APPENDIX 1,
SAMPLE DESCRIPTIONS

Embarcadero # 1

Meters	
0 - 24	Flood plain quartz gravels.
24 - 162	Calcareous redbeds - Clay, claystone, alternating shales and sandstones.
162 - 985	Light gay to gray black, usually firm, hard, calcareous, alternating shales, siltstones and sandstones.
985 - 1265	Light to medium gray, arkosic, siliceous and calcareous, firm to hard, alternating greywacke shales and sandstones.
1265 - 2189	Light to dark gray, very fine to medium grained, slightly arkosic, calcareous, firm to hard, blocky, fissile, alternating shales and sandstones.
2189 - 2220	As above but sandstones contain brecciated fragments.
2220 - 2235	Grayish white to dark gray, calcareous, firm, blocky, very fine to fine grained, alternating shales, siltstones, and sandstones. Interbedded in the s sandstones are thin beds of light gray, microcrystalline, dense limestone.
2235 - 2308	Calcareous and argillaceous redbeds: Medium to dark reddish brown to orange-red, very fine to fine grained, angular to subangular, poor to moderately sorted, firm alternating shales, siltstones and sandstones. The sandstones are generally well cemented with calcite or silica and have very low porosity.
2308 - 2470	As above but also containing greenish white to gray green shales and sandstones.
2470 - 2774	As above but also containing occasional white, light gray, and blue, subangular to surrounded, very fine to fine grained sandstones.
2774 - 3125	Calcareous and argillaceous redbeds as described

between 2235 and 2308 m. The hole was building angle, suggesting the bit was following bedding planes.

3125 - 4073 As above but containing abundant secondary, crystalline calcite and traces of anhydrite in fractures which create a sucrosic texture. The shales are occasionally light green, gray, and blue.

4073 - 4159 Light to dark gray, black, slightly calcareous, carbonaceous, subangular to subrounded, poor to moderately sorted, firm to hard, alternating shales, siltstones, and sandstones. There is occasional disseminated pyrite in the sandstones.

4159 - 4204 As above but containing 50% redbeds.

4204 - 4479 Quartzite and quartz that appear to fill large fractures in the red beds described above. The quartz is clear to white, light green, very clean, and occasionally disseminated with pyrite.

4512 - 4534 Quartz fault gouge.

4534 - 4580 Phyllite: Low grade schist that is dark gray to black, poorly foliated, occasionally disseminated with pyrite, and firm to hard. The phyllite contains lenses of clear to light green quartzite.

Raiti - Tara # 1

0 - 30 Red to yellow clay and river gravel.

30 - 503 Redbeds: Calcareous, very fine to coarse grained, poorly sorted, soft to firm, sometimes friable or unconsolidated, alternating shales, siltstones, sandstones, and conglomerates. The sandstones are cemented with calcite, anhydrite, and occasionally silica and hematite. The conglomerates are clast supported in a sand matrix. Clasts are subangular to surrounded and include quartz, quartzite, chert, and occasional volcanic and limestone detritus.

503 - 1372 Same as above except the redbeds are generally better cemented, creating dense layers that are responsible for the strong amplitudes between 0.45

and 0.50 seconds on the seismic section.

1372 - 1538	Same as above except the redbeds contain 10-20 m zones of limestone conglomerate. Conglomerates have a red claystone matrix. Limestone clasts are sub-rounded, micritic, non-fossiliferous, clean, dense mudstone.
1538 - 1696	Redbeds: Calcareous, with crystalline calcite and anhydrite cement in microfractures, fine grained, poorly to moderatly sorted, friable to hard and tight, alternating shales, siltstones and sandstones that contain coarse fragments of quartz, quartzite, and limestone.
1696 - 1883	Dark brown to gray, calcareous and siliceous, very fine grained, moderately well sorted, friable to hard, shales, siltstones and sandstones.
1883 - 1979	Gray, green, fine grained, well sorted, calcareous and siliceous, carbonaceous with disseminated pyrite, slightly friable, tight shales, and sandstones.

APPENDIX 2,
LOGGING PROGRAMS

Embarcadero No. 1

Run no. 1 (190-1113 m), Dual induction, self potential, gamma ray, caliper, sonic and dip log.

Run no. 2 (1128-2413 m), Same as above (Dual induction, self potential, gamma ray, caliper, sonic and dip log).

Run no. 3 (2744-4269 m), same as above but without a dip log (Dual induction, self potential, gamma ray, caliper, and sonic log).

Check shot survey, (183-2763 m), The sonic log was used to interpret velocities from 2413 to 4269).