Apache Northwest Pty Ltd

Cuttings Descriptions Report

Well Name :	Speke South-1	**Print Date**	4/18/2008
Wellsite Geologist(s) :	C Forster M Ngatai		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
Main				
2940.0 - 2945.0	60	**SANDSTONE:** as above		
	20	**SILTSTONE:** as above		
	10	**CLAYSTONE:** as above		
	10	**VOLCANIC:** as above First sample after Bottoms up from bit trip - likely large percentage of claystone and siltstone cavings		
2945.0 - 2955.0	72	**SANDSTONE:** transparent, translucent, fine to medium, well rounded to sub angular, well sorted, coarse to very coarse angular - friable to very hard aggregates, trace white argillaceous matrix in part, strong siliceous cement in part, lithics, trace chert, abundant recrystallised fractured grains, no to poor visible porosity, no show		
	15	**VOLCANIC:** pale green, trace light blue green, trace dark greenish grey minerals, abundant yellowish grey and rare white clay alteration, siliceous, pyritic, microcrystalline, firm to hard, friable, sub-blocky.		
	8	**SILTSTONE:** dusky yellowish brown, light olive grey to olive grey, brownish grey, carbonaceous material, hard, sub blocky, sub fissile		
	5	**CLAYSTONE:** medium grey, light olive grey, dark grey in part, firm to hard, silicified in part and very hard, sub blocky to fissile		
2955.0 - 2960.0	45	**SANDSTONE:** very light grey, transparent, translucent, milky in part, fine to medium, well rounded to sub ang, well sorted, coarse to very coarse angular friable to very hard aggregates, trace white siliceous matrix, strong silica cement in part, rare to common pyrite, abundant recrystallised fractured grains, no to moderately good visible porosity, no show		
	30	**VOLCANIC:** as above, less altered in some cuttings, greyish black, deep green coloured minerals in part.		
	25	**CLAYSTONE:** medium grey to dark grey, olive grey to light brownish grey, common pyrite, silty in part, firm to very hard, sub blocky to sub angular, trace fissile		
2960.0 - 2965.0	50	**VOLCANIC:** as above, + light bluish grey groundmass, common chloritic and kaolinitic? alteration, trace quartz / chert veins		
	35	**SANDSTONE:** as above		
	15	**CLAYSTONE:** as above, brownish grey - olive grey, siliceous yellowish grey, firm, subblocky- altered volcanics		
2965.0 - 2970.0	45	**VOLCANIC:** pale green to moderate blue green, trace light blue green, trace light bluish grey groundmass, abundant yellowish grey, common chloritic and kaolinitic? alteration,deep green minerals, siliceous, pyritic, microcrystalline, firm to hard, friable, sub-blocky.		
	40	**SANDSTONE:** as above, trace coarse euhedral pyrite, and pyritic cement, trace SANDSTONE: transparent quartz, very fine to fine, round to sub round, trace angular, very well sorted, weak friable aggregates, weak calcareous cement in part, trace white - pale green argillaceous material, good visible porosity, no show		
	15	**CLAYSTONE:** as above, trace pyritic micro-veins		
2970.0 - 2975.0	45	**VOLCANIC:** as above		
	40	**SANDSTONE:** as above -predominatly recrystalised quartz, angular very coarse fractured cuttings,		
	15	**CLAYSTONE:** brownish grey, olive grey, medium to trace dark grey, trace carbonaceous material, firm to hard, sub blocky, sub fissile		
2975.0 - 2980.0	60	**SANDSTONE:** transparent, translucent, milky in part, quartz, fine to medium, rounded to sub angular, well sorted, coarse to very coarse angular very hard cuttings, trace white siliceous matrix, strong silica cement in part, trace weak calcareous, trace to rare pyrite, abundant recrystallised fractured grains, no to poor		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		visible porosity, trace fluorescence		
	20	**CLAYSTONE:** as above		
	20	**VOLCANIC:** as above		
2980.0 - 2985.0	80	**SANDSTONE:** as above - increase in nodular and intergranular pyrite, generally cleaner and loose		
	15	**CLAYSTONE:** as above no carbonaceous material, trace silicified with pyrite veins		
	5	**VOLCANIC:** as above		
2985.0 - 2990.0	80	**SANDSTONE:** transparent, translucent, milky in part, quartz, fine to coarse rounded to sub angular, well sorted, coarse to very coarse angular very hard cuttings, trace white siliceous matrix, strong silica cement in part, trace weak calcareous, rare to common pyrite, occasional lithics, abundant recrystallised fractured grains, no to poor visible porosity, trace fluorescence		
	15	**CLAYSTONE:** as above		
	5	**VOLCANIC:** as above		
2990.0 - 2995.0	80	**SANDSTONE:** as above, trace to rare pyrite, predominantly loose recrystallised quartz		
	15	**CLAYSTONE:** medium grey to dark grey, silicified, brittle, hard to very hard, sub blocky to angular,		
	5	**VOLCANIC:** as above - cavings		
2995.0 - 3000.0	90	**SANDSTONE:** as above, clean, angular coarse grain fragments, less pyrite		
	10	**CLAYSTONE:** as above		