CASA EXPLORATION LTD.
DIAMOND DRILL RECORD

Length	65.22 m	Contractor	Kluane Drilling Ltd.	Hole No.	HA-89-3
Bearing	GRID WEST	Core Size	BQ Casing	Project	Hop-Acme Claims
Dip	-70°	Started	05:00 pm, Sept.29'89		
Lat.	3096.5 N.	Completed	09:00 am, Oct.1'89	NTS Map	115 H/7
Dep.	2736.3 E.	Logged by	S. Peulgen, J.C. Stephen	Claim	
Elev.	1134.5	Stored	Geoff Lattin	# Pages	3
C.B. Thickness	14.63 m		WHITEHORSE	Purpose	-to test geophysical anomaly

Footage (m) From	To	DESCRIPTION	Sample#	From	To	Length(m)	Assays Au(g/t)	Ag(g/t)	Cu(%)	MoS_2(%)
0.00	14.63	overburden; (0.00-6.10) no record; (6.10-14.63) fragments of magnetite skarn, calc silicate skarn, mica schist, basalt dyke, quartzite, granitic material, massive coarse grained hornblende-rich grey granite								
14.63	16.00	heavily oxidized, broken fragments of light green (diopside?) calc silicate skarn (brecciated?), malachite staining, fractures crosscutting at 60 to 80 to core (fault?)	30024	14.63	16.00	1.37	0.274	8.57	0.42	
16.00	17.50	dark green actinolite-rich calc silicate skarn with disseminated particles of chalcopyrite (1-2%) and minor pyrite throughout section, disseminated pyrrhotite less frequent than chalcopyrite but usually seen intergrown with chalcopyrite, light fracturing throughout section (late, 30 to core), some minor jointing; (16.00-16.25) lightly oxidized; (17.20-17.50) lower contact gradational to skarn	30025	16.00	17.51	1.51	0.137	5.49	0.64	
17.50	18.88	light green to light grey calc silicate skarn interbedded with thinly banded grey to reddish brown mica schist and quartz, fragmented and oxidized in places								
18.88	23.06	light grey to black thinly bedded quartzite schist with occasional carbonate filled thin fractures which sometimes have pyrite and pyrrhotite mineralization surrounding them, some quartz veins evident; (22.76-23.06) slightly fragmented and oxidized, chalcopyrite and pyrrhotite observed on fracture planes occasionally								
23.06	23.63	dark grey to black garnet-rich mica schist, hornfels texture giving a mottled, speckled appearance, some fracturing and oxidation								
23.63	23.96	diopside (epidote?) calc silicate skarn with splashes of actinolite? (blue-grey) which contains a fracture infilled with chalcopyrite, some talc evident								
23.96	24.89	white marble with grey to black material interbedded intermittently, some fractures infilled with light green to dark green-black material,								

		soft serpentine minerals (soft, crushed with clay gouge on lower contact; (24.74-24.89' grading into schist
24.89	25.50	thinly bedded, grey-black-brownish-red mica schist, sometimes with nodules, bedding at 80 to core; (25.30-25.50) thin bands of actinolite-rich calc silicate skarn
25.50	25.92	calc silicate skarn; (25.50-25.67) primarily diopside-rich calc silicate skarn with specks of actinolite giving a spotted appearance and some mica.schist; (25.67-25.92) more siliceous (tremolite-rich calc silicate skarn), mica schist beds increase in amount
25.92	26.48	mica schist, thinly bedded, dark grey to brownish red; (26.23-26.48) increase in actinolite-rich calc silicate skarn beds, some minor fracturing in calc silicate skarn zone
26.48	26.69	light green diopside calc silicate skarn intermixed with actinolite and mica schist fragments giving a swirly appearance
26.69	26.84	mica schist, minor nodules (garnet?)
26.84	27.18	actinolite calc silicate skarn, minor chalcopyrite and pyrrhotite as disseminated particles
27.18	27.33	mica schist, minor nodules, small specks of sulphide minerals
27.33	28.46	light grey quartzite schist interbedded with mica schist
28.46	28.72	mica schist with nodules
28.72	29.28	greyish-white quartzite schist; (at 28.75) carbonate filled fracture, rock lightly mineralized with chalcopyrite in the vicinity of this fracture; (28.98-29.28) micaceous schist beds increasing in number
29.28	34.56	thinly bedded mica schist, dark grey to black to reddish-brown with occasional sections (30cm in width) interbedded with calc silicate skarn (diopside and actinolite); (29.28-31.58) oxidized, lightly fractured; (at 31.55) increasing number of nodules in schist, appears to become quite garnet-rich, some pyrrhotite appearing in calc silicate skarn bands
34.56	37.68	light grey to creamy white marble; (34.56-35.8') micaceous schist beds with serpentine on boundaries and fractures, some diopside calc silicate skarn beds throughout section, many small, fairly thin fractures; (at 36.14, 36.46, 36.87) lime green mineral infilling fractures; (37.33-37.68) marble interbedded with micaceous schist, lime green mineral in fractures approaching contact with calc silicate skarn
37.68	38.20	light green diopside calc silicate skarn grading into darker green actinolite-rich calc silicate skarn, very minor splashes of disseminated chalcopyrite and pyrrhotite, upper contact with marble has a serpentinized zone (7cm in width), lower contact with marble is sharp at 50 to core
38.20	39.14	white marble, lower contact irregular; (38.20-38.50) intermixed with diopside calc silicate skarn; (39.01-39.14) intermixed with diopside calc silicate skarn

[illegible]	[illegible]	diopside skarn with actinolite-rich beds, chalcopyrite (2%), pyrrhotite (1%), and pyrite (1%) mineralization, skarn quite altered (serpentine, gouge?) at lower contact with dyke (45° to core), skarn appears intruded by dyke	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	39.75	dark black basalt? quasi porphyritic dyke grading into light grey feldspar porphyry dyke within 3cm (sharp contact)							
39.75	40.38	light green, fine grained diopside calc silicate skarn with very minor splashed of disseminated chalcopyrite; (40.36-40.38) band of blueish-grey material	30027	39.74	40.39		0.65	0.034	1.37	0.16
40.38	40.81	light grey marble; (40.61-40.81) marble mixed with black material, very minor splashed of pyrrhotite							
[illegible]	41.27	light green diopside skarn banded by 2cm of blueish-grey material on each side, minor splashes of disseminated pyrrhotite and chalcopyrite, evidence of tremolite bands, serpentine	30028	40.81	41.29		0.48	0.034	0.69	0.06
[illegible]	43.15	light grey to white marble, light banding evident; (41.83-41.88) band of dark mica schist, bounded by serpentine on each side; (42.30-43.15) lightly fractured, fractures infilled with black material and/or epidote?							
[illegible]	44.10	medium green (spring green) actinolite-rich skarn with pyrrhotite (1%), chalcopyrite (0.5%), and pyrite (1%) mineralization, small zones of soft black material intermixed with calc silicate skarn, appear semi-banded, blotchy, some small quartz veins	30029	43.15	44.10		0.95	0.034	1.71	0.24
[illegible]	44.63	interbanded very pale green calc silicate skarn and quartz							
[illegible]	45.44	light grey to white quartzite, lightly bedded with thin beds of quartz, calc silicate skarn; (45.25-45.30) speckled calc silicate skarn along fracture							
[illegible]	46.05	interbanded quartzite and mica schist with bands of light green diopside calc silicate skarn							
[illegible]	49.97	tremolite-diopside calc silicate skarn with some quartz veins parallel to bedding and mica schist beds; (46.05-46.70) fractured and infilled with white non-carbonaceous material, core also pitted and crumbly in spots; (49.38-49.68) fractured and somewhat pitted (alteration?)							
[illegible]	53.92	greyish, blue-green, less siliceous (actinolite?) calc silicate skarn, lightly banded, some quartz and micaceous schist beds							
[illegible]	64.54	light green diopside calc silicate skarn with zones of actinolite-rich calc silicate skarn and mica schist, some minor fracturing and quartz veining (parallel to bedding); (62.52-62.97) speckled mixture of actinolite/diopside (appear as if interwoven)							
[illegible]	64.73	dark mica schist							
[illegible]	65.22	light green, very fine grained (aphanitic?) rhyolotic dyke, black phenocrysts, irregular upper contact with schist (40° to core); (64.87-64.96) breccia zone with calc silicate skarn and mica schist fragments							

END OF HOLE