

Diamond Drill Record				HOLE NO. 86-AOR-LS3		Page 1 of 4				
LOCATION: LB 2+50S		DIPS - collar 45 °		CONTRACTOR: ARCTIC DIAMOND DRILLING		PROPERTY: LONE STAR - AOR-DEL				
AZIMUTH: 200°		- 344.5 ft 56 °		LOGGED BY: P. GRUNENBERG		CLAIM NO. L409; 533				
ELEVATION:		- m °		DATE: SEPTEMBER 8, 1986		SECTION NO. LONE STAR LEASES				
LENGTH: 430 FEET		- m °				STARTED: SEPTEMBER 5, 1986 2:00 p.m.				
CORE SIZE: n Q						COMPLETED: SEPTEMBER 7, 1986 4:30 a.m.				
PURPOSE: To test an Induced Potential anomaly										
Section		ROCK		Interval		ALTERATION		VEINLETS		
from mft	to mft	DESCRIPTION		from mft	to mft	MINERALIZATION etc.		Thickness mm	Angle to core	minerals in decreasing abundance
20	167.5	<p>Quartz muscovite schist. Thin muscovite (+ minor chlorite) lamellae between quartz bands. Muscovite rich zones up to 3 cm wide. Quartz is mostly bands, accounting for from 40% to 60% of the core. Quartz also occurs as pods, which take up 10% of section, up to 6 cm. Schistosity to C.A.: 46°, but mostly moderately crenulated. Quartz is mostly milky, with minor translucent sections. Few vugs to 5 mm, quartz druse. Grey calcite with quartz. Minor epidote stringers and blebs. Green drusy coating on some quartz vugs, with euhedral pyrite cubes within vugs. Vugs are rare.</p> <p>Core Recovery:</p> <p>20 - 28 = 3/8 28 - 106.5 = 100% 106.5 - 120 = 12.5/13.5 120 - 170 = 100%</p>				<p>Top 4 feet of core is very rusty, highly fractured, and poor recovery (6 inches/4 feet). Black manganese staining = oxidized. Minor black manganese fracture coating staining throughout core section. Pyrite generally occurs as stringers or blebs along a stringer "zone" parallel to schistosity. Pyrite may be euhedral crystals to 3 mm. Stringers may be 5 mm thick. Stringers most often occur along the quartz/muscovite contacts. Pyrite makes up 1 - 2% of section, and up to 5% of 10 cm long sections (especially blebs near 115 feet). Minor (less than 1%) magnetite crystals (round, 2 - 3 mm) disseminated throughout section, but may be more in enriched zones, to 5% of core.</p>				

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Section		ROCK DESCRIPTION	Interval		ALTERATION. MINERALIZATION etc.	VEINLETS		
from rft	to rft		from rft	to rft		Thickness mm	Angle to core	minerals in decreasing abundance
167.5	199	Green grey section of core with predominantly mariposite micas. Quartz, mariposite, muscovite + carbonate schist. 50% quartz 20% mariposite 10% muscovite to 20% carbonate & others Relatively mottled texture with carbonate as blue-grey spots throughout some sections. Approximate schistosity to C.A.: 50°.	24	25.5	Quartz vein. Assumed to be a vein, but contact is unknown due to fracturing. A few vugs, quartz is milky white with a few translucent areas. Rusty fracture staining and boxwork to 1%. A few pyrite/galena/chalcopyrite globules to 1 cm. Pyrite is euhedral cubes and massive, galena is cubic, chalcopyrite is massive. Globules occupy less than 1% of vein. In bottom of section, a few crosscutting (possibly fracture filling) calcite stringers, to 3 mm wide. Carbonate and mariposite appear to represent part of the metamorphic fabric of the rock, as opposed to a later alteration. Pyrite occurs throughout the section as fine form stringers and masses of fine grained crystals, with a stronger affinity towards the mica banding within the schist. Pyrite up to 1% very localized, or less than 1% through section.			

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Section		ROCK DESCRIPTION	Interval		ALTERATION, MINERALIZATION etc.	VEINLETS		
from Rft	to Rft		from Rft	to Rft		Thickness mm	Angle to core	minerals in decreasing abundance
199	208	Spotty, light grey. Quartz, carbonate, muscovite schist. 50% quartz 30% carbonate 20% muscovite + chlorite. Schistosity fairly pronounced in sections; to C.A.: 35°. Transitional contact with unit above with decrease in mariposite, and mild increase in carbonate (calcite?).	AT	208	Pyrite throughout section as elongated blebs to 1 cm length, very thin. Locally pyrite to 5% over a given 6 inches, about 1% throughout. 10 cm quartz vein or pod, milky white, somewhat mottled textured, no apparent associated sulfide mineralization.			
208	261.5	Pale yellow-green quartz, 55 to 75%. Muscovite + chlorite 25% schist. Nearly quartzitic in places. Transitional contact from above with decrease in carbonate. Schistosity to C.A.: 42°, where detectable.	AT	224	Roughly 1% finely disseminated pyrite evenly distributed through section, somewhat banded parallel to schistosity. 6 cm quartz vein or pod with three or 4 coarse chalcopryite, galena, pyrite assemblage blebs, coarse, far between. 6 inch breccia texture zone, completely healed, quartz and schist fragments, semi-angular, to 2 cm diameter. Disseminated pyrite, and some coarse packets mildly enriched in this zone.			
			235.5	236				

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Section		ROCK DESCRIPTION	Interval		ALTERATION. MINERALIZATION etc.	VEINLETS		
from ft	to ft		from ft	to ft		Thickness mm	Angle to core	minerals in decreasing abundance
261.5	289	Pale yellow-green quartz - 55 - 75%. Sericite - 15%. Muscovite + chlorite 10%. Contorted schistosity banding of quartz. Average schistosity to C.A.: 45°. Core Recovery: 170 - 290 = 100%			Less than 1% pyrite blebs and disseminate through section.			
289	430	Quartz muscovite schist. Light green grey color. Schistosity averages 60° to 80° through section. Quartz bands in sections only to 5% of core. Towards the bottom of the hole quartz bands go to zero %, and the rock becomes nearly quartzite in appearance. Some surfaces of core contain up to 5% chlorite, but average is less than 1% Core Recoveries: 290 - 293.5 = 3/3.5 293.5 - 303 = 8/9.5 303 - 430 = 100%	289	304	Shear Zones: Core through here is very broken, i.e., recent brecciation. Individual fragments are clayey to powder. Most fragments still contain recognizable schist fabric. Carbonate coatings on some surfaces. Pyrite less than 1% throughout, but some apparent late stage enrichment along fractures to 20% of a given surface. Another section of broken, clay altered core. At strongest brecciation core ground to powdery matrix with roughly 20% quartz fragments to 5 mm diameter. Less than 1% pyrite throughout.			
			393	397				