatively competent sandstone/ wacke (representing the matrix?). Overall, this interval may be interpreted as a mix of clastics and volcanoclastics. LC: Incipient broken core, no plane.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
153.5	153.75	Fault Zone				<p>Fault Zone</p> <p>Intensively broken core, pieces from approx cm -several cm size. Up to > cm wide, bright white quartz - carbonate veins, abundant hairline veinlets of the same composition, sheeted and @ approx 60° to CA. Fracture planes from shallow angle - approx 60° to CA with up to several mm thick clayey - sandy fault gouge. LC: Fracture plane @ 60° to CA with gouge.</p>
153.75	182.2	LF				<p>Latite Flow</p> <p>Light grey - grey, feldsparphyric (white, predominantly subhedral, sub mm - approx 5 mm sized feldspar phenocrysts as described before) in a +/- fine-grained matrix amount to approx 15 %. Relatively homogenous throughout the majority of the interval, but with several cm up to several dm wide, fine grained and +/- dense, well defined (sharp contacts) inclusions of assumed, similar - same composition (based on colour): Inclusions of aphanitic material of the same flow?, sedimentary inclusions (rip up clasts)? LC: E O H</p>
			169	172.1	Fault	<p>Up to several mm wide gauge (green grey, soapy, weakly clayey - sandy) in between fracture planes, predominantly @ 40° to 60° to CA, associated with slickensides. Crosscut by highly carbonate bearing, bright white veins, orientated @ variable angle to CA (predominantly @ 30° to CA and approx 60° to CA), vary in width from hairline - approx 5 cm and amount to estimated 7 %. Moderately, locally strongly broken core. LC of this subinterval gradational, +/- arbitrary chosen,</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>based on decreasingly broken core (at 183.4 a 2 cm wide quartz vein (minor carbonate bearing) @ 40° - 50° to CA, with minor flaky gauge and slickensides on contact planes).</p> <p><i>Felds +/- amphibole phyrlic flow. Fg to mg, brownish-white leucoxene altd phenos in an olive greenish-grey matrix. Hbl phenos are visible in some intvls, and are likely present in other areas, but hard to recognize due to QSP altn.</i></p> <p><i>Includes</i> 158.5 – 171.50 1-2% black chlorite stringers filling fractures. mm size, no preferred orientation.</p>
		EOH				

Homestake, 2006
HR06-33

Homestake Ridge 2006

Drill Hole Name: HR06-33

Area: Homestake Ridge Zone

Drill Log HR06-33:

Easting 463011
Northing 6179555
Elevation (m) 918
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By A. Bryson

Core Type/Size BTW

Start Date August 5, 2006

Finish Date August 8, 2006

Reclaim Date

Log Date August 13 to 16, 2006

Length (m) 178.92

Azimuth 217.0

Dip -57

Ave Core Rec.

Ave RQD

Target Test for the extension of the HS zone beneath ddh holes HR03-06, HR05-16 and -17 at the 740 m elev. Target depth 213 m. Drilled from Pad E.

Stopped for: Penetrated through target area and mineralization.

Survey Data

No surveys done; drillstem lost

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	3.80	Casing				
3.80	50.90	STS				Siltstone Interbedded laminated siltstone, laminated sandstone, DF and wacke. Laminations typically ~50° CA. Crosscut by occasional cal veins. Veining does not follow bedding. Grain size varies from fine to pebble size and include volcanics, sands, siltstones and ser. Lower contact with DF is chosen where DF interbeds occur with more frequency than CS.
			4.72	5.04	DF	White + med purple + pale green cal rich section (vein?). Tr py. Cloudy appearance. 40° CA.
			5.04	6.10	DF	Light grey-green wacke with purple-red cal rich veins (resembles 'vein' described above) with <1 cm subangular to rounded dark to pale grey-green siltstone clasts and mm-sized chl (?) clasts. Also vague outlines of hbld-phyric green-grey clasts >2cm (resembles clasts found in MC).
			6.10	9.10	STS	Light grey silt stone layer. Upper contact with wacke is 80 to CA. At 6.30m shows laminations 50 to CA. At 8.60 shows soft sed deformation. Contains <1% euhedral <1mm py crystals. Moderately fractured, fractures various orientations showing feox on surfaces.
			9.10	14.40	MF	Fragmental hornblende flow. Olive green hbld-phyric volcanic
			14.20	17.35	DF	Rubble zone. Angular wacke and sandstone fragments showing some

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						feox on surfaces fractured at various angles to CA. Fractures do not follow bedding.
			17.35	26.95	STS	Laminated fine to coarse grained light grey sandstone with occasional volcanic <2cm clast and wacke interbed. Lower contact with wacke bed is ~40 to CA.
				17.35		Bedding 50 to CA.
				18.00		Bedding 50 to CA.
				18.65		~2cm irregular shaped white cal vein.
				19.40		~3cm wide white cal vein brx host rock.
				20.25		Bedding 55 to CA. Bedding is offset by 4cm on plane 30 to CA. Angle between bedding and offset plane is 75.
				22.95		Bedding 50 to CA.
				23.85		15cm rubble zone with facture surfaces showing various orientations, cal veins and feox. One 1.5cm fragment of cal vein showing cm sized flattened cal crystals.
				26.70		Bedding 47 to CA.
			26.95	43.40	STS	Light grey medium to coarse-grained wacke. Differs from sandstone

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						because it is unsorted and does not contain laminations. Occasional sandstone interbed. Moderately fractured, fractures show feox.
				29.57		Sandstone interbed shows bedding 35 to CA.
				40.85		Changes from light grey with 3% <1cm subangular clasts to med-dark grey with 3% <1cm subangular clasts at 70 to CA. Med-dark grey grades in to med grey with 20% up to 1cm poorly sorted clasts.
			43.40	50.90	STS	Dirty light grey to medium grey laminated sandstone with DF and wacke interbeds. Shows soft sed deformation textures and contacts with DF are not laminar.
				46.00		Bedding 63 to CA.
			46.80	47.50		Rubble zone. Angular light grey fine-grained sandstone with diss py fragments. Various orientations to CA.
50.90	73.20	DF				Debris Flow Debris flow interbedded with siltstone, wacke and sandstone. Debris flow is subangular to rounded variably qsp altered volcanic clasts and subangular to rounded pale to very dark grey (rarely in the same clasts) siltstone clasts and rarely py patches in poorly sorted pale to medium grey wacke. There is a general trend of increasing larger clasts (<5cm) down section. Crosscut by cal + qtz veins, most frequently near the bottom of the section. Veining does not follow bedding. Lower contact

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						with MSB is chosen to be where there are no longer rounded STS fragments and flds-spathic angular clasts occur, gradual contact.
				52.50		Sandstone interbed show bedding 40 to CA.
			61.10	62.75		Fault/Rubble zone. Angular cm to dm sized fragments. At ~62.30 1cm of med grey fault gouge against cal + ankerite vein 70 to CA.
			63.22	63.60		Fault/rubble zone; mm to cm sized subrounded fragments followed by 3 1 to 5mm sized cal veins that are 60 to CA.
			64.00	64.70		40 cm massive siltstone bed or cobble immediately followed by fracture with slick 75 to CA. After slicks ~30cm of mottled irregular pale grey to black elongate shapes (shearing?). Appears to have the same texture above STS, but not as pronounced.
			68.30	71.65		Rubble zone. Angular cm to dm sized frags with 5 cal + qtz veins >1cm. Veins vary from 30 to 65 to CA.
73.20	154.40	MSB				Monomictic Sedimentary Breccia Less than 30cm subangular to subrounded irregular shaped flds-phyric volcanic clasts with +/- diss py in med-grained med-grey wacke. Some clasts are cal-rich (vesicle filling?). Matrix verses clasts defined. Abundance of clasts varies gradationally from 0% to 30% throughout the unit. Crosscut by faults and cal +/- qtz +/- ankerite veins.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			80.50	89.60	WG	1-5% clasts. Massive wacke. Diss py occurs in qsp altered clasts and very fine in matrix.
			89.60	91.90		Rubble/fault zone. Angular to less often-subrounded mm to dm sized clasts mixed with gouge. 2cm of gouge near center is 70 to CA.
			91.75	92.15		Large clasts with 15% subangular to rounded <2cm qtz spots, vesicles (?).
			91.90	98.30		Core is blocky. Decimeter and less often cm sized blocks with surfaces 20 to 80 to CA. Centimeter sized fragments occur in rubble zones at 93.57 to 93.77 and at 94.85 to 95.13 and 96.80 to 96.86m (associated with cal vein described below). Crosscut by white cal veins and rarely yellow ankorite veins.
				96.73		2cm cal +chl + tr py vein cleanly broken away from surrounding rock at 45 to CA.
			98.27	99.30		Fault zone. Top of fault shows 3 cm of gritty light grey gouge 60 to CA. Rubble is subangular to angular and shot up with mm-sized white and yellow (ankorite?) veins. Rock is noticeably darker after top of fault.
			101.80	111.10	WG	3% clasts. Clasts are up to 7cm. 1-2% fine diss py throughout matrix and clasts.
			104.25	108.70		Rubble/fault zone. Angular fragments with minor dark grey gouge and

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						slicks on surfaces in various directions to CA.
			111.10	112.35	LFd	Felds – hbl flow top breccia, fragmental. Squiggly, anastomosing, white, rarely 1cm wide cal veins cracke-brecciating rock. Within breccia, there is an increase in volcanic clasts. Clasts are diss py, cal spots, chl spots (after hbl) in dirty green ser matrix (strong ser alteration) and have a squished appearance.
			112.35	113.65	LFc	Brecciated hbl-phyric latite flow. Cal-crackle brx continues into this subunit for ~20 cm. This unit shows volcanic clasts in weak cal pale grey to grey-brown matrix containing diss py. Clasts are green soft ser with 3% <1mm chl and 2% fine diss py. Clasts are mm to 8cm and show defined to diffuse boundaries. Overall, rock shows 5% diss py. Breccia is matrix supported.
			113.65	116.00	LFc	Olive green to dirty olive green medium to fine-grained with cm sized oval shaped cal + qtz blebs. Amygdules? Few blebs show very fine py rims. Contains one cal sheet vein at 114.89, which is 1.5cm, and 35 to CA. Contains cal throughout rock.
			116.00	132.35	MSB	Matrix is varying shades or grey. Clasts are strongly qsp altered and moderately chl altered.
				118.40		Cal + py vein. Irregular shaped ~1cm and ~15 to CA. Fine py halo.
			132.35	151.05	MSB	Matrix maroon to pate grey-purple showing subtle to moderate hem staining. Volcanic clasts are dark to med green (chl) and less often

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						maroon (hem staining) containing mm white carbonate bearing blebs (altered form flds? Vesicle filling?), mm laths of flds and diss <1mm py. Diss py throughout rock is tr until ~145.45m where it increases to <1%.
				135.60		~5cm round spot of off-white with pale green cal bearing material. Not associated with any volcanic clasts.
				136.84		1-3cm wide sheet of off-white carbonate bearing material adjacent to 10cm volcanic clasts.
				137.35		<1cm cal white cal vein 20 to CA. Core broken along vein.
			144.83	145.25		7% <1mm irregular shaped yellow-orange soft spots and cross cut by hairline veins of the same. Material minor effervescence with HCl. Ankorite? Ends proximal to white + butter yellow ~1cm cal vein
				146.17		2cm mint green and white ser + cal + tr py vein 50 to CA.
				149.44		5mm cal + ankorite (?) vein 20 to CA. Can be scratched with blade, effervesces on scratched surface.
				150.70		Fracture 15 to CA shows minor light grey gouge with grits and very fine pale blue-green gouge <1mm.
			151.05	177.60		Rock no longer shows hem-stain. Matrix variably bleached form weak to moderate. This bleaching probably started at 149.40, where the

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						matrix is pale purple. Strongly fractured (see specific fault zones below). Rarely cut by hairline py veins. Contains LF unit, 151.50 to 170.00 m.
154.40	178.92	LFe				Fragmental feldspar-phyric latite flow.
			154.40	156.20		Fault zone. Angular mostly 2 to 10 cm fragments. Some show slicks. At top of zone slicks are 45 to 65 to CA.
				156.20		Rock becomes noticeably harder in patches. Still scratches with 5.5 hardness blade. Silica flooding?
			157.97	158.05		White to light grey massive irregular shaped vein which does not effervesce with HCl and is softer than finger nail. Also shows linear hairline depressions. Gypsum?
			158.30	158.69		Rubble zone. Millimeter to dm sized angular fragments showing strong chl on some fracture surfaces. Zone begins with slicks on surface 50 to CA. Also pronounced fracture near running from the mid-end of the zone subparallel to CA.
			158.80	166.50		Fragments are vaguely outlined. Rock is olive green, yellow and very pale pink. Few py stringers and qtz +/- py veins up to 2cm.
			162.24	163.06		Rubble zone. Angular fragments mm to dm size. Smooth and powdery surfaces in various angles to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			165.00	177.60		Continuously fractured at various orientations to CA. Many surfaces show <1mm chl coating/filling.
			166.50	168.00		Approx boundaries (with in rubble zone) of siliceous brx. Difficult to determine parent rock, assumed MSB because this is a short unit between identifiable MSB sections. Pale to med-blue-grey, pale pink-grey, pale olive green and pale yellow green brecciated by grey to white siliceous veining and white to grey sulphate. Sulphate cannot be scratched with fingernail, barite? Few clasts show cloudy outlines of white spots assumed to have been flds. Matrix and clasts show 'vugs' and mm wide crumbly looking fractures.
			170.30	177.60		<1mm py + grey and dense white sulphate (+albite?) veins.
			177.60	178.92	Rubble	Angular to subrounded fragments likely due to drilling.
	178.92	EOH				End of hole.

Homestake, 2006
HR06-34

Homestake Ridge 2006

Drill Hole Name: HR06-34

Area: Homestake Ridge Zone

Drill Log HR06-34:

Easting 463193
Northing 6179306
Elevation (m) 965
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Start Date Aug. 6, 2006

Logged By A. Bryson

Finish Date Aug. 8, 2006

Core Type/Size BTW

Log Date Aug 17

Length (m) 249.02

Azimuth 252.0

Dip -51

Ave Core Rec. 98%

Ave RQD NC

Target To test for the possible south-eastern extension of the HS Zone. Target depth 160m. Drilled from Pad G.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006

HR06-34

Survey Data

Survey Instrument: RANGER Single Shot

Distance	Mag.	Declination	Azimuth (reading)	Azimuth (actual)	Inclination (deg)	Comments
0				252	-51	Collar
32.61	21.5		206	227.5	-51.7	Good
78.33	21.5		206.4	227.9	-52	Good
124.06	21.5		207.5	229	-52.3	Good
169.78	21.5		209.5	231	-52.5	Good
215.50	21.5		210.6	232.1	-52.4	Good
249.02	21.5		212.9	234.4	-52.3	Good

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	1.50	Casing				
1.50	32.16	MF				<p>Mafic Flow</p> <p>Medium grey to maroon (hem and jasper) magnetic massive homogeneous weakly (feldspar) phyrlic flow. Contains brick red <1mm spots of jasper. Crosscut by cal + epidote +/- qtz veins and stringers. Occasionally veining is strong enough to brecciate rock. Up to subtle hematite staining. Strongly fractured in various directions to CA. Fracture surfaces show chl and rarely show feox.</p>
			6.55	10.10	MF	<p>Fragmental mafic volcanic. Medium grey green amphibole-phyric vaguely outlined volcanic fragments in matrix of the same. Trace diss py. Contains abundant cal>qtz-sweats between clasts. Sweats are mm to 6cm. Weakly fractured. Fracture surfaces show feox, which penetrates into rock <1cm.</p>
			10.10	12.05	MF	<p>Mafic flow. Dark-medium grey to maroon (hem and jasper) magnetic massive homogeneous weakly (feldspar) phyrlic flow. Top of section is brecciated by cal + chl + hem +/- epidote 1-5mm veins. Here rock is crumbly. Lower contact with the fragmental mafic flow is gradual over an interval where there appears to be vague outlines of MF clasts with in a matrix of the same composition.</p>
			12.05	14.60	MF	<p>Fragmental mafic volcanic. Medium grey green to maroon down hole amphibole-phyric vaguely outlined volcanic fragments in matrix of the</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						same colour but lacking in phenos. Diss py <1%. Contains some mm cal>qtz-sweats between clasts. Cross-cut by cal + chl <1cm veins. Moderately fractured. Some fracture surfaces show feox, confined to fracture surface. Lower contact with mafic flow is gradual over a cm.
			14.60	22.60	MF	Mafic flow. Medium grey to maroon (hem and jasper) magnetic homogeneous weakly (feldspar and amphibole) phyric flow. Crosscut by cal + epidote +/- chl veins and stringers. Moderately to strongly fractured. Fractures often follow veining and show minor feox.
				17.07	Vein	Vuggy irregular shaped ~2cm cal + chl + epidote vein. Tr malachite.
				17.45	Fault	Silicified gouge? Mix of clay, grits, cal, chl, epidote and hem against surface 15 to CA.
				18.72	Vein	1cm cal + chl vein with specs of feox, silicified gouge? 10 to CA.
				19.80	Vein	1cm cal + epidote vein 22 to CA.
			22.60	27.05	MF	Fragmental mafic volcanic. Vaguely outlined hornblende-phyric + tr py clasts in grey matrix. Contains abundant mm sized cal + qtz + chl sweats and 7 >1cm cal + qtz + chl sweats. Strongly fractured, fracture surfaces tend to be 50 to 75 to CA. Lower contact with MF place where magnetic unit >1m begins.
			24.10	25.05	MF	Magnetic subunit. Texture does not change only difference is magnetic characteristic, could be MF.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				24.85	Vein	4x2cm vug in cal + qtz sweat containing <5mm cloudy qtz crystals.
			27.05	32.16	MF	Magnetic flow. Magnetic massive hematitic with cal + epidote veins. Contains specs of brick red jasper and cloudy to defined spots of grey to off-white <5mm spots of carbonate rich material, resemble small fine grained versions of MC clasts. Moderately to strongly fractured. Fracture surfaces are generally 60 to 80 to CA and show Feox. Lower contact with MC where magnetic characteristic ends and amphiboles are present, ~80 to CA.
			27.05	27.75	MF	Fragmental mafic volcanic has same texture as underlying MC, only difference is magnetic characteristic.
32.16	39.55	MC				Monomictic conglomerate Green to maroon hornblende-phyric vaguely outlined clasts in matrix of the same colour, but lacking in hornblende. Carbonate throughout rock. Contains tr diss py increasing down hole. Moderately fractured; fracture surfaces tend to 50-75 to CA.
			32.16	32.85	Vein	Abundant cal + rhodochrosite + tr py sweats mm to 6cm.
			32.90	33.90		Sharp increase in hem staining at 32.90 at 87 to CA, decreasing gradually.
			36.00	36.21	Vein	Large pale pink massive calcite vein, broken.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
39.55	89.75	PC				<p>Polymictic conglomerate</p> <p>Vaguely outlined hbl-d-phyic volcanic clasts and massive well-outlined pebble sized clasts in carbonate rich matrix. Clasts and matrix varies from green to maroon. Green clasts are mixed with maroon clasts and both these occur in the green and maroon coloured matrix. Millimeter sized cal sweets are often between clasts and occasionally within volcanic clasts (amygdules?). Occasionally cross cut by cal +/-chl +/-rhodochrosite sheet veins and sweets with increasing frequency down hole. Few brick red jasper spots. No significant sx visible, py does occur in qtz + cal brx zone (see below).</p>
			39.75	43.76	Brx	Calcite veins brecciate conglomerate.
			43.76	70.05	Fractures	Rock is blocky. Fractures generally 50-75 to CA, one pronounced fracture at 12 to CA. Few show minor feox.
			65.20	65.55		Volcanic clasts <5cm show concentric zoning of hem-staining (a green and maroon bulls-eye).
				65.55	Fault	Slicks on uneven fracture surface 60 to CA.
			70.05	73.10	Fault	Fault zone partially healed qtz + cal + tr py fill. Some drusy quartz in leached out sections. Rock appears crumbly. Clasts contain tr py. Strong to intense fracturing. Many fracture surfaces show feox and show very rough surfaces. Ends proximal to two 2cm cal + qtz + py

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						vein. Rock here shows no hem staining. Is pale grey-green and is shoulder above by ~2m and below by ~50cm with rock the same colour.
89.75	101.20	MF				<p>Mafic flow</p> <p>Maroon to light grey-green massive magnetic weakly flds-porphyritic flow. Crosscut by abundant irregular shaped cal + chl +/- rhodochrosite +/- tr py veins up to 6cm. Trace py occurs where rock is green. Moderately fractured at various orientations to CA, fractures often follow veining and few show minor feox.</p>
			93.50	94.47		Non-magnetic. Rock is green and contains tr py in veins and tr diss py.
			99.10	100.90		Rock is green contains tr diss py and is magnetic.
101.20	121.75	MC				<p>Monomictic conglomerate</p> <p>Vaguely outlined pale green to grey-green <1mm amphibole (some altered to chl) and <1mm flds phyric volcanic clasts in matrix of light grey-green to grey-green-yellow feldspathic matrix. Fine to med-coarse diss py throughout matrix and clasts. Crosscut by abundant cal+/-chl+/-qtz+/-tr py irregular shaped veins in short sections veining is brecciating rock. Fracturing is moderate, some fault evidence (see below). Some fracture surfaces show feox. Shear zone/ breccia zone near bottom of section (see below). Lower contact with MSB is assumed where clasts have stronger outlines and lack amphiboles.</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			101.20	102.80	PC?	PC? Portions of this section show green volcanic clasts with strong outlines in green-blue siliceous matrix. Also shows sharp change from green to maroon colour at 102.40 that is 50 to CA.
			103.50	106.80	Brx	Cal + chl +/- rhodochrosite +/- ser +/- py veins brecciate rock to breccia 3.
				103.95	Fault	Fracture surface with mm of gouge 30 to CA.
				109.04	Fault	Fracture surface with associated gravel and gritty gouge, 60 to CA.
			114.10	115.00	Fault	Rubble zone. Top of zone shows fracture surface with coating of chl and smears of fine py 17 to CA cut by fracture surface with associated gouge, gravel and 4cm qtz vein 75 to CA. Vein broken away from rock and shows minor feox on surface. A second surface with gouge at 114.70m 50 to CA. Zone ends at fracture surface showing chl cleavage 20 to Ca cut by fracture surface along mm cal vein 80 to CA.
			117.95	120.20	Fault	Faulted and sheared zone. Olive green and grey clasts in grey flds-phyric matrix with grey, white and butter yellow veins and veinlets of quartz + albite + sulphate + calcite and hairline veins of py. Rock is crumbly and shows gouge on surfaces subparallel to CA. Some veins run subparallel to CA. Difficult to determine parent rock, assumed MC.
121.75	154.55	MSB				Monomictic sedimentary breccia

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Defined pale to med grey-green feldspathic volcanic clasts in fine to medium grained pale to dark-medium grey wacke. Faulted and strongly fractured. Contains diss py and py veins (see below) and rarely sp with gn in veins. Trace fuchsite.
			122.50	123.25	Fault	Fault/rubble zone. Angular fragments mm to dm size. Some fracture surfaces show minor gouge 15, 30, 35 and subparallel to CA.
			125.10	126.45	Fault	Sheared and faulted zone. Mottled greys with white and yellow sheeted and discontinuous qtz + albite + cal veins and cloudy py veins. Clasts are stretched and bent. At 125.80 2cm of dark grey gouge which is 90 to CA at top and 70 to CA at basal. 125.67 vuggy vein containing <5mm platy brown-yellow sx, black streak. 126.15 to 125.45 rock is crumbly with fault gouge, vuggy veins containing <2mm cal veins and unrecognizable grey and with fragments with stretched outlines.
			129.40	129.61	Fault	Fault/rubble zone. Angular cm sized fragments mixed with fault gouge. 3Cm section of gouge 85 to CA on basal contact.
			131.55	131.74	Fault	Fault/rubble zone. Angular fragments <5cm mixed with gouge. Upper contact shows 2cm dark grey gouge 80 to CA, basal contact shows 1cm of med grey gouge 70 to CA.
			132.60	136.30	Fault	Fault/rubble zone. Angular to subangular fragments mm to decimeter sized mixed with fault gouge. Gouge found on surfaces subparallel to 90 to CA. Zone ends at 2.5cm thick layer of gouge on surface 25 to

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						CA. Fragments show stretched volcanic clasts. Diss py throughout. Some cloudy cm sized py spots. Following this fault zone, MSB shows dark grey matrix with stretched and strongly ser altered volcanic clasts.
			139.90	141.15	Fault	Faulted and sheared zone. Top of zone starts with 10 cm of gouge mixed with cm angular fragments 50 to CA. At 140.47 6cm of mix of gouge and cm sized angular fragments 60 to CA. 140.60 to 140.97 series of subparallel outlines and hairline fractures ~20 to CA. 140.97 cm of gouge on surface 45 to CA. 140.98 to 141.07 30% of core surface shows beige carbonate (ankerite) proximal to this carbonate is a ~3x2cm irregular shaped bleb of gn with 3% sp and 10% py occurring as smears. Rock after this sheared zone is typical MSB; subangular to subrounded qsp altered volcanic clasts in light grey matrix.
				147.17	Vein	~2.5 cm irregular cal + tr py vein ~25 to CA.
154.55	249.02	LFa				Fragmental latite flow. Mottled light to medium grey to brown grey flds bearing irregular shaped fragments vaguely outlined in matrix of the same. Flds are subhedral, white, blurry <5mm and are up to 20% of the rock. Appears to be of MSB protolith. Qsp altered. Contains <1mm py stringers and <1cm swirls and blotches.
			154.55	164.50		Clasts rarely recognizable. Strong qsp alteration. Weak fabric 60 to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			155.80	156.40		Opaque light grey sil + ser + blotches of py fill around green ser altered volcanic clasts.
				158.34	Fault	Fracture surface with ~5mm of gritty light grey gouge 50 to CA.
			164.50	171.75	LFa	Volcanic clasts somewhat to well outlined in light grey feldspathic matrix. Looks similar to MSB.
				171.65	Vein	~1.5cm calcite vein 45 to CA.
				171.97	Vein	3cm calcite vein 20 to CA.
				179.87	Sx vein	1cm vein which penetrates like a sweat into surrounding rock, composed of qtz + albite? + py + tr sp + tr gn.
			181.80	182.35	Sx vein	Series of five ~1cm qtz + albite + cal + sp + gn veins 20 to 40 to CA.
			190.80	194.67	Sx + Altn	Siliceous zone. Large patches cannot be scratch by 5.5 blade. Rarely see fragmental texture. Resembles GW footwall. Crosscut by qtz +/- barite +/- py +/- albite +/- sp +/- gn veins. Contains brecciated zone (see below).
			192.05	193.25	Brx	Qtz + barite + py swirls brecciate rock. No visible evidence of feldspars. Selvages of sp and gn. (<1%). Py swirls and clouds compose 7% of section. Section darkens down hole.
			208.00	217.07	Sx + Altn	Siliceous zone. Patches cannot be scratched with 5.5 blade. Contains

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						qtz + barite veins with py + gn + sp +/- cp.
			210.20	211.88	Sx	~1cm quartz + barite + py + sp + gn + cp vein runs subparallel to CA.
			217.43	217.66	Vein	White to very pale pink qtz vein. No visual sx. Contains cm sized angular FB fragments. Ends at fracture surface showing minor very fine gouge 40 to CA.
			230.75	232.80	Brx	Qtz + cal veining brx rock. Top of section show discontinuous white veins containing subangular cm sized fragments of host rock. From 132.67 to 232.80 5cm branching qtz + cal vein running subparallel to CA.
				236.65		Millimeter sized flakes of rock between 5mm disks of core that break away from each other 55 to CA. Rock here is ser altered.
	249.02	eah				End of hole.

Homestake, 2006
HR06-35

Homestake Ridge 2006

Drill Hole Name: HR06-35

Area: Homestake Ridge Zone

Drill Log HR06-35:

Easting 462988

Northing 6179542

Elevation (m) 929

UTM Zone 9

Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By T. Schöttler with notes by B.
Kasper

Core Type/Size BTW

Start Date Aug 8, 2006

Finish Date Aug 11, 2006

Log Date Aug 23 to Aug 30,
2006

Length (m) 279.50

Azimuth 188.5

Dip -53.0

Ave Core Rec. 99%

Ave RQD 0.88m

Target Test the down dip extension of the HS Zone from ddh HR05-12 and -13 at the 740 m elev. Target depth 222m. Drilled from Pad E.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-35

Survey Data

Survey Instrument:	RANGER Single Shot					
Distance (m)	Mag. North (°)	Azimuth (reading)	Azimuth (Actual)	DIP	Comments	
0	21.5		188.5	-53	Collar	
47.85	21.5	172.9	194.4	-54.4	Good	
93.57	21.5	174.9	196.4	-55.0	Good	
139.30	21.5	176.2	197.7	-55.6	Good	
185.02	21.5	178.6	200.1	-56.1	Good	
230.74	21.5	181.2	202.7	-56.4	Good	
279.50	21.5	278.6	300.1	-56.4	Unusable azimuth.	

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0.00	2.65	Casing				Casing, no recovery
2.65	5.18	PC				<p>Polymictic conglomerate</p> <p>Angular to subangular, several mm to dm sized, white (highly quartz bearing) - grey - dark green (chlorite) - reddish brown fragments embedded in dark grey, very fine- to fine-grained matrix. Matrix supported. Minor indication of surface weathering along fractures. LC is gradational.</p>
5.18	30.50	STS				<p>Volcaniclastic ash/tuff sequence</p> <p>Alternating sequence of predominantly silty to sandy, rarely fine gravel bearing (clasts are predominantly subangular - angular), light green grey clastic sediment. The green tint is assumed to be the result of minor disseminated chlorite or possibly sericite(?) altn. Bedding varies from finely laminated to thickly bedded and consistently @ 40° to 50° CA. Locally, particularly within upper part of interval, up to 2 m wide subsections composed of predominantly angular clasts (20%) with little to no bedding, suggest the presence of breccia interbeds. Indication of wet sediment deformation.</p>
			11.00	13.30		<p>Mm size, acicular chlorite specks indicate altered amphibole crystal fragments(?) associated with up to several cm sized, dark, chloritic, angular to subrounded volcanic(?) fragments and/or pseudo fragments. Locally contains cm wide bands bearing chloritic to graphitic (black smear), very dark coloured, mm size, acicular fragments of organic or</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						volcanic origin.
30.50	77.80	DF				<p>Debris flow</p> <p>Variably coloured (as a result of variable primary composition and/ or alteration) with mm to cm size, rarely dm size, angular to subrounded, very well defined, polymictic clasts embedded in a dark brown grey to dark grey, very fine to fine grained matrix. Clasts composition varies from feldspar-phyric and/or amygdaloidal volcanics to massive mudstones. Clasts may contain variable amounts of pyrite and carbonate, chlorite and/ or sericite altn. Matrix supported, no sorting. In subsections a faintly developed foliation @ 35° - 50° CA, suggesting a weakly bedded sediment. Approx cm wide bands with mm size, very dark chloritic or graphitic soft and soapy, shardy fragments as described for overlying interval. Locally variably faint - discrete graded bedding (for example at 66.4 - 66.8 m over approx 0.5 m). However; there is indication for a flow nature of this interval. An example is at approx 42.5m where it contains up to approx dm sized fragments (rip up clasts) of underlying/ interbedded pale green grey siltstone. The assumed debris flow is alternating with muddy/ silty - sandy, pale green grey interbeds with width varying from several cm - > 2m. Generally this material is very reminiscent to the overlying interval. With the exceptions of some massive, muddy STS subsections, interval is carbonate bearing throughout.</p>
			37.90	38.90	STS	Siltstone. Pale olive green grey to locally dark grey, laminated to massive (@ 50° CA. UC is sharp, distinct, somewhat irregular and @ 50°

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						CA. LC is sharp, distinct and @ 60° CA.
			42.60	44.00	STS	Siltstone. Upper portion to 43.1m consists of dirty olive green grey - pale light grey, massive to weakly laminated/ bedded (@ 50° CA) siltstone. At approx 43.1m approx cm wide, sandy interbed, which fines upwards and displays a very sharp LC to dark to dark grey, siltstone. The lower subsection of this interval is moderately - strongly fractured.
			50.20	50.70	MF	Mafic volcanic. Olive green grey, medium grained (sub mm - 3 mm sized crystals), fragmental intermediate volcanic rock. UC is sharp within broken core. LC is sharp but somewhat irregular @ 40° CA.
			51.30	54.10	STS	Siltstone. Dirty olive green grey, similar to overlying interval, but somewhat darker coloured and overall more massive. Weak lamination/bedding @ steep angle to CA. Few cm wide interbeds of DF with slightly irregular contacts @ 45° to steep angle to CA (bedding). UC is sharp and irregular @ 60° CA while LC: is sharp @ 60° CA (bedding).
			57.00	58.10	STS	Siltstone as above. Contains a 5cm wide, poorly defined and irregularly outlined silty - fine gravelly subsection/ bed near the LC. UC is gradational over several cm with reverse grading while LC is sharp @ 60° CA.
			58.30	60.50	MF	Vesicular hbl'd flow. Olive green grey, vesicular andesitic to dacitic flow. Consists of 15% chloritized mafic phenos within a beige grey

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						coloured, aphanitic matrix. UC is sharp within broken core while LC is somewhat irregular @ 20° CA.
			61.10	62.50		The matrix is significantly coarser grained (sandy) and displays olive green grey colour.
			63.30	63.60		Two bright white, 5 - 10cm wide, carbonate veins with minor ankerite and/or quartz @ 30° to CA. Veins contain trace chlorite and sphalerite.
			64.50	65.50		Composed of up to 7 % of cm wide carbonate veins @ 60° CA.
			68.50	69.90	STS	Siltstone as above.
			75.10	75.30	FZ	Fault, intensively broken core. Approx 2 cm of clayey to fine gravelly fault gouge sandwiched between fracture planes, presumably @ steep angle to CA. Associated with a parallel, approx 2 cm wide carbonate vein.
77.80	141.70	MSB				Monomictic sedimentary breccia Consists of angular, mm to dm size, variably coloured (dark green grey with feldspar phenocrysts and/ or light green with chloritized phenocrysts), variably altered (sericite and/ or chlorite) latitic fragments in a light olive green grey to green, wacke matrix. Locally and very rarely, contains polymictic mixture of fragments. UC is gradational.
			77.80	83.50	MSB	Abundant fragments (up to 30%) within pale green grey to beige grey

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						matrix. Trace of diss pyrite.
			83.50	90.50	MSB	Fragment size and abundance decrease significantly grading into the wacke matrix. Colour change to dirty dark grey.
			90.50	93.00	MSB	Prominent fragmental texture within the light green grey, qtz-ser-py to chlorite altered cm size latitic fragments. Fragments amount to 10% of the host rock within a dark grey wacke matrix.
			97.00	98.20	MSB	Dark green grey feldsparphyric fragments in olive green to pale green grey matrix. Similar to the subsection between 77.80 and 83.50 m, but fewer and smaller fragments.
			98.20	101.60	WG	Fragments decrease abruptly and are very rare (but not entirely lacking).
			101.60	107.40	MSB	Contains 15 to 20 % feldspar-phyric latitic fragments in a green matrix.
			102.6	103.8	Narrow Gouge Zones	Moderately to locally intensively fractured core. Various shades of green (light green and dark green) as a result of chlorite and sericite altn. Fracture planes @ subvertical to 20° CA contain silty to gravely fault gouge. At 103.65 m depth, a gouge coated fractures @ steep angle CA are underlain by 3 cm wide, bright white carbonate and sulfate (+/- gypsum? +/- barite? +/- quartz?) bearing vein @ steep angle to CA.
			107.40	116.10	MSB cont.	Matrix supported. 30-60% clasts. Red/brown to dark green/grey, mottled to patchy material. From UC to approx 109.6m, material is similar to overlying interval with < cm to several cm sized, subround to irregular,

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						dark green to dark green/grey, variably discrete to ghostly developed, feldspathic (as described before) fragments in a red/brown, variably weakly to discrete feldspathic, fine- to medium-grained matrix. From 109.6m downwards the size of the assumed fragments increases to up to several dm. Fragments are decreasingly well defined and show weak to rarely discrete reddish/brown tint, presumably as a result a diffuse progress of hematite alteration into the fragments.
			116.10	119.70	MSB	As described before but clasts are dark green to dark green grey in a pale green grey matrix. Bleaching and sericite altn increase downwards. Rubble zone/ intensively fractured core from 118.9 - 119.2m.
			117.20	117.30	Clay Altered Fractures	Intensively, flaky broken core, @ +/- 45° to CA and approx 1 cm clayey ductile - weakly gravelly fault gouge sandwiched between fracture planes with a.m. orientation. Associated with up to several mm wide carbonate veinlets, aligned to a.m. foliation.
			119.70	140.10	STS?	Mixed pyroclastic tuff/crystal ash tuff. Consists of abundant, pale to white, acicular lath shaped, sub mm to 5mm long, clay mineral altered feldspar crystals within a vfg matrix along with several mm size (lapilli) up to dm sized (bombs or debris flow) fragments. Elongated, squished appearing, green-yellow (sericite and clay minerals), up to several cm in size within fragmental sections may be interpreted as pumice(?). Colour varies from dark red brown (hematite) to dark green (chlorite) to pale green (sericite) as a result of alteration. These coarse volcanoclastic sequences are interlayered with beds of finer volcanoclastics (ash to lapilli ash) which have sharp contacts @ approx 50° CA.

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Finely diss pyrite content is variable from trace up to several % with larger accumulations of pyrite typically associated with jasper and/ or chlorite.
			121.60	121.70		Intensively broken core @ 60° CA, 2 cm wide gouge of clay to fine gravel sandwiched between fracture planes.
			140.10	141.70	STS	Base of pyroclastic flow(s). Strongly fractured core @ variable orientation to CA with silt to fine gravelly gouge along fracture planes @ subparallel to 30° CA. Contains few irregular shaped quartz (+/- carbonate) bearing veins/ sweats. Hairline veins @ approx 40° CA give larger core pieces a shattered appearance. Material is moderately - strongly chlorite bearing with trace disseminated pyrite and leucoxene.
141.70	176.50	LFd				Fragmental latitic flow Pale green grey to grey rock with variably well developed fragmental texture. Hornblende bearing with minor amounts of feldspar phenos fragments occur in a feldspar matrix of similar composition. Minor intervals of wacke/tuff located throughout. In places tuff/wacke contains clasts of LFd. Hbld content within the latitic flow varies.
			145.20	146.20	FZ	Strongly fractured core. Several mm to cm wide, clay to fine gravel fault gouge sandwiched between fracture planes subparallel to CA.
			148.70	148.80	FZ	Cm - 4cm wide, clay to fine gravelly fault gouge sandwiched between

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						variably orientated fracture planes @ 30° and at a steep angle to CA.
			152.40	152.50	FZ	Silty - sandy fault gouge sandwiched between fracture planes @ 30° and 60° CA.
			166.73	167.80	Vein	Lt grey, strong si matrix of brx in FW of banded 4cm wide qtz-carb vn at 80° CA.
			172.40	183.80	LFc, VG	Massive, intensely ser-py altered hb-flds flow(?) crosscut by <1 to 3mm qtz-calc vns with sph-gln +/- cpy mineralization along vn wall. Also, crosscut my gln-sph vns/frac filling which are later crosscut by the qtz-calc vn (~173.43m). Sulphides remobilized into qtz-calc veins. Specks of visible gold on gln-sph vn.
			174.10	175.90		More fragmental, increase in py content with some py replaced clasts. No visible gln-sph veins/frac.
			175.90	176.50	FZ	Faulted contact. Broken core crosscut by approx 1 cm wide silty to coarse sandy fault gouge sandwiched between fracture planes at 5° CA.
176.50	180.90	XF				<p>Crystal Ash Tuff</p> <p>This interval is similar to the fragmental and hematite altered subsections within 119.7 - 140.7m. Overall with a dirty, chaotic appearance as a result of primary fragmental texture overprinted by hematite and qtz-ser-py alteration and partially irregular, quartz and/ or carbonate veins (10 %</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						of the whole rock). In subsections the interval displays subrounded to irregular, light green (sericite bearing) latitic fragments from several mm to several cm in size. < 1% pyrite is contained in quartz and/or carbonate veins with traces of chalcopyrite, galena and sphalerite. 3% finely disseminated pyrite throughout.
180.90	183.80	LFc				Feldspar-hornblende felsic volcanic. Light green to pale green-grey, green spotted rock with approx 12 % sub mm to 5 mm, acicular to lath shaped spots, which are interpreted as chlorite altered feldspars and amphiboles. Very few partially- or non chlorite altered feldspar phenocrysts embedded in aphanitic matrix.
183.80	191.00	XF				Debris flow or crystal tuff Primary textures are completely obliterated by qtz-ser-py with or without weak hematite alteration, resulting in dirty pale green grey to dark grey to cream to dirty maroon mottled rock. Few, up to 5mm, euhedral feldspar laths are detectable, suggesting a volcanic protolith(?). Highly siliceous throughout. Pale green patches up to several mm size are presumably due to increased sericite content. 2 % pyrite and locally trace chalcopyrite, galena and sphalerite in predominantly poorly defined veins. Very discrete indication of tectonic brecciation (at 187m) with up to several cm sized, angular to cusped fragments embedded in very highly siliceous, carbonate bearing matrix within a quartz (+/- carbonate) flooded subsection. Several mm sized sphalerite specks with galena halos occur within these brecciated sections. A quartz flooded subsection near

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						LC shows discrete banding @ 40° CA and is crosscut by < cm wide, variably orientated quartz (+/- minor carbonate) veins. These textures may suggest some movement and allow this interval to be interpreted as a hydrothermal breccia.
				188.95	Veins	Increase in qtz veins, decrease in calc veins.
			190.30	191.00	Brx	Strongly brx with white qtz filled matrix. Py altered frags and 1% cpy localized along fractures.
191.00	279.50	LFd				Fragemental Flds-Hb Equigranular Flow (Footwall unit; GW) Variably pale green grey to dirty brown grey, weak to strong qtz-ser-py, silicification and carbonate altered felds-hbl felsic volcanic. As a result of pervasive qtz-ser-py altn the material bears trace - % range of disseminated pyrite and locally trace pyrite vein mineralization. Py occurs in rare, variably orientated pyrite veinlets and or locally associated with accessory sphalerite, galena and +/- chalcopyrite in variably orientated quartz-carbonate veins.
			191.20	191.30		Mud; very fine grained py (5%) enriched. Dm of intensively fractured core associated with approx cm wide, clay gouge along fracture plane @ steep angle to CA.
				222.00	Vein/Sx	5cm qtz-carb vn at 60° to CA with 2 – 3% diss gln and 1 – 2% sph.

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			224.75	225.00	Vein/Sx	0.5 – 2.0cm, irregular qtz-carb vn with 10% py and 1% gln at 30° to CA. Vein is offset by white, 2 –3mm wide qtz>>>carb, non sx-bearing vns at 60° to CA. Left lateral offset.
				232.20	Altn	Increase in carbonate alteration.
			236.20	236.50	Altn	Moderate to strongly si-altered, very fine-grained py enriched (5%) muddy laminae. <1 – 4cm thick at 50° to CA.
				243.25	Altn	Decrease in si and alteration. Poorly defined clasts or layers of LF present. Crosscut by qtz-calc vns.
			246.15	250.10	Altn	Moderate to strong si overprint if ser-py altn x-cut by vf calc-qtz vns, some vuggy.
			275.55	276.00	Fractured Core	Py-rich very fine-grained mudstone. Highly fractured core with chl+py filled fractures. Increase in broken core associated with a colour change to dirty green grey, possibly as a result of sericite intermixed with chlorite. Dirty pale green to cream bleached sections. Primary textures obliterated by sericite-chlorite-minor pyrite alteration, weak silicification and local bleaching.
			276.50	279.50	Altn	Decrease in alteration.
	279.50	eoh				End of hole.

Homestake, 2006
HR06-36

Homestake Ridge 2006

Drill Hole Name: HR06-36

Area: Homestake Ridge Zone

Drill Log HR06-36:

Easting 462903
Northing 6179337
Elevation (m) 1056
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By T. Schöttler

Core Type/Size BTW

Start Date Aug 9, 2006

Finish Date Aug 10, 2006

Log Date Aug 20 to 23, 2006

Length (m) 108.80

Azimuth 195.5

Dip -78

Ave Core Rec. 131%

Ave RQD .74m

Target Redrill of HR06-32.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006
HR06-36

Survey Data

Survey Tool: RANGER Single Shot

Distance (m)	Mag. North (°)	Azimuth (reading)	Azimuth (Actual)	DIP	Comments
0	21.5		195.5	-78	Collar
44.81	21.5	169.7	191.2	-76.9	Good
93.57	21.5	169.7	191.2	-76.5	Good

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	1.45	Casing				Casing, no recovery
1.45	35.10	PC				<p>Polymictic Conglomerate</p> <p>The colour varies from dark green grey - pale light grey, presumably as a result of variable primary composition in combination with variable alteration. From 1.45m (UC) - approx 11m and from approx 13 - 16m moderately - locally strongly broken core (+/- rusty coloured fracture planes) as a result of weathering. Few fracture planes @ 30° to CA, sandwiching up to approx cm wide, silty - sandy material (Based on the lack of shearing and stress indicators this material is assumed to be weathering related, rather than fault related). From approx 2.5 - 4m a faintly - discretely developed bedding texture within an alternating sequence of sand- and siltstones @ 50° to CA. Downwards the matrix is +/- fragmental throughout, with fragments being variably discrete - ghostly developed, subround - round, cm - > dm sized and presumably of monomictic (dacite) composition (+/- pyrite bearing, +/- green spotted (chloritised amphiboles) as described before). Matrix supported. The fresher subsections of the interval display an olive green grey - dirty grey, silty - sandy matrix. Primary textures are obliterated by siliceous, pyrite bearing alteration from 13.2 - 14.5m; 23 - 25.2m and 27.5m - UC (with a very highly carbonate bearing and pale coloured subsection from 32 - 32.6m).</p> <p>Mineralization: Interval with faintly developed trend of pyrite mineralization: +/- lacking near UC, increasing downwards and grading into very weakly developed stockwork of pyrite bearing carbonate veins and pyrite veinlets/veins. associated with increasingly abundant</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						disseminated - speckled - cloudy/ patchy pyrite. Sulphide content is relatively increased within silicified subsections. At approx 30m speckled sphalerite within patchy - irregular, whitish carbonate vein. Near LC carbonate bearing veins with approx mm wide sulphide seams along the contact. LC: Incipient sheared texture, associated with increasingly broken core and increased alteration. +/- arbitrary chosen/gradational over approx dm, no plane.
			33.6	35.1	Fractured Core	Light green grey - grey mottled, dirty chaotic appearing interval, with an intensively fractured subsection (approx 2dm wide, weakly silty, weakly sandy, gravelly, gauged; bears quartz-, +/- albite(?), +/- minor carbonate and minor pyrite) near the centre and irregular, swirly - wavy shear textures, which are associated with +/- irregular curving carbonate bearing veins/veinlets (some of which display up to several mm wide pyrite seams along vein contacts) and very abundant (<< cm spacing) carbonate bearing hairline veinlets, preferably @ 60° to CA, which result in a shattered appearance. Locally breccia textures with mm - several cm sized fragments, which display angular fracture planes and jig saw fit. Interstices are filled with fine-grained pyrite. Gouge coated fracture planes @ 30° and 60° to CA. Several % pyrite as vein mineralization associated with carbonate and/ or sub mm - several mm wide, variably orientated (kinked/curvy) veinlets and disseminated pyrite (grading into speckles/ clots/ irregular patches). LC: Based on abrupt decreasing hairline veinlets, decreasingly broken core, no plane.
35.10	44.20	DF				Debris Flow

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>Based on its similarity to "HR06-32: 35 - 37m" this interval identified as DF. Throughout the majority of the interval primary textures are obliterated by very dense, variably orientated, light coloured, carbonate bearing (ankerite?) hairline veinlets resulting in a shattered appearance. From 42.4 - 43.7m a QSP altered subsection: The material is bleached, dirty maroon - pale beige grey with abundant (several mm - approx cm spacing), sub mm - several mm wide pyrite veinlets @ shallow angle to CA and approx 10% round, mm - > cm sized pyrite specks with +/- even distribution, (reminiscent to flow breccia). Throughout the remainder of the interval a dirty, dark grey, highly silty - minor sand- and gravel bearing matrix is displayed, which bears variably rare - abundant (< 5 % - 20 %) variably composed (dacite, pyrite clasts, very few, < 5mm, highly siliceous clasts) and variably sized (from predominantly < 5mm in subsections - > dm sized in other subsections) fragments. Generally no sorting detectable, but the observation that overall fragment size and abundance varies in-between subsections may suggest a sequence of events for this interval.</p> <p>Mineralization: Disseminated - speckled pyrite in dacite clasts as described before. Matrix with variable trace - locally several % finely disseminated - cloudy - speckled pyrite and a.m. up to cm-sized blebs (clasts). Variably abundant (up to % range - entirely lacking), up to several mm wide pyrite veinlets. Locally trace sphalerite (+/- galena) associated with quartz (+/- minor carbonate) veining.</p> <p>Subsections with strongly - intensively broken core.</p> <p>Bedding @ approx 70° to CA (at approx 42m).</p> <p>LC: Gradational over several dm width fragments decreasingly well</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						defined, increasingly abundant feldspar crystals, lighter coloured.
44.20	101.00	MSB				Monomictic Sedimentary Breccia
			44.2	62.0	LF	<p>Latite Flow</p> <p>This interval very reminiscent to "HR06-32: 47.1 - 69.3m". Variably pale cream grey - olive green grey - dark green grey - yellowish, mottled - patchy flow breccia. Interval displays ghostly developed, feldsparphyric (as described before) variably pistachio green - very dark green grey (as a result of variable primary composition and/or alteration?), cm - rarely > 2dm sized, subround - rounded fragments, which are embedded in a predominantly feldspar bearing (approx 12% subhedral, < 5mm sized feldspar phenocrysts?/ crystal fragments?), locally +/- dense and aphyric (up to > m sized subsections), pale grey - grey matrix. Matrix supported. Overall, this interval has a dirty mottled appearance.</p> <p>Alteration, mineralization: Material is siliceous, +/- throughout, but some of the better defined fragments with considerably decreased hardness (escaped alteration?). Trace chlorite. Patchy - pervasive bleaching. The presence of trace - minor sericite is assumed based on colour.</p> <p>Disseminated - speckled pyrite in fragments as described before. Trace - % range disseminated - speckled - locally cloudy pyrite +/- throughout. Variably orientated (preferably subparallel - 20° to CA), +/- wavy, sub mm - several mm wide pyrite veinlets amount to % range and decrease within lower half of interval. Approx 0.5% sphalerite, +/- trace galena embedded in pyrite veinlets, quartz- (+/- minor carbonate) veins and very rarely disseminated. Accessory disseminated chalcopyrite. Minor (approx</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						<p>1 - 2%), hairline - rarely cm wide, +/- quartz, +/- carbonate veinlets with variable orientation, but preferably @ steep angle to CA (approx 70°). Near LC fracture planes with approx mm wide, clayey ductile gouge @ 60° to CA.</p> <p>LC: Intense bleaching, quartz (+/- albite?, +/- butter coloured mineral) flooding/alteration associated with increasingly broken core, no plane.</p>
			62.0	73.1	Broken Core	<p>Moderately - strongly - intensively broken core. From UC - 65.5m core pieces (from < cm - predominantly several cm - rarely approx dm sized) display lithology to be continuation of strongly siliceous LF described for overlying interval. Fracture planes appear to be variable orientated, but locally a preferred orientation of approx 40° - 50° to CA can be recorded. Locally up to few mm, clayey, ductile fault gouge sandwiched between fracture planes with variable orientation (@ approx 15° to CA and other. From 65.5 - 69.5m material is reminiscent to "HR06-32: 69.3 - 74.7m". Near UC the light grey - dirty grey, siliceous core pieces are intensively fractured (medium gravely in subsections) and locally display prominent tectonic breccia textures, with angular, several mm - approx cm sized fragments in a soft gouge-like, silty and pyrite bearing matrix, that has the same colour than the host rock. At approx 66.3m the material grades into light green (sericite?) - light red (hematite?) finely mottled texture, which obliterates primary textures (see "HR06-32: 71.6 - 73.4m").</p> <p>Downwards from 68 - 69.5m the strongly - intensively fractured core displays colours and textures reminiscent to "HRR06-32: 73.4 - 74.7m": Beige grey - light green - whitish - dark green irregular - swirly - wavy shear textures associated with minor gouge. Fracture planes appear to be somewhat preferential @ shallow angle to CA. From 69.5 - 73.1m a</p>

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						feldspar bearing texture as described for overlying interval becomes apparent with very minor and faint indications of fragmental texture. Core fracturing is decreasing, with preferred orientation subparallel and steep to CA. From 71.5m - LC the material bears increasingly abundant, sub mm - 5 cm wide, bright white, +/- quartz, +/- carbonate veins, preferably @ steep angle to CA. LC: Rapidly decreasing fracturing, gradational, no plane.
			73.1	87.3	Altn	Based on strong alteration and for consistency reasons this interval was tentatively identified as QSP. It is reminiscent to subsections of "HR06-32: 74.7 - 80.1m". The lithology is the seamless continuation of the lower part of the overlying interval: A highly siliceous, pale grey - olive green grey and red (mottled) rock. The material is crosscut by approx 15% highly carbonate (calcite, +/- rhodochrosite) and/or quartz bearing, sub mm - several cm wide, +/- irregular and variably orientated veins: Preferably @ shallow angle to CA!! (in hole # 32 they were steep) - steep angle to CA (to a lesser extent). Locally the interval grades from a crackle breccia to a tectonic breccia with several, mm to several cm, rarely approx dm sized, angular host rock fragments embedded in vein material. Alternatively this interval could be logged as tectonic breccia or flow breccia (the presumed protolith). From UC - approx 78.9m the material bears trace - minor sulphide veinlets, stockwork resembling. It may be important to note, that the soft altered, highly sericite and +/- chlorite bearing subsections described for hole # 32 appear to be missing. Indications of successive veining: Pyrite veinlets being the oldest, followed by highly carbonate bearing breccia veins (+/- sulphide lacking) and finally predominantly quartz bearing veins (mm - several mm wide)

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						preferably @ steep angle to CA. LC: Fault contact at fault plane orientated @ 30° to CA, associated with a fine meshed (several mm - several cm) hairline veinlet network and gradually increasing fracturing over approx 1.5m.
			87.3	88.5	Broken Core and Altn	Strongly fractured core, with core pieces from rarely approx dm - approx cm sized. The material is dirty pale grey (bleached), mottled and comprises dirty olive green grey and +/- hematitic, angular fragments of sub mm - rarely > cm size, which are embedded in a whitish pale, highly quartz and minor carbonate bearing matrix. Fragment supported. Weakly - moderately sericite altered and pyrite bearing: Up to several mm wide veins, veinlets, disseminated and - to a lesser extent - speckled pyrite. White - pinkish (rhodochrosite), up to several mm wide veinlets have evolved after formation of pervasive tectonic breccia textures. Approx cm wide layer of fault gouge sandwiched between fracture planes @ approx 30° to CA. Variably orientated fracture planes with slickensides. LC: Decreasingly broken core, decreasing breccia textures, no plane.
			88.5	99.0	LFa and XF	Fragmental Latite Flow (88.50-91.50m and 96.00-99.00m) and Massive Crystal Rich Fragmental (91.50 to 96.00m) This interval reminiscent to "HR06-32: 80.1 - 99.4 m": Moderately - strongly siliceous with a variably faint - discrete fragmental and/or pseudo fragmental texture. It is assumed, that alteration highlights flow brecciation textures: Variably ghostly developed - well defined, subround - subangular, several mm - several cm (and presumably locally > dm sized?) olive green grey - pale cream grey, variably ghostly - discretely

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						(as a result of alteration +/- obliterating primary textures), feldsparphyric fragments (sub mm - several mm sized, subhedral feldspar crystals amount to 15%, as described before) are embedded in reddish brown (hematite altered) - dirty grey, +/- feldsparphyric matrix. Locally discrete shear- and tectonic breccia textures indicating significant movement/faulting: Angular, several mm - several cm sized fragments of host rock embedded in up to several cm wide, bright white quartz-carbonate veins (variably fragment - matrix supported) and locally prominent elongation of fragments establishing a foliation @ 50° to CA, associated with several mm sized, white, shardy quartz fragments (brecciated quartz vein?). % range pyrite in form of up to several mm wide, variably orientated, pyrite veinlets. The pyrite veinlets may grade into a weakly developed stockwork, which is locally crosscut by quartz-carbonate veins, which +/- bear pyrite as well (and in that case it display lateral and/ or vertical zoning: Pyrite along contacts or pyrite alternating with quartz- carbonate along strike, indicating multiple events). Weak - moderate sericite alteration indicated by locally light green, soft altered feldspar. LC: Gradational over > 2m with decreasing fragmental texture, decreasing alteration and increasingly well developed feldsparphyric texture.
99.00	108.80	GW				Footwall
			99.0	108.8	LFb	Fragmental Latite Flow Grey, dacitic or andesitic flow. Variably weakly - prominently feldsparphyric (sub mm - 5mm sized, subhedral - euhedral feldspar

Stratigraphic Unit			Lith/Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						phenocrysts amount to % range - approx 12% and are embedded in aphanitic matrix. Weak - moderate quartz- carbonate veining, mostly < several mm width and amounting to approx 1 - 2%. Locally sheeted veins @ 20° and 50° to CA. Pyrite and quartz- carbonate pyrite veinlets and veins as described for overlying interval, but abundance decreasing down hole. < 1% - < 2% disseminated pyrite, locally patchy. Reminiscent to "HR06-32: 99.4 - 144.2". LC: E O H.
	108.80	EOH				

Homestake, 2006
HR06-37

Homestake Ridge 2006

Drill Hole Name: HR06-37

Area: Homestake Ridge Zone

Drill Log HR06-37:

Easting 463133
Northing 6179502
Elevation (m) 924
UTM Zone 9
Datum NAD83

Drill Contractor Aggressive Diamond Drilling

Logged By B. Kasper

Core Type/Size BTW

Start Date Aug 11, 2006

Finish Date Aug 15, 2006

Log Date Aug 28, 2006

Length (m) 276.45

Azimuth 227.5

Dip -52

Ave Core Rec. 96%

Ave RQD .90

Target Test the down dip extension of the HS Zone from ddh HR06-27 at ~760 m elev. Target depth 209 m. Drilled from Pad F.

Stopped for: Penetrated through target area and mineralization.

Homestake, 2006

HR06-37

Survey Data

Survey Instrument: RANGER Single Shot

Distance (m)	Mag. North (°)	Azimuth (reading)	Azimuth (Actual)	DIP	Comments
0	21.5		227.5	-52	Collar
38.71	21.5	280.1	301.6	-52.7	Unusable azimuth
78.33	21.5	210.8	232.3	-52.7	Good
124.06	21.5	217.0	238.5	-53.5	Good
169.78	21.5	219.1	240.6	-54.0	Good
215.50	21.5	219.4	240.9	-55.9	Good
261.22	21.5	221.7	243.2	-55.4	Good
279.50	21.5	222.3	243.8	-55.8	Good

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
0	0.60	Casing				Casing, no rock to recover, above ground.
0.60	123.80	PC				Polymictic Conglomerate The descriptions between 0.60 and 123.80 m are within the PC stratigraphic unit. The descriptions pertain to the PC lithology unless specified as CS, MC or MF.
0.60	55.8	PC				Polymictic Conglomerate Angular to subrounded clasts in a poorly sorted medium to coarse-grained wacke matrix with interbeds of poorly sorted, medium to coarse-grained wacke (CS). Clast composition varies from fine to medium-grained (majority) to amygdaloidal (<3%) volcanics and varies in size from 5 mm to 65 cm with <5% of clasts >10 cm in size. Larger clasts generally consist of a dark maroon coloured fine-grained volcanic to odd amygdaloidal volcanic. Large cobbles of very fine-grained, dark green andesitic (?) volcanic present below 47.80 m. Altn varies from strong hem staining of clasts and matrix with weak calcite alteration limited to fractures and veins, to weak to moderate chlorite-calcite altn where no hem staining is present. Odd mm to cm size calcite vein in three distinct orientations; 10 to 25° to CA, 40 to 45° to CA and 70 to 90° to CA.
			6.90	14.35	Vns	Calcite vns present, 1-2/m. Tr diss py along some vn contacts. Majority vns oriented 10-15° to CA. One vn oriented 45° to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			14.70	14.95	CS	Wacke with grit. Maroon colour, medium-grained, strongly hem stained with weak calcite altn. Sharp upper contact at 70° to CA and gradational lower contact. 2 <mm size calcite vns oriented at 40 and 70° to CA.
			18.40	20.65	Vns	Irregular calcite vns, 1 to 5 mm in size at 10-15° to CA; 1-3/m.
			20.75	24.45	CS	Wacke with grit. Same as previous but poorly sorted with a 50 cm thick (tw) polymictic cgl bed from 22.25 to 22.85 m which grades into coarse-grained wacke. Bedding and contacts at 60-70o to CA.
			24.45	29.60		Series of fining up sequences from a polymictic cgl to medium-grained wacke. Increase in clacite altn.
			29.60	30.85	CS	Wacke with grit. Fine to coarse-grained wacke with thin cgl interbeds. Upper and lower contacts at 80° to c.a. Series of mm scale, banded calcite vns also oriented 80° to c.a.
			40.80	42.30		Series of parallel, mm scale white to greenish white calcite vns at 60-70° to CA. These vns are offset by fractures and reddish white calcite>chlorite vns oriented at 10° to CA.
			48.80	53.25		Decrease in maroon hem staining of matrix, than clasts from strong to very weak. Increase in background chlorite altn (regional green schist)

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						to mod. Calcite altn stays the same.
			53.25	55.80		Mainly qtz-chl altered. Core is highly broken along a distinct weakness plane of 60-80° to CA.
55.80	63.40	MF				<p>Vesicular Brecciated Flow</p> <p>Flow breccia or brecciated top of a flow. Brecciated, fine-grained, vesicular (mm scale infilled with white calcite) intermediate (andesite?) volcanic with a similar matrix. Some parts of the matrix or open spaces have been completely replaced by calcite. Upper 15 cm marked by a light green, aphanitic, strongly sil chill boundary. Strong hem staining occurs below 57.95 m. Core breaks along a significant plane of weakness that varies from 50-60° to CA in upper, chloritic part to 40-50° to CA in hem-stained lower section.</p>
63.40	83.65	MF				<p>Magnetic Flow</p> <p>Very fine to fine-grained, homogenous and massive. Colour varies from dark olive to dark maroon depending upon degree of hem staining. Weakly to mod magnetic below 67.70 m. Abundant veining to 70.65 m consisting of three distinct sets from oldest to youngest depending upon crosscutting nature: cal-chl oriented 60-70° to CA, cal-chl-qtz at 5-30° to CA, and qtz-cal vns at 80-90° to CA. First two sets become epidote enriched below 69.15 m.</p>
				76.85		Calcite-hem vn, 3 mm width at 20° to CA. Two more similar vns at

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						78.45 and 78.65 m, 3-5 mm in width.
				82.10		Change from magnetic to non-magnetic.
				82.60		Contact between flows at 20° to CA.
				83.65		Sharp contact at 50° to CA.
83.65	123.80	PC				Polymitic conglomerate Poorly sorted with subrounded to subangular clasts in a medium to coarse-grained, strong hem stained wacke matrix. Two distinct clast types; greenish-grey, fine-grained volcanic with chlorite-calcite atln of xtals and matrix (some xtals rimmed by hem) and light maroon, fine to medium-grained volcanic with or without calcite filled amygdules and strongly hem stained.
			87.45	88.55	Brx	Brecciated with no visible rotation of clasts. Pinkish white calcite forms matrix or 2 distinct vns, 2 and 3.5 cm (tw) in size at ~50° to CA.
			91.70	92.05	Vn	15 cm, pinkish calcite vn centred at 91.90 m and oriented 20° to CA. Terminated calcite crystals line some open cavities.
				94.50	Altn	Increase in hem staining to all clast types. May be mistaken for monomictic cgl due to the strong hem staining throughout.
			95.80	96.00		Rubblely core. Parts have been ground up.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			101.15	101.30	Aln/vn	Strong ser(?) -py altn centred on a 5 mm wide, open calcite vn at 30-40° to CA 3-5% py is either diss, rims some leached amygdules or infills frac as stringers.
			103.50	104.35	Vn	Discontinuous, pinkish red calcite vns, 1-2 cm in size at 20-35° to CA and continuous, mm scale, white calcite vns at 20 and 50° to CA.
			112.25	118.80	Vn	Calcite healed fracturing or infilling matrix (5-10%). Pinkish white calcite vns, 1-40 mm in size, are oriented either 20-25° or 40-70° to CA. Both sets appear to have formed at the same time.
				117.00	Altn	Decrease in hem staining of clasts.
				118.15	Altn	Decrease in hem staining of matrix; visible patches of chlorite-calcite altn present.
				120.50	Vn	4 cm wide calcite vn at 50° to CA marks lower limit of hem staining.
				123.80		Contact between polymictic cgl and debris flow at 70° to CA.
123.80	138.35	DF				<p>Debris Flow The descriptions between 123.80 and 138.35m are within the DF stratigraphic unit. The descriptions pertain to the DF lithology unless otherwise specified.</p> <p>Matrix supported, poorly sorted, angular to subangular volcanic to</p>

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						volcaniclastic frags in a dk green to black, chlorite altered matrix interbedded with a poorly sorted, fine to med-grained, dk grey to black wacke with grit (or tuff; unit CS) and lt greenish grey, poorly sorted siltstone (ash tuff?; unit STS). Within the debris flow, clasts vary in composition from a fine to med-grained volcanic to angular clasts of the interlayered siltstone and range in size from 5 mm to 13 cm in size with <5% being larger than 2 cm. Where wacke with grit overlies the debris flow, contacts are gradational while contacts between the siltstone and debris flow are sharp and oriented 60-70° to CA. Rare, mm scale ankerite/calcite vns to ~134. 80 m then banded, ankerite-calcite to ankerite-qtz vns are present.
123.80	124.15	DF				Debris flow. <1% discontinuous py rims on some frags.
124.15	125.45	CS				Wacke with grit. Poorly sorted, fine to coarse-grained with pebble size clasts present near lower gradational contact with debris flow. Matrix changes from a dk green to black colour to a bleached, greenish grey colour towards the gradational contact. Sharp upper contact at 60° to CA. Tr very fine diss py within the matrix.
125.45	128.60	DF				Debris flow. Matrix bleached to a light grey.
128.60	131.95	STS				Poorly sorted siltstone (or ash tuff). Lt greenish grey, weakly laminated with laminations varying from

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						medium-grained wacke to silt with rare, cm thick lenses of debris flow or wacke with grit. Mm to cm, pebble size, medium grained volcanic scattered throughout. Weak ser(?) altn gives the light greenish-grey colour. Trace py with calcite replacing clasts at 129.45 and 129.65 m. Strongly frac with calcite infilling frac from 131.40 to 131.60 m.
131.95	134.20	DF				Debris flow. Light grey, bleached matrix. Large siltstone clasts in lower part.
134.20	134.85	STS				Poorly sorted siltstone. Weak, buff coloured ankerite altn in places. 2 cm wide, banded qtz>calcite+ankerite vn at lower contact. Vn oriented 90° to CA and cutoff by contact oriented 30° to CA.
134.85	135.85	CS				Wacke with rare pebbles. Fault gouge in broken core at ~135.80 m. Lower 5 cm consists of mm scale bands of dk black chorite and white quartz vns at 70° to CA with buff coloured ankerite infilling frac.
135.85	138.35	DF				Debris flow. Mod bleached and ser-qtz-py altered with patches of 1-2% f diss py; interval ave <1%. Broken core from ~137.10 to ~137.70 m.
138.35	158.25	MSB				Monomictic Sedimentary Breccia The descriptions between 138.35 and 158.25m are within the MSB stratigraphic unit. The descriptions pertain to the MSB lithology unless otherwise specified.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
138.35	141.20	MSB				Monomictic sedimentary breccia (possible flow breccia). Consists of green, mod chlorite and weak ser>qtz±py altered vg volcanic clasts in a light greenish-grey, very fine to medium grain, mod to strongly bleached and ser-si altered groundmass. Appears to grading into and is similar to the overlying debris flow. Tr diss py but locally as clusters to 3-5%
			140.20	141.20	Altn	Ser>qtz altn of clasts and increase py content.
				140.70	Vn/Sx	Cluster of 3-5% py crosscut by 5 mm qtz-calcite vn at 40° to CA.
			140.35	143.55		Note: Core from 140.35 to 143.55 m was mixed up, possibly as the result of dropping. Able to reposition the core to a high degree of confidence except for the interval 141.45 to 143.10 m.
141.20	146.60	MF				Intermediate (andesitic?) flow. Non-magnetic, olive green colour and varies vesicular with calcite-chlorite amygdules to fine grained, massive and homogeneous. Upper contact marked by an aphanitic chill zone. Crosscut by three distinct vns; mm to cm size, white to light grey, qtz-py with minor calcite vns, white to pinkish white calcite>qtz vns and buff coloured ankerite±qtz vns. From ~154.75 m, halo of grey si altn around, py filled, discontinuous, very fine frac. Upper contact at 60° to CA.
			141.20	~143.05	Contact	Aphanitic to fine grain chilled flow contact. Lt olive colour with patches of dk green chlorite altn. Crosscut by a 4 cm wide, banded

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						ankerite>calcite>qtz vn at 30° to CA. Light grey qtz lenses surrounded by white calcite-qtz with buff ankerite crosscutting both.
			~143.0 5	146.60	MC cont	Vesicular flow. Crosscut by numerous bleached and si altered, grey patches with py, mm size, buff coloured ankerite vns at 40-70° to CA, white coloured qtz>calcite vns at 50-70° to CA. Some py within the calcite-chlorite amygdules.
				145.55	Vn	Banded, 5 cm wide, qtz-calcite-py vn (10-15%py) at 30° to CA.
146.60	154.85	MF				Magnetic Flow. Massive flow, fine grain and homogenous without amygdules.
			146.60	150.55	Vn/Sx	Banded buff to white coloured, ankerite qtz-vns, 2-3 cm wide, at <10° to CA. Crosscut and include parts of qtz-py vns with cm size cpy bleb at 150.25 m. White to pinkish calcite to qtz-calcite vns within qtz-py vns or at 30-80° to CA, crosscut qtz-py vn but are crosscut by ankerite-qtz vn
154.85	158.25	MF				Vesicular flow. Similar to above but fine grain chlorite altered xtals in a lt yellowish green, strongly altered and bleached groundmass and few calcite vns.
158.25	162.75	DF				Debris Flow Debris flow consisting of a moderately sorted, very fine to coarse-

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						grained wacke with grit overlying a debris flow with dk green, angular chlorite altered clasts/fragments in a pinkish olive, mod bleached and weakly hem stained matrix.
158.25	161.35	CS				Wacke with grit. Thin to thickly bedded or layered, 5mm to >1 m in thickness, with beds varying from medium grain wacke (thicker beds) to very fine grain wacke to siltstone (thinner beds). Some aphanitic lenses are strongly si and tinted pink due to weak hem staining. 30 cm section of broken core at the contact with the underlying debris flow.
161.35	162.75	DF				Debris flow. Angular, chloritic frags in a fine grain groundmass with patchy bleaching and hem staining.
162.75	237.20	MSB				Monomictic Sedimentary Breccia The descriptions between 162.75 and 237.20 m are within the MSB stratigraphic unit. The descriptions pertain to the MSB lithology unless otherwise specified.
162.75	166.70	LFa				Fragmental latite flow. Clast supported breccia consisting of highly angular frags of fine grain volcanic within a very light grey to greenish grey matrix. Frags are mod chlorite-calcite to ser-py altered while matrix is strongly bleached and si to weakly ser/clay (?) altered. Py is finely diss and varies in concentration from a trace to 2%, ave <1%. Unit appears to be more of a healed breccia.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
166.70	188.15	LF				<p>Latite Flow</p> <p>Fine to medium-grained, homogenous and massive with 20-30% subhedral to euhedral flds xtal composition containing odd clast of dk green, fine-grained volcanic with buff coloured (Fe-carbonate/ankerite altered?) acicular xtals. Chlorite-Fe-carbonate/ankerite (?; buff coloured) to qtz altered xtals in a chlorite altered groundmass overprinted in places by strong hem staining or bleaching and qtz-ser-py altn. Numerous intervals, 4-20 cm in width, of healed breccias consisting of frags of the ser-py altered host rock within a lt greenish-buff coloured, aphanitic and strongly si altered groundmass. Weak ser-py altn halo surrounds some of these brecciated intervals. Rare mm size, white qtz>calcite with py along vn contact or selvage, crosscuts altn at 20° to CA. White to pinkish white calcite vns and sweats occur throughout. Py content varies from tr (f diss) to 10% as swirls or patches.</p>
			166.70	172.70	Altn	Patches of qtz-ser-py altn with py blebs or clusters replacing areas/xtals of chlorite altn.
			172.70	177.55	Altn/Sx	Decrease in ser-qtz altn, patchy py mineralization with some py forming rims around calcite sweats and vns.
			179.65	180.40	Altn	Increase in hem staining, more volcanic frags. Crystal lithic tuff?
			180.40	181.80	Altn	Mod to strong hem staining of groundmass and abundant volcanic clasts.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			181.80	182.50	Altn	Decrease in hem staining.
				183.70	Altn	Start of strongly si and bleached healed breccias. In areas of stronger clacite altn, calcite penetrates along frac within si>ser altered and bleached areas.
				188.15		Contact (?) with underlying flow breccia. Identified only by the lack of acicular xtal lithic frags.
188.15	228.90	LFa				Fragmental Latite Flow Dark green, flds phyrlic, chlorite altered volcanic fragments (highly angular) to 15 cm in size within in a fine to coarse-grain matrix containing smaller fragments similar to the larger volcanic fragments. Patchy quartz-sericite-pyrite altn throughout along fractures and within the matrix (?) of the flow breccia. Flds xtals being replaced by ank within the quartz-sericite altered areas. Numerous qtz-calc to qtz-ankerite vns crosscut the altn. Traces of pyrite or chalcopyrite-pyrite confined to these vns.
				192.90	Vn	Cm wide banded qtz vn with 7-10% py cluster. Dk grey to white qtz with py rimming the dk grey qtz to one side. Vn oriented 60° to CA.
			198.60	199.55	Vn	Cm wide, banded qtz-calcite-py (3-5%) vn at 30° to CA. Surrounded by a yellowish-white, strongly si altered and bleached altn halo. Mm wide parallel vn in HW wall separated by strongly qtz/si flooded area with 2-3% py (fine diss to stringers). 2 cm wide, banded ankerite-

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						calcite>qtz+py vn oriented at 40° to CA. Also located within broad HW altn zone.
				206.50	Altn	Series of strongly bleached and si altered altn halos similar to above but varying in width from 4 to 13 cm (tw) surround mm wide ankerite vns to cm wide, banded ankerite + white calcite ± grey calcite-py vns oriented 30-40° to CA.
				209.85	Vn	5 mm wide, white calcite vn with 3-5% cpy at 30° to CA. No altn halo.
				211.80	Vn	Mm scale qtz-ank vn at 15° to CA. With 1% cpy and 1% py. Within bleached and si altered halo.
				212.20	Vn	5 mm qtz>calc vn at 60° to CA with 30% py and 15% cpy. Within strongly si altered host.
			213.90	214.10	Vn	Parallel set of qtz-calc to qtz-ank veins, mm to 2cm in size, at 60-70° to CA.
			216.55	217.10	Altn	Strong ser>qtz+minor py (<1% diss) halo on a 5 mm wide calc-qtz-py (1-2% blebs) at 216.65 m and oriented 60° to CA.
				218.35	Frac	5 cm wide gouge at 60° to CA.
			219.15	219.55	Frac	Three 3-5 cm wide gouge zones bounded by a FW fracture oriented 60° to CA. Decrease in qtz-sericite altn beneath this fault zone.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				220.20	Vn	One cm wide calc-ank vn with shards of py within and on the vein margin (py formed during an earlier period?). Vn oriented 30° to CA.
			224.60	230.40	Altn/Sx	Increase in qtz>ser altn grading in intensity to lower faulted contact. Bleaching increases with degree of altn. Crosscut by numerous white qtz-calc and light grey, diffuse calc>qtz vns. Tr to <1% py+cpy stringers and blebs within the some vns. 20 cm crush zone (fault?) marks the lower contact and is at 60° to CA.
				224.85	Sx Vn	4 mm wide qtz-calc vn with 2% cpy+py at 50° to CA.
				225.15	Sx Vn	4 mm wide calc-qtz vn with 2% cpy+py at 45° to CA.
				226.50	Sx Vn	Tr cpy + <1% py with white qtz>calc sweat.
				227.35	Sx Vn	1% cpy + 2% py with cm wide, light grey vn at 60° to CA.
				227.65	Sx Vn	<1% cpy>py with cm wide, lt grey vn at 50° to CA.
228.90	230.40	MSB				Monomictic Sedimentary Breccia Few angular to subrounded latite frags within a strongly to intensely qtz>ser grading to qtz>>ser altered matrix bleached lt green to lt grey. Py content varies from 1% diss and confined to fragments in the ser<qtz altered part to 3-5% diss within the qtz>>ser altered lower section.
230.40	237.20	XF				Altered shear or breccia zone of and to latite flow.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						Altn grades from strong to intense, dk green qtz-chlorite-py to banded to mottled, maroon to light green ser-qtz>chl+hem staining to purplish olive coloured py-ser-qtz alteration. Py and cpy occurs as diss to blebs to mass clusters (up to 20% py and 5% cpy) occur mainly in the dk green qtz-chl-py with minor ser altn
			230.40	231.55	Sx/Altn	Strong to intense qtz-chlorite-py with minor ser after 231.20 m depth. Mass cluster of py-cpy occurs at 230.45 m and blebs to diss cpy (1-2%) and py (3-5%) from 231.20 to 231.55 m.
			231.55	233.65	Altn/Sx/F Z	Banded and mottled purplish coloured qtz-chlorite with hem staining to light green qtz-ser-py to greenish white to light pink qtz flooded altn. Banding at 30-60° to CA. Interval contains 3-7% py as diss throughout to wisps or blebs within qtz flooded areas. Tr cpy blebs within qtz flooded zone at 233.40 m. 14 cm fault gouge zone centred at 232.10 m oriented 50° to CA. 15 cm slice of purplish-olive coloured ser-py altn faulted in below fault; slice bounded by lower cm wide gouge at 232.40 cm oriented 60° to CA.
			233.65	236.65	Altn	Purplish green ser-py altn consisting of olive coloured ser-py altered angular frags in a purple-grey coloured, ser>>clay(?) + py altered matirx. Contains 5-10% fine diss py.
			236.65	237.20		Lt grey qtz flooded lower contact of shear-breccia zone with 3-5% diss py. Weak cleavage at 40-45° to CA.
237.20	276.45	GW				The remainder of the hole has been assigned as part of the 'grey wacke'

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
						footwall stratigraphy. The lithological unit is latite flow as described below.
237.20	276.45	LF				Latite Flow Green, chlorite to ser replaced, mm size anhedral to subhedral xtals (flds?) within a light green to grey, fine-grained ser-qtz altered groundmass. Massive appearance with no apparent layering. Strongly fractured and brecciated in places with smokey grey to light greenish-grey qtz vns ± py infilling fractures/open spaces. Late stage qtz-calcite to carb vns crosscut ser altn.
			237.20	240.35	Altn/Vn	Strong ser overprinted with patches of si/qtz flooding. Light grey appearance. Py blebs associated with qtz flooded areas while py wisps to stringers found within dk grey ser-py to white calc-qtz vns at 50 to 60° to CA.
			240.35	242.35	Altn/Vn	Lt green colour with flds (?) xtals altered to ser. Patches of lt green, si flooding. 2-5 mm wide, grey qtz-py vns crosscut by white, mm size calc-qtz vns or sweats.
			242.35	244.25	Altn/Vn	Increase bleaching and qtz altn (?) of matrix to light green-grey colour. Numerous diffuse, light grey qtz-py vns, 2-10 mm in size, at 40-70° to CA.
			244.25	254.75	Vn/Atln	Patchy strong ser-qtz-py altn bounding dk grey qtz/ser-py vns at 30-40° to CA. Crosscut or infilled with white calc/carb±qtz vns or sweats without py oriented 10-30° to CA.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
			244.65	245.15	Vn	4 calc+qtz+py vns, mm to cm size at 30 to 40° to CA. Bounding and infilling frac within a light green qtz vn from 244.90 to 245.10 m.
			245.95	246.20	Vn	30 cm, lt green qtz vn with calc+py filled frac. Lower contact at 60° to CA.
			254.75	276.45	Altn/Vn	Lt olive to grey colour, strong ser-qtz-py (1-2% fine diss) crosscut by mm to cm size, light grey calc-qtz vns with mm to cm wide, dk olive colour, ser-py selvages. Vns oriented 25-30° to CA. Flds xtals/shards vary in altn from ser near top to ankerite-calc lower down. <cm size white calc vns crosscut and offset dk olive coloured vns.
			260.85	261.90	Brx/Vn	Qtz-py healed breccia/vn. Dk olive coloured ser>qtz-py altered frags in a smokey grey qtz-py (1-2% very fine diss) matrix. 17 cm vn oriented 45° to CA. Centred on 261.60 m. Lt grey qtz-calc vns crosscut the darker qtz-py vn.
			263.45	264.50	Brx	Healed breccia. Ser-py and smokey qtz (?) frags within a lt olive grey matrix (matrix supported) with patches of smokey qtz flooding.
			265.60	266.55	Vn/Sx	2-3% py as diss or blebs. Grey qtz-calc vns with py form fracture fillings or selvages on lt-grey calc-qtz vns without py.
			270.15	270.50	Vn	2 lt olive-grey qtz vns, 1 and 5.5 cm width, at 50° to CA. Larger vn contains 1% very fine diss py.

Lithological Unit			Subunit / Detail			Description
From (m)	To (m)	Lith Code	From (m)	To (m)	Lith / Detail	
				272.30	Vn	2 cm qtz vn similar to above at 30° to CA.
				273.20	Vn	13 cm qtz vn, smokey grey and banded appearance – possibly silicified ash-tuffs. Diffuse fragments of the host latite within the vn. Vn contacts at 50° to CA.
			276.70	276.95	Vn/Sx	cm wide banded qtz-calc-ser-py vn. Vn sequence appears to be greyish white qtz vn – grey qtz vn with ser-py selvage – yellowish white qtz-albite vn – calcite filling frac. Tr fine diss sph and gln with grey qtz. Vn oriented 10° to CA.
	276.45	EOH				