



Apache

Cuttings Descriptions Report

Well Name : Dory-1		Print Date 15/11/2008		
Wellsite Geologist(s) : A Cruickshank G Fawns				
Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
Main				
2800.0 - 2805.0	75	CALCAREOUS CLAYSTONE: Olive grey, common medium grey, trace to minor micromicaceous, common silt, trace very fine to fine floating quartz grains, rare carbonaceous material, trace nodular and disseminated pyrite, trace glauconite, firm to brittle, sub-blocky to sub-fissile, dominantly sub-blocky, minor sub-fissile.		
	25	SILTSTONE: Dusky yellowish brown to brownish black, olive black in part, arenaceous, abundant glauconite, minor micromicaceous, trace very fine floating quartz grains, trace mica flakes, trace pyrite, soft to firm, sub-blocky.		
2805.0 - 2810.0	50	SILTSTONE: Dominantly olive black, common dusky yellowish brown to brownish black, arenaceous grading to argillaceous in part, abundant very fine to coarse glauconite, grades to GLAUCONITIC SILTSTONE, minor micromicaceous, trace very fine floating quartz grains, rare mica flakes, trace pyrite, trace ammonites, trace ooids, soft to firm, sub-blocky.		
	35	CALCAREOUS CLAYSTONE: Medium light grey to medium dark grey, dominantly medium grey, common olive grey, trace micromicaceous, minor very fine to fine floating quartz grains, trace nodular and disseminated pyrite, trace glauconite, soft to moderately hard, dominantly firm to brittle, common soft, minor moderately hard, sub-blocky to sub-fissile, dominantly sub-blocky, minor sub-fissile.		
	15	SANDSTONE: Clear to translucent, very fine to very coarse, dominantly very fine to fine, trace medium to very coarse, moderately sorted, angular to rounded, dominantly sub-angular to sub-rounded, minor angular and rounded, trace strong pyrite cement/matrix, trace argillaceous cement/matrix in part and grading to ARGILLACEOUS SANDSTONE, abundant glauconite, very hard aggregates where pyrite cement, soft aggregates where argillaceous cement, dominantly disaggregated, nil visible porosity, poor inferred porosity, no hydrocarbon fluorescence.		
2810.0 - 2815.0	40	SILTSTONE: as above		
	40	CALCAREOUS CLAYSTONE: as above		
	20	SANDSTONE: as above		
2815.0 - 2820.0	35	SILTSTONE: as above	18	1
	35	CALCAREOUS CLAYSTONE: as above		
	30	SANDSTONE: Clear to translucent, very fine to medium, dominantly very fine to fine, trace medium, well sorted, sub-angular to rounded, dominantly sub-rounded, common sub-angular, abundant rounded, trace strong pyrite cement/matrix, abundant glauconite, very hard aggregates where pyrite cement, dominantly disaggregated, nil visible porosity, poor inferred porosity, no hydrocarbon fluorescence.		
2820.0 - 2825.0	40	SANDSTONE: Clear to translucent, very fine to coarse, dominantly very fine to fine, common medium, trace coarse, well sorted, sub-angular to rounded, dominantly sub-rounded, common sub-angular, abundant rounded, trace strong pyrite cement/matrix, trace moderate siliceous cement, abundant glauconite, trace pyrite and glauconite inclusions, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, poor inferred porosity, no hydrocarbon fluorescence.		
	35	SILTSTONE: as above		
	25	CALCAREOUS CLAYSTONE: as above		
2825.0 - 2830.0	50	SANDSTONE: Clear to translucent, very fine to very coarse, dominantly very fine to fine, common medium, trace coarse and very coarse, moderately sorted, sub-angular to rounded, dominantly sub-rounded, common sub-angular, abundant rounded, trace strong pyrite cement/matrix, common glauconite, trace pyrite and glauconite inclusions, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, poor inferred porosity, no hydrocarbon fluorescence.		
	35	SILTSTONE: Dominantly olive black, common dusky yellowish brown to brownish black, arenaceous grading to argillaceous in part, dominantly minor to abundant in part very fine to coarse glauconite, minor micromicaceous, trace very fine floating quartz grains, rare mica flakes, trace pyrite, trace ammonites and ooids, soft to firm, sub-blocky.		
	15	CALCAREOUS CLAYSTONE: Medium light grey to medium dark grey, dominantly		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		medium grey, common olive grey, trace micromicaceous, minor very fine to fine floating quartz grains, trace nodular and disseminated pyrite, trace glauconite, soft to moderately hard, dominantly firm to brittle, common soft, minor moderately hard, sub-blocky to sub-fissile, dominantly sub-blocky, minor sub-fissile.		
2830.0 - 2835.0	50 35 15	SANDSTONE: as above, minor coarse to very coarse. SILTSTONE: as above CALCAREOUS CLAYSTONE: as above		
2835.0 - 2840.0	50 35 15	SANDSTONE: Clear to translucent, very fine to very coarse, dominantly fine to medium, abundant very fine, minor coarse to very coarse, moderately sorted, sub-angular to well rounded, dominantly sub-rounded, abundant sub-angular, abundant rounded, common well rounded (coarse to very coarse grains), rare strong pyrite cement/matrix, common glauconite, trace pyrite and glauconite inclusions, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, fair inferred porosity, no hydrocarbon fluorescence. SILTSTONE: as above CALCAREOUS CLAYSTONE: as above, grading to CALCILUTITE in part.		
2840.0 - 2845.0	60 30 10	SANDSTONE: Clear to translucent, very fine to very coarse, dominantly very fine to fine, common medium, minor coarse to very coarse, well sorted, sub-angular to well rounded, dominantly sub-rounded, abundant sub-angular, abundant rounded, minor well rounded (coarse to very coarse grains), rare strong pyrite cement/matrix, common glauconite, trace pyrite and glauconite inclusions, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, poor inferred porosity, no hydrocarbon fluorescence. SILTSTONE: Dominantly olive black, common dusky yellowish brown, dominantly argillaceous, common arenaceous, dominantly minor to abundant in part very fine to coarse glauconite, minor micromicaceous, trace very fine floating quartz grains, minor mica flakes, trace pyrite, trace ammonites and ooids, soft to firm, sub-blocky. CALCAREOUS CLAYSTONE: Medium light grey to medium dark grey, dominantly medium grey, minor olive grey, trace micromicaceous, minor very fine to fine floating quartz grains, trace nodular and disseminated pyrite, trace glauconite, grades to CALCILUTITE in part, soft to moderately hard, dominantly firm to brittle, common soft, minor moderately hard, sub-blocky to sub-fissile, dominantly sub-blocky, minor sub-fissile.		
2845.0 - 2850.0	70 25 5	SANDSTONE: Clear to translucent, common opaque, fine to very coarse, dominantly medium to coarse, common fine, common very coarse, moderately sorted, sub-angular to well rounded, dominantly sub-rounded, abundant sub-angular, abundant rounded, minor well rounded (coarse to very coarse grains), trace strong calcareous cement, trace strong pyrite cement/matrix, abundant glauconite, trace pyrite and glauconite inclusions, rare fissile quartz shards, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, good inferred porosity, no hydrocarbon fluorescence. SILTSTONE: as above CALCAREOUS CLAYSTONE: as above		
2850.0 - 2860.0	75 20 5	SANDSTONE: Clear to translucent, common opaque, fine to very coarse, dominantly medium to coarse, common fine, common very coarse, moderately sorted, sub-angular to well rounded, dominantly sub-rounded, abundant sub-angular, abundant rounded, minor well rounded (coarse to very coarse grains), trace strong calcareous cement, trace strong pyrite cement/matrix, abundant glauconite grading to GLAUCONITIC SANDSTONE in part, trace pyrite and glauconite inclusions, trace mica flakes, trace fossils, rare fissile quartz shards, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, good inferred porosity, no hydrocarbon fluorescence. SILTSTONE: as above CALCAREOUS CLAYSTONE: as above	6	
2860.0 - 2870.0	85 10	SANDSTONE: Clear to translucent, abundant opaque, fine to very coarse, dominantly coarse to very coarse, minor fine, abundant medium, well sorted, sub-angular to well rounded, dominantly sub-rounded to rounded, abundant sub-angular, common well rounded, trace strong calcareous cement, trace strong siliceous cement with fused grain boundaries, abundant glauconite, trace pyrite and glauconite inclusions, trace mica flakes, trace fossils, rare fissile quartz shards, trace brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, very good inferred porosity, no hydrocarbon fluorescence. SILTSTONE: as above, becoming more arenaceous.		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2860.0 - 2870.0	5	CALCAREOUS CLAYSTONE: as above		
2870.0 - 2880.0	90	SANDSTONE: Clear to translucent, abundant opaque, fine to very coarse, dominantly coarse to very coarse, minor fine, abundant medium, well sorted, sub-angular to well rounded, dominantly sub-rounded to rounded, abundant sub-angular, common well rounded, trace strong calcareous cement, trace strong siliceous cement with fused grain boundaries, trace argillaceous matrix, in part abundant argillaceous cement/matrix with fine grains and abundant glauconite and grading to an argillaceous glauconitic sandstone, common glauconite, trace mica flakes, trace fossils, rare fissile quartz shards, brittle to very hard aggregates (10%), dominantly disaggregated (90%), nil visible porosity, very good inferred porosity, no hydrocarbon fluorescence.		
	5	SILTSTONE: as above		
	5	CALCAREOUS CLAYSTONE: as above		
2880.0 - 2890.0	90	SANDSTONE: as above		
	5	SILTSTONE: as above		
	5	CALCAREOUS CLAYSTONE: as above		
2890.0 - 2900.0	50	GLAUCONITIC SANDSTONE: Medium grey to dark greenish grey, clear to translucent, very fine to medium, dominantly very fine to fine aggregates, dominantly medium disaggregated grains, well sorted, sub-angular to rounded, dominantly sub-rounded to sub-angular, common rounded, moderately strong calcareous cement, trace strong pyrite cement, trace to abundant argillaceous matrix in part, very fine to medium glauconite grading to GREENSAND in part, trace to minor mica flakes, trace fine pyrite nodules, trace lithics, abundant friable to moderately hard aggregates, dominantly brittle to moderately hard, rarely friable, dominantly disaggregated, nil to very poor visible porosity, fair inferred porosity, no hydrocarbon fluorescence.	5	
	30	SANDSTONE: Clear to translucent, abundant opaque, medium to very coarse, dominantly coarse to very coarse, abundant medium, well sorted, sub-angular to well rounded, dominantly sub-rounded to rounded, common sub-angular, abundant well rounded, trace strong calcareous cement, trace pyrite cement/matrix, trace glauconite, trace mica flakes, rare fissile quartz shards, brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, very good inferred porosity, no hydrocarbon fluorescence.		
	10	SILTSTONE: Dominantly olive black, common dusky yellowish brown, argillaceous, common arenaceous, dominantly minor to abundant in part very fine to coarse glauconite, minor micromicaceous, trace very fine floating quartz grains, minor mica flakes, trace pyrite, soft to firm, sub-blocky.		
	10	CLAYSTONE: Medium dark grey to olive grey, common medium light grey, moderately calcareous, trace micromicaceous, minor very fine to fine floating quartz grains, trace nodular and disseminated pyrite, brittle to hard, blocky to fissile, dominantly sub-fissile, trace blocky, common sub-blocky, common fissile to splintery.		
2900.0 - 2905.0	60	GLAUCONITIC SANDSTONE: as above		
	20	SANDSTONE: as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
2905.0 - 2910.0	50	SANDSTONE: as above		
	30	GLAUCONITIC SANDSTONE: as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
2910.0 - 2920.0	40	SANDSTONE: as above		
	40	GLAUCONITIC SANDSTONE: as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
2920.0 - 2930.0	40	SANDSTONE: Clear to translucent, abundant opaque, medium to very coarse, dominantly coarse to very coarse, abundant medium, well sorted, sub-angular to well rounded, dominantly sub-rounded to rounded, common sub-angular, abundant well rounded, trace strong calcareous cement, trace pyrite cement/matrix, trace glauconite and glauconitic staining, trace mica flakes, rare fissile quartz shards, trace pyrite lens		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	35	and inclusions, brittle to very hard aggregates, dominantly disaggregated, nil visible porosity, very good inferred porosity, no hydrocarbon fluorescence. GLAUCONITIC SANDSTONE: Medium dark grey to olive black, common medium grey, clear to translucent, very fine to medium, dominantly very fine to fine aggregates, dominantly medium disaggregated grains, well sorted, sub-angular to rounded, dominantly sub-rounded to sub-angular, common rounded, minor moderately strong calcareous cement, minor moderately strong siliceous cement, trace argillaceous cement/matrix and grading to ARGILLACEOUS SANDSTONE, common to abundant light grey argillaceous matrix, common brownish grey silty matrix in part, very fine to medium glauconite grading to GREENSAND in part, trace mica flakes, trace fine pyrite nodules, trace lithics, trace carbonaceous material, abundant friable to moderately hard aggregates, dominantly brittle to moderately hard, rarely friable, firm where argillaceous and silty, disaggregated, nil to very poor visible porosity, poor inferred porosity, no hydrocarbon fluorescence.		
	15	CLAYSTONE: Medium dark grey to olive grey, minor medium light grey, moderately calcareous to common non calcareous in part, trace micromicaceous, trace very fine to fine floating quartz grains, trace nodular and disseminated pyrite, trace carbonaceous material and laminae, brittle to hard, blocky to fissile, dominantly sub-fissile, trace blocky, common sub-blocky, common fissile to splintery.		
	10	SILTSTONE: Dominantly olive black, common dusky yellowish brown, greenish black in part, argillaceous and grading to SILTY CLAYSTONE in part, common arenaceous, minor glauconite, minor micromicaceous, trace to abundant very fine floating quartz grains and grading to SILTY SANDSTONE, trace mica flakes, trace pyrite, soft to brittle, dominantly firm, sub-blocky.		
2930.0 - 2940.0	50	SANDSTONE: as above	4	
	35	GLAUCONITIC SANDSTONE: as above		
	10	SILTSTONE: as above		
	5	CLAYSTONE: as above		
2940.0 - 2950.0	50	SANDSTONE: as above		
	30	GLAUCONITIC SANDSTONE: as above, decreasing glauconite content.		
	15	SILTSTONE: Dominantly olive black, common dusky yellowish brown, greenish black in part, common medium dark grey, dominantly arenaceous, argillaceous and grading to SILTY CLAYSTONE in part, minor glauconite, trace micromicaceous, trace mica flakes, trace to abundant very fine floating quartz grains and grading to SILTY SANDSTONE, trace pyrite, trace carbonaceous material, soft to firm, sub-blocky.		
	5	CLAYSTONE: as above		
2950.0 - 2952.0	70	SANDSTONE: as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
	10	GLAUCONITIC SANDSTONE: as above		
		Last sample before POOH		
2952.0 - 2960.0	65	SANDSTONE: clear to translucent, frosted, dominantly coarse to very coarse, commonly fine to medium grains, poor to moderately well sorted, angular to sub-angular, sub-rounded where fine to medium grained, trace weak calcareous cement, nil visible matrix, generally clean disaggregated grains, very good inferred porosity. FLUORESCENCE : (Trace) moderately bright pale blue to off white spotted residual fluorescence associated with coarse sandstone grains, slow diffusing cut and minor slow bleeding cut, thin off white to pale green film residue.		
	15	GLAUCONITIC SANDSTONE: Medium grey, light olive grey, very fine to fine, dominantly fine, well sorted, round to sub-rounded, minor moderately strong calcareous cement, common argillaceous matrix and grading to ARGILLACEOUS SANDSTONE, common to locally abundant very fine to medium glauconite grains, trace mica flakes, occasional fine pyrite nodules, trace lithics, trace carbonaceous material, friable to moderately hard aggregates, hard in part, very poor visible porosity, no hydrocarbon fluorescence.		
	10	SILTSTONE: medium dark grey brown, olive black, slightly arenaceous, common fine to medium glauconite grains, common tan lithics, minor micromicaceous, trace to minor nodular and disseminated pyrite, moderately hard to hard, sub-blocky.		
	10	CLAYSTONE: light bluish grey, light grey, light greenish grey, silicic, minor calcareous material, common off white lithics, commonly micromicaceous, hard to		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		very hard, sub-fissile to sub-blocky.		
2960.0 - 2970.0	50	SANDSTONE: as above, minor weak pyritic cement, trace nodular pyrite. FLUORESCENCE : (Trace) as above		
	20	SILTSTONE: as above		
	20	CLAYSTONE: as above		
	10	GLAUCONITIC SANDSTONE: as above		
2970.0 - 2980.0	60	SANDSTONE: as above FLUORESCENCE : (Trace) moderately bright pale green and pale blue to off white spotted residual fluorescence associated with coarse sandstone grains, slow diffusing cut and minor slow bleeding cut, thin off white to pale green film residue.		
	20	CLAYSTONE: as above		
	15	SILTSTONE: as above		
	5	GLAUCONITIC SANDSTONE: as above, abundant glauconite grains.		
2980.0 - 2990.0	75	SANDSTONE: as above, minor fine to medium grains, generally well sorted, occasional nodular pyrite. FLUORESCENCE : (Trace) as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
	5	GLAUCONITIC SANDSTONE: as above		
2990.0 - 3000.0	65	SANDSTONE: as above, increasingly common nodular pyrite and medium glauconite grains. FLUORESCENCE : (Trace) moderately bright pale blue to off white spotted residual fluorescence associated with coarse sandstone grains, slow diffusing cut and minor slow bleeding cut, thin off white to pale green film residue.		
	15	SILTSTONE: as above		
	15	CLAYSTONE: as above		
	5	GLAUCONITIC SANDSTONE: as above		
3000.0 - 3010.0	75	SANDSTONE: as above FLUORESCENCE : (Trace) as above		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above.		
	5	GLAUCONITIC SANDSTONE: as above		
3010.0 - 3020.0	75	SANDSTONE: clear to translucent, frosted, dominantly coarse to very coarse, commonly fine to medium grains, poor to locally well sorted, angular to sub-angular, sub-rounded where fine to medium grained, minor weak pyritic cement, trace weak calcareous cement, nil visible matrix, common nodular pyrite cemented around glauconite nodules, common loose medium glauconite grains, generally clean disaggregated grains, very good inferred porosity. FLUORESCENCE : (Trace) as above		
	10	SILTSTONE: medium dark grey brown, dark brown, occasionally off white to tan, slightly arenaceous, common fine to medium glauconite grains, common tan lithics, minor micromicaceous, trace to minor nodular and disseminated pyrite, moderately hard to hard, sub-blocky.		
	10	CLAYSTONE: light bluish grey, light grey, light greenish grey, silicic, minor calcareous material, common off white lithics, commonly micromicaceous, hard to very hard, sub-fissile to sub-blocky.		
	5	GLAUCONITIC SANDSTONE: as above		
3020.0 - 3030.0	70	SANDSTONE: as above FLUORESCENCE : (Trace)		
	10	SILTSTONE: as above		
	10	CLAYSTONE: as above		
	10	GLAUCONITIC SANDSTONE: Medium grey, light olive grey, translucent in part, very fine to fine, dominantly fine, well sorted, round to sub-rounded, minor moderately		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		strong calcareous cement, common argillaceous matrix and grading to ARGILLACEOUS SANDSTONE, abundant very fine to medium glauconite grains, trace mica flakes, occasional fine pyrite nodules, trace lithics, trace carbonaceous material, friable to moderately hard aggregates, hard in part, very poor visible porosity, no hydrocarbon fluorescence.		
3030.0 - 3040.0	80	SANDSTONE: as above FLUORESCENCE : (Trace) as above		
	10	CLAYSTONE: as above		
	7	SILTSTONE: as above		
	3	GLAUCONITIC SANDSTONE: as above		
3040.0 - 3050.0	80	SANDSTONE: as above, occasional strong siliceous cement where fine grained aggregates and associated poor to fair inferred porosity. FLUORESCENCE : (Trace) as above		
	10	SILTSTONE: as above, common carbonaceous micro laminations.		
	5	CLAYSTONE: as above		
	5	GLAUCONITIC SANDSTONE: as above, common off white argillaceous matrix.		
3050.0 - 3060.0	80	SANDSTONE: clear to translucent, frosted, dominantly coarse to very coarse, common very fine to medium grains, very poorly sorted, angular to sub-angular, sub-rounded where very fine to medium grained, common strong siliceous cement and common fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine aggregates, nil visible matrix associated with coarse grains, common nodular pyrite, occasional loose medium glauconite grains, rare chert fragments, generally clean disaggregated grains, very good inferred porosity. FLUORESCENCE : (Trace) as above		
	15	SILTSTONE: medium dark grey brown, medium brown, occasionally off white to tan, argillaceous in part, occasional fine to medium glauconite grains, common tan lithics, minor micromicaceous, common carbonaceous micro laminations. trace to minor nodular, moderately hard to hard, sub-blocky.		
	5	CLAYSTONE: as above, occasional light brownish grey, common carbonaceous micro laminations.		
3060.0 - 3070.0	85	SANDSTONE: as above, increasingly common fine to medium aggregates with off white argillaceous matrix, minor carbonaceous laminations and specks. FLUORESCENCE : (Trace) as above		
	15	SILTSTONE: as above		
3070.0 - 3080.0	90	SANDSTONE: clear to translucent, off white, frosted, very fine to very coarse, very poorly sorted, angular to sub-angular where coarse, sub-rounded where very fine to medium grained, common strong siliceous cement and common fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, nil visible matrix associated with coarse grains, common nodular pyrite, minor loose medium glauconite grains, common chert fragments, minor carbonaceous material, generally clean disaggregated grains and fractured quartzite shards, poor visible porosity in fine aggregates, fair to good inferred porosity. FLUORESCENCE : (Trace) as above		
	10	SILTSTONE: medium brown to tan, medium grey brown, argillaceous and locally grading to a SILTY CLAYSTONE, increasingly common carbonaceous laminations and specks, locally arenaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.		
3080.0 - 3090.0	85	SANDSTONE: as above, dominantly fine to medium grains. FLUORESCENCE : (Trace) as above		
	15	SILTSTONE: as above		
3090.0 - 3100.0	85	SANDSTONE: off white, clear to translucent, dominantly very fine to medium with common to abundant coarse to very coarse fractured grains, angular to sub-rounded, dominantly sub-angular, common strong siliceous cement and common fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, nil visible matrix associated with coarse grains, increasingly common carbonaceous specks and laminations in fine grained aggregates, common nodular pyrite, rare		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	15	<p>glauconite nodules, common chert fragments, common friable to moderately hard fine grained aggregates, generally clean disaggregated coarse grains and fractured quartzite shards, poor visible porosity in fine aggregates, generally fair to good inferred porosity.</p> <p>FLUORESCENCE : (Trace) as above</p> <p>SILTSTONE: as above, carbonaceous material locally grading to COAL stringers, occasional arenaceous laminations.</p>		
3100.0 - 3110.0	85	<p>SANDSTONE: as above</p> <p>FLUORESCENCE : (Trace)</p>		
	15	<p>SILTSTONE: as above</p>		
3110.0 - 3120.0	85	<p>SANDSTONE: as above, common coarse to very coarse grains.</p> <p>FLUORESCENCE : (Trace)</p>		
	15	<p>SILTSTONE: as above</p>		
3120.0 - 3130.0	85	<p>SANDSTONE: as above</p> <p>FLUORESCENCE : (Trace)</p>		
	15	<p>SILTSTONE: as above</p>		
3130.0 - 3140.0	80	<p>SANDSTONE: off white, clear to translucent, dominantly very fine to medium with common coarse to very coarse fractured grains, angular to sub-rounded, dominantly sub-angular, common strong siliceous cement and occasional fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, occasional carbonaceous specks, common nodular pyrite, rare glauconite nodules, common chert fragments, common friable to moderately hard fine grained aggregates, generally clean disaggregated coarse grains and fractured quartzite shards, poor to fair visible porosity in fine aggregates, generally fair to good inferred porosity, no hydrocarbon fluorescence.</p>		
	20	<p>SILTSTONE: medium brown to tan, medium grey brown, generally argillaceous and locally grading to a SILTY CLAYSTONE, common carbonaceous laminations and specks and locally grading to COAL stringers, locally arenaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.</p>		
3140.0 - 3150.0	75	<p>SANDSTONE: as above</p>		
	25	<p>SILTSTONE: as above</p>		
3150.0 - 3160.0	75	<p>SANDSTONE: as above</p>		
	25	<p>SILTSTONE: as above</p>		
3160.0 - 3170.0	70	<p>SANDSTONE: as above</p>		
	30	<p>SILTSTONE: medium brown to tan, medium grey brown, generally argillaceous and locally grading to a SILTY CLAYSTONE, common carbonaceous laminations and specks and locally grading to VITREOUS COAL stringers, locally arenaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.</p>		
3170.0 - 3180.0	70	<p>SANDSTONE: as above</p>		
	30	<p>SILTSTONE: medium brown to tan, medium grey brown, generally argillaceous and locally grading to a SILTY CLAYSTONE, common carbonaceous laminations and specks and locally grading to VITREOUS COAL stringers, locally arenaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.</p>		
3180.0 - 3190.0	80	<p>SANDSTONE: clear to translucent, off white, dominantly medium, commonly very fine to fine and common coarse to very coarse fractured grains, angular to sub-rounded, dominantly sub-angular, common strong siliceous cement and occasional fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, occasional carbonaceous specks, common nodular pyrite, rare glauconite nodules, common chert fragments, common friable to moderately hard fine grained aggregates, generally clean disaggregated coarse grains and fractured quartzite shards, poor to fair visible porosity in fine aggregates, generally fair to good inferred porosity, no hydrocarbon fluorescence.</p>		
	18	<p>SILTSTONE: as above, increasingly common COAL stringers</p>		
	2	<p>COAL: black, olive black, vitreous to sub-vitreous, common silty laminations and commonly grading to a CARBONACEOUS SILTSTONE, hackly in part, hard to very</p>		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		hard, sub conchoidal to sub-blocky.		
3190.0 - 3200.0	70 29 1	SANDSTONE: as above SILTSTONE: as above COAL: as above		
3200.0 - 3210.0	80 20	SANDSTONE: off white, clear to translucent, very fine to medium, common coarse to very coarse fractured grains, sub-angular to sub-rounded, common strong siliceous cement and occasional fused grain boundaries, minor moderately strong pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, occasional pale brown silty matrix and locally grading to a SILTY SANDSTONE, occasional carbonaceous specks, common nodular pyrite, common friable to moderately hard fine grained aggregates, generally clean disaggregated grains, poor to fair visible porosity in fine aggregates, generally fair inferred porosity, no hydrocarbon fluorescence. SILTSTONE: medium brown, medium grey brown, light olive grey, commonly argillaceous and locally grading to a SILTY CLAYSTONE, common carbonaceous laminations and specks and locally grading to VITREOUS COAL stringers, locally arenaceous and grading to a SILTY SANDSTONE in part, minor micromicaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.		
3210.0 - 3220.0	70 28 2	SANDSTONE: off white, pale brown, clear to translucent, very fine to medium, decreasingly common coarse to very coarse fractured grains, sub-angular to sub-rounded, common strong siliceous cement and occasional fused grain boundaries where coarse grained, trace pyritic cement, trace weak calcareous cement, common off white argillaceous matrix where very fine to fine tight aggregates, occasional pale brown silty matrix and locally grading to an ARENACEOUS SILTSTONE, common carbonaceous specks, common nodular pyrite with occasional glauconite grains, common friable to moderately hard fine grained aggregates, generally clean disaggregated grains, poor to fair visible porosity in fine aggregates, poor to generally fair inferred porosity, no hydrocarbon fluorescence. SILTSTONE: as above COAL: black, olive black, dark grey, sub-vitreous, dull and silty in part, common silty laminations and commonly grading to a CARBONACEOUS SILTSTONE, hackly in part, hard to very hard, sub conchoidal to sub-blocky.		
3220.0 - 3230.0	70 30	SANDSTONE: as above SILTSTONE: as above		
3230.0 - 3240.0	70 29 1	SANDSTONE: as above SILTSTONE: as above COAL: as above		
3240.0 - 3250.0	75 25	SANDSTONE: clear to translucent, frosted, off white to pale grey in part, fine to very coarse, dominantly fine to medium, common coarse angular grains, poor sorted, dominantly sub-angular to sub-rounded, common angular, common strong siliceous cement and fused grain boundaries where medium to coarse grained, minor strong pyritic cement, trace weak calcareous cement, common off white to pale grey brown argillaceous matrix where very fine to fine tight aggregates, occasional pale brown silty matrix and locally grading to ARENACEOUS SILTSTONE, common silty and carbonaceous laminations, common nodular pyrite, common friable to very hard fine to medium grained aggregates, generally clean disaggregated grains, poor to fair visible porosity in fine aggregates, poor to generally fair inferred porosity. FLUORESCENCE : (Trace) bright pale blue to off white spotted residual fluorescence associated with coarse sandstone grains, slow diffusing cut and weak slow bleeding cut, thick off white to pale green film residue. SILTSTONE: medium brown, medium grey brown, light olive grey, commonly argillaceous and locally grading to a SILTY CLAYSTONE, common carbonaceous laminations and specks and locally grading to VITREOUS COAL stringers, locally arenaceous and grading to a SILTY SANDSTONE in part, minor micromicaceous, trace lithics, moderately hard to hard, sub-fissile to sub-blocky.		
3250.0 - 3260.0	70 30	SANDSTONE: as above FLUORESCENCE : (Trace) as above SILTSTONE: as above		
3260.0 - 3270.0	65	SANDSTONE: as above, common rock flour. FLUORESCENCE : (5%)		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
3260.0 - 3270.0	35	SILTSTONE: as above		
3270.0 - 3280.0	75	SANDSTONE: as above FLUORESCENCE : (Trace) as above		
	25	SILTSTONE: as above		
3280.0 - 3290.0	80	SANDSTONE: clear to translucent, frosted, off white to pale grey in part, fine to very coarse, dominantly fine to medium, common coarse angular grains, poor sorted, dominantly sub-angular to sub-rounded, common angular, common strong siliceous cement and fused grain boundaries where medium to coarse grained, minor strong pyritic cement, trace weak calcareous cement, common off white to pale grey brown argillaceous matrix where very fine to fine tight aggregates, occasional pale brown silty matrix and locally grading to ARENACEOUS SILTSTONE, common silty and carbonaceous laminations, common nodular pyrite, common very hard fine to medium grained aggregates, generally clean disaggregated grains, common rock flour, poor visible porosity in fine aggregates, poor to generally fair inferred porosity. FLUORESCENCE : (Trace) as above		
	20	SILTSTONE: medium brown, medium grey brown, light olive grey, commonly arenaceous and locally grading to a SILTY SANDSTONE, common carbonaceous laminations and specks, locally argillaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-blocky, sub-fissile in part.		
3290.0 - 3300.0	80	SANDSTONE: as above, increasingly common coarse to very coarse angular quartz grains. FLUORESCENCE : (Trace) as above		
	20	SILTSTONE: as above		
3300.0 - 3310.0	80	SANDSTONE: as above FLUORESCENCE : (Trace)		
	20	SILTSTONE: as above		
3310.0 - 3320.0	85	SANDSTONE: clear to translucent, frosted, very fine to very coarse, dominantly medium to coarse, poorly sorted, sub-angular to sub-rounded, angular in part, common weak siliceous and calcareous cement, rare pyrite cement, locally common pale brown to off white argillaceous and silty matrix where very fine to fine grained aggregates, common nodular pyrite with occasional glauconitic grains, common lithics and minor carbonaceous specks, generally clean disaggregated grains, minor very hard very fine to fine grained aggregates, good inferred porosity. FLUORESCENCE : (Trace) as above.		
	15	SILTSTONE: light to medium grey brown, light olive grey, commonly arenaceous and locally grading to a SILTY SANDSTONE, common carbonaceous laminations and specks, locally argillaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-blocky, sub-fissile in part.		
3320.0 - 3340.0	85	SANDSTONE: clear to translucent, frosted, very fine to very coarse, dominantly medium to coarse, poorly sorted, sub-angular to sub-rounded, angular in part, common weak siliceous and calcareous cement, rare pyrite cement, locally common pale brown to off white argillaceous and silty matrix where very fine to fine grained aggregates, common nodular pyrite with occasional glauconitic grains, common lithics and minor carbonaceous specks, generally clean disaggregated grains, minor very hard very fine to fine grained aggregates, good inferred porosity, no hydrocarbon fluorescence.		
	15	SILTSTONE: light to medium grey brown, light olive grey, commonly arenaceous and locally grading to a SILTY SANDSTONE, common carbonaceous laminations and specks, locally argillaceous, minor micromicaceous, trace lithics, moderately hard to hard, sub-blocky, sub-fissile in part.		
3340.0 - 3350.0	95	SANDSTONE: Clear to translucent, off white, frosted, very fine to very coarse, dominantly medium to coarse, poor to moderately sorted, sub-angular to sub-rounded, angular in part, common weak siliceous and calcareous cement, rare pyrite cement, locally common off white argillaceous fine grained aggregates, minor nodular pyrite, common lithics and carbonaceous specks, generally clean disaggregated grains, minor very hard very fine to fine grained aggregates, good inferred porosity, no hydrocarbon fluorescence.		
	5	SILTSTONE: as above Spot sample only		
3350.0 - 3360.0	95	SANDSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
3350.0 - 3360.0	5	SILTSTONE: as above		
3360.0 - 3380.0	90	SANDSTONE: Clear to translucent, abundant opaque, rare medium light grey to medium grey aggregates, fine to very coarse, dominantly medium to coarse, abundant fine, abundant very coarse, aggregates are fine, moderately sorted, angular to rounded, dominantly sub-angular to sub-rounded, common angular and rounded, rare moderate siliceous cement, rare pyrite cement, white argillaceous matrix, minor nodular pyrite, common lithics and carbonaceous specks, trace chert, trace mica flakes, dominantly disaggregated, minor brittle to very hard aggregates, nil to poor visible porosity and good inferred porosity, no hydrocarbon fluorescence.		
	10	SILTSTONE: Dark grey to olive black, common medium dark grey, arenaceous, minor argillaceous, common carbonaceous laminations and specks, minor micromicaceous, trace lithics, trace fine quartz grains, trace nodular and disseminated pyrite, trace mica flakes, firm to hard, dominantly moderately hard to hard, abundant firm, sub-blocky, sub-fissile in part.		
3380.0 - 3400.0	90	SANDSTONE: as above, dominantly medium, abundant coarse, minor very coarse.		
	10	SILTSTONE: as above		
3400.0 - 3420.0	85	SANDSTONE: Clear to translucent, abundant opaque, rare medium light grey to medium grey aggregates, fine to very coarse, dominantly medium to coarse, abundant fine, common very coarse, aggregates (10%) are fine, moderately sorted, angular to rounded, dominantly sub-angular to sub-rounded, common angular and rounded, rare moderate siliceous cement, rare pyrite cement, abundant white argillaceous matrix and grading to ARGILLACEOUS SANDSTONE, minor brownish black silty matrix and grading to SILTY SANDSTONE, minor nodular pyrite, common lithics and carbonaceous specks, trace chert, trace mica flakes, trace glauconite in aggregates, dominantly disaggregated, minor brittle to very hard aggregates, poor to in part fair visible porosity and good inferred porosity, no hydrocarbon fluorescence.		
	15	SILTSTONE: Dark grey to olive black, common medium dark grey, arenaceous and grading to SILTY SANDSTONE in part, minor argillaceous, common carbonaceous laminations and specks, minor micromicaceous, trace lithics, trace fine quartz grains, trace nodular and disseminated pyrite, trace mica flakes, firm to hard, dominantly moderately hard to hard, abundant firm, sub-blocky, sub-fissile in part.		
3420.0 - 3440.0	90	SANDSTONE: as above, dominantly coarse.		
	10	SILTSTONE: as above		
3440.0 - 3450.0	85	SANDSTONE: as above, medium to very coarse, dominantly medium, abundant coarse, minor very coarse, minor fine grained aggregates.		
	15	SILTSTONE: as above		
3450.0 - 3460.0	100	SANDSTONE: Clear to translucent, abundant opaque, fine to coarse, dominantly medium, abundant fine, common coarse, well sorted, sub-angular to rounded, dominantly sub-rounded to rounded, abundant sub-angular, trace pyrite cement, common nodular pyrite, common lithics and carbonaceous material, trace glauconite or possibly chlorite, trace calcareous fragments, disaggregated, good inferred porosity, no hydrocarbon fluorescence.		