

## ]Culverin-1 Lithology / Show Descriptions

Interval (m) From To	Lithology / Show Description %
	<p>From mudline to 1525m, well drilled without riser, all returns to the seafloor. All depths are MDRT unless otherwise specified.</p> <p>311mm hole section was drilled with a PSD bit motor combination, KCl-NaCl-Polymer mud system was used.</p>
1525 1530	<p>100 ARGILLACEOUS CALCILUTITE: light to medium brownish-grey, occasionally olive grey, soft to rarely firm, amorphous to very rarely sub-blocky, trace arenaceous grains, common forams, common fossil fragments, strongly calcareous, trace pyrite, trace black carbonaceous specks.</p> <p>Tr DOLOMITE: light brown to yellowish-brown, hard to very hard, conchoidal fracture, trace forams visible within matrix, reacts weakly to acid when crushed.</p> <p><i>Calcimetry: 61% Calcite / 0% Dolomite</i></p>
1530 1560	<p>(Abundant metal shavings in cuttings from stabilisers passing through casing shoe).</p> <p>100 ARGILLACEOUS CALCILUTITE: light grey to very light grey, light olive grey, very soft to soft, trace calcareous silt and sand grains, sub blocky to amorphous, trace carbonaceous specks, trace very fine pyrite patches, trace micro fossils.</p> <p><i>Calcimetry: 62% Calcite / 0% Dolomite</i></p>
1560 1590	<p>100 CALCILUTITE: light grey to very light grey, light olive grey, very soft to soft, trace calcareous silt and sand grains, sub blocky to amorphous, trace carbonaceous specks, trace very fine pyrite patches, trace micro fossils, gradational to very fine to fine Calcarenite.</p> <p><i>Calcimetry: 84% Calcite / 0% Dolomite</i></p>
1590 1620	<p>100 ARGILLACEOUS CALCILUTITE: light olive grey, light grey, rare medium light grey, very soft to soft, trace calcareous sand grains, sub blocky to amorphous, trace carbonaceous specks, trace very fine pyrite patches, trace micro fossils (forams, echinoids), gradational to very fine to fine Calcarenite.</p> <p><i>Calcimetry: 56% Calcite / 0% Dolomite</i></p>
1620 1650	<p>90 ARGILLACEOUS CALCILUTITE: light olive grey, light grey, rare medium light grey, very soft to soft, trace calcareous sand grains, sub blocky to amorphous, trace carbonaceous specks, trace very fine pyrite patches, trace micro fossils (forams, echinoids).</p> <p><i>Calcimetry: 60% Calcite / 0% Dolomite</i></p>
1650 1680	<p>10 CALCARENITE: light olive grey, soft, sub blocky, very fine to fine grained, moderately well sorted, rounded, common to abundant calcareous argillaceous matrix, poor visible porosity.</p> <p>60 ARGILLACEOUS CALCILUTITE: as above</p> <p><i>Calcimetry: 68% Calcite / 0% Dolomite</i></p>
1680 1710	<p>40 CALCARENITE: light olive grey, soft to firm, sub blocky, very fine to fine grained, moderately well sorted, rounded, common to abundant calcareous argillaceous matrix, poor visible porosity.</p> <p>80 ARGILLACEOUS CALCILUTITE: as above</p> <p><i>Calcimetry: 67% Calcite / 0% Dolomite</i></p>
1710 1740	<p>20 CALCARENITE: as above</p> <p>100 ARGILLACEOUS CALCILUTITE: light olive grey to light grey, soft, sub blocky, common very fine to fine calcareous sand grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils.</p> <p><i>Calcimetry: 69% Calcite / 0% Dolomite</i></p>

Interval (m)		Lithology / Show Description	
From	To	%	
1740	1770	100	ARGILLACEOUS CALCILUTITE: light olive grey to light grey, occasionally slightly yellowish grey, soft to sub firm, sub blocky, common very fine to fine calcareous sand grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils, gradational in part to very fine to fine Calcarenite.
			<i>Calcimetry: 75% Calcite / 0% Dolomite</i>
1770	1800	100	CALCILUTITE: as above
			<i>Calcimetry: 98% Calcite / 0% Dolomite</i>
1800	1830	100	CALCILUTITE: light olive-grey to light grey, occasionally pale yellowish-grey, soft to moderately firm, occasionally firm, amorphous to sub-blocky, common very fine to fine calcareous silt grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils, gradational in part to very fine to fine Calcisiltite.
1830	1860	100	CALCILUTITE: as above
1860	1890	100	CALCILUTITE: as above
			<i>Calcimetry: 89% Calcite / 0% Dolomite</i>
1890	1920	100	CALCILUTITE: light olive-grey to light grey, occasionally pale yellowish-grey, soft to very soft, rarely firm, amorphous to sub-blocky, common very fine to fine calcareous silt grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils, gradational in part to very fine to fine Calcisiltite.
		Tr	DOLOMITE: light brown to yellowish-brown, hard to very hard, conchoidal fracture, trace forams visible within matrix, reacts weakly to acid when crushed.
			<i>Calcimetry: 80% Calcite / 0% Dolomite</i>
1920	1950	100	CALCILUTITE: as above
			<i>Calcimetry: 80% Calcite / 0% Dolomite</i>
1950	1980	100	CALCILUTITE: light olive-grey to medium olive-grey, occasionally pale yellowish-grey, soft to very soft, rarely firm, amorphous to sub-blocky, common very fine to fine calcareous silt grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils, gradational in part to very fine to fine Calcisiltite and Calcarenite, trace splintery light brown dolomite (?) fragments.
			<i>Calcimetry: 95% Calcite / 0% Dolomite</i>
1980	2010	70	CALCILUTITE: as above
			<i>Calcimetry: 85% Calcite / 0% Dolomite</i>
		30	CALCARENITE: light olive grey, soft to firm, sub-blocky, very fine to fine grained, moderately well sorted, rounded grains, common to abundant calcareous argillaceous matrix, poor visible porosity.
2010	2040	100	CALCILUTITE: light to medium greenish-grey, commonly olive grey, occasionally pale yellowish-grey, soft to very soft, rarely firm, amorphous to sub-blocky, common very fine to fine calcareous silt grains, trace carbonaceous specks, trace very fine pyrite, trace microfossils, gradational in part to very fine Calcisiltite and Calcarenite, trace splintery light brown dolomite (?) fragments.
			<i>Calcimetry: 95% Calcite / 0% Dolomite</i>
2040	2070	100	CALCILUTITE: as above gradational to ARGILLACEOUS CALCILUTITE.
			<i>Calcimetry: 79% Calcite / 0% Dolomite</i>
2070	2100	100	CALCILUTITE: as above gradational to ARGILLACEOUS CALCILUTITE.
			<i>Calcimetry: 78% Calcite / 0% Dolomite</i>
2100	2130	100	CALCILUTITE: light olive grey, very soft – rarely firm, sub blocky to amorphous, trace calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite associated with organic matter.
			<i>Calcimetry: 81% Calcite / 0% Dolomite</i>

Interval (m)		Lithology / Show Description	
From	To	%	
2130	2160	100	CALCLUTITE: light olive grey, very soft – rarely firm, sub blocky to amorphous, trace calcareous silt and trace to common very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite associated with organic matter.
2160	2190	100	<i>Calcimetry: 81% Calcite / 0% Dolomite</i> CALCLUTITE: light olive grey, occasionally light brownish grey, rare medium grey patches, very soft – rarely firm, sub blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite associated with organic matter. Gradational in part to CALCISILTITE.
2190	2220	80	<i>Calcimetry: 82% Calcite / 0% Dolomite</i> CALCLUTITE: light olive grey, occasionally light brownish grey, rare medium grey patches, very soft – rarely firm, sub blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite.
		20	<i>Calcimetry: 77% Calcite / 0% Dolomite</i> CALCISILTITE: olive grey, brownish grey, soft to firm, friable in part, sub blocky, trace very fine calcareous sand, trace carbonaceous specks.
2220	2250	90	CALCLUTITE: as above.
		10	<i>Calcimetry: 84% Calcite / 0% Dolomite</i> CALCISILTITE: as above
2250	2280	80	CALCLUTITE: as above.
		20	<i>Calcimetry: 81% Calcite / 0% Dolomite</i> CALCISILTITE: as above
2280	2310	80	CALCLUTITE: light olive grey, light brownish grey, very soft – rarely firm, sub blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite.
		20	<i>Calcimetry: 81% Calcite / 0% Dolomite</i> CALCISILTITE: olive grey, brownish grey, soft to firm, friable in part, sub blocky, trace very fine calcareous sand, trace carbonaceous specks.
2310	2340	90	CALCLUTITE: as above.
		10	<i>Calcimetry: 90% Calcite / 0% Dolomite</i> CALCISILTITE: as above.
2340	2370	95	ARGILLACEOUS CALCLUTITE: light brownish-grey, very pale olive grey in part, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace very fine green glauconite grains, trace microfossils, trace very fine pyrite, approximately 15 % clay material remaining after acid dissolution.
		5	<i>Calcimetry: 77% Calcite / 0% Dolomite</i> CALCISILTITE: olive grey to brownish grey, soft to firm, friable in part, sub-blocky, trace very fine calcareous sand, trace carbonaceous specks.
2370	2400	80	ARGILLACEOUS CALCLUTITE: light brownish-grey, rarely light olive grey, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace very fine green glauconite grains, trace microfossils, trace very fine pyrite, 15% clay content.
		20	<i>Calcimetry: 75% Calcite / 0% Dolomite</i> CALCISILTITE: olive grey to brownish grey, soft to firm, friable in part, sub-blocky, trace very fine calcareous sand, trace carbonaceous specks.

Interval (m)		Lithology / Show Description	
From	To	%	
2400	2430	80	ARGILLACEOUS CALCLUTITE: light brownish-grey, rarely light olive grey, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite, 15% clay content.
			<i>Calcimetry: 68% Calcite / 0% Dolomite</i>
		20	CALCISILTITE: olive grey to brownish grey, soft to firm, friable in part, sub-blocky, trace very fine calcareous sand, trace carbonaceous specks.
		Tr	CALCARENITE: light olive grey, soft to firm, sub-blocky, very fine to fine grained, moderately well sorted, rounded grains, common to abundant calcareous argillaceous matrix, common fine glauconite grains, poor visual porosity.
2430	2460	70	ARGILLACEOUS CALCLUTITE: light brownish-grey, rarely light olive grey, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite, 15% clay content.
			<i>Calcimetry: 76% Calcite / 0% Dolomite</i>
		30	CALCARENITE: light brownish-grey, firm to moderately hard, sub-blocky, very fine to fine grained, moderately well sorted, angular grains, common to abundant calcareous argillaceous matrix, common fine glauconite grains, poor visual porosity.
2460	2490	95	ARGILLACEOUS CALCLUTITE: light brownish-grey, rarely light olive grey, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite, 15% clay content.
			<i>Calcimetry: 78% Calcite / 0% Dolomite</i>
		5	CALCARENITE: light brownish-grey, firm to moderately hard, sub-blocky, very fine to fine grained, moderately well sorted, angular grains, common to abundant calcareous argillaceous matrix, common fine glauconite grains, poor visual porosity.
2490	2520	60	ARGILLACEOUS CALCLUTITE: light brownish-grey, rarely light olive grey, very soft to rarely firm, sub-blocky to amorphous, common calcareous silt and very fine calcareous sand, trace carbonaceous specks, trace microfossils, trace very fine pyrite, 15% clay content.
		40	CALCAREOUS CLAYSTONE: light grey to medium grey, very soft to soft, sub-blocky to amorphous, occasionally cuttings show fine laminations, trace carbonaceous specks, trace microfossils, trace very fine pyrite grains and occasionally disseminated pyrite in patches.
			<i>Calcimetry: 35% Calcite / 0% Dolomite</i>
2520	2550	100	CALCAREOUS CLAYSTONE: light grey to medium grey, very soft to firm, sub-blocky to amorphous, occasionally cuttings show fine laminations, trace carbonaceous specks, trace microfossils, trace very fine pyrite grains and occasionally disseminated pyrite in patches, 50% siliceous clay component.
			<i>Calcimetry: 40% Calcite / 0% Dolomite</i>
2550	2580	100	CALCAREOUS CLAYSTONE: light to medium grey, very soft to soft, sub-blocky to amorphous, occasionally cuttings show fine laminations, trace carbonaceous specks, trace microfossils, trace very fine pyrite grains and occasionally disseminated pyrite in patches.
			<i>Calcimetry: 38% Calcite / 0% Dolomite</i>
2580	2610	100	CALCAREOUS CLAYSTONE: light to medium grey, soft, sub blocky to blocky, trace very fine pyretic patches, occasional medium grey silty patches, rare carbonaceous specks.
			<i>Calcimetry: 37% Calcite / 0% Dolomite</i>

Interval (m)		Lithology / Show Description	
From	To	%	
2610	2640	100	CALCAREOUS CLAYSTONE: light grey, soft, sub blocky to blocky, trace very fine pyritic patches, rare carbonaceous specks, trace very fine glauconite, homogenous.
2640	2670		<i>Calcimetry: 38% Calcite / 0% Dolomite</i>
		90	CALCAREOUS CLAYSTONE: light grey, soft, sub blocky to blocky, trace very fine pyrite, rare carbonaceous specks, trace very fine glauconite, homogenous.
2670	2700		<i>Calcimetry: 80% Calcite / 0% Dolomite</i>
		10	CALCILUTITE: olive grey, firm, brittle in part, blocky, cryptocrystalline, trace calcareous silt and rare calcareous sand grains, rare dark lithic grains
		90	CALCAREOUS CLAYSTONE: as above.
2700	2730		<i>Calcimetry: 40% Calcite / 0% Dolomite</i>
		10	CALCILUTITE: olive grey, firm, brittle in part, blocky, cryptocrystalline, trace calcareous silt and rare to common very fine calcareous sand grains, rare dark lithic grains, trace disseminated glauconite, trace very fine pyrite, gradational to CALCARENITE.
		50	CALCAREOUS CLAYSTONE: as above.
		50	CALCILUTITE: very light grey, light olive grey, rare yellowish brown, very soft to sub firm, sub blocky, trace to locally common very fine calcareous sand, microfossils (forams), trace very fine disseminated pyrite, trace glauconite.
			<i>Calcimetry: 91% Calcite / tr% Dolomite</i>
2730	2760	Tr	DOLOMITE: orange brown, firm, brittle, blocky, commonly angular and splintery, cryptocrystalline, slightly argillaceous in part.
		Tr	SANDSTONE: clear to white, loose to soft aggregates, medium to rarely coarse, well sorted, sub angular, high sphericity, minor white argillaceous matrix, trace glauconite, fair inferred porosity, no fluorescence no hydrocarbon shows.
		100	ARGILLACEOUS CALCILUTITE: light olive grey, occasionally medium light grey, very soft – soft, sub blocky, homogenous, trace glauconite, trace very fine disseminated pyrite.
2760	2790		<i>Calcimetry: 26% Calcite / nil% Dolomite</i>
		100	CLAYSTONE: light olive grey, occasionally medium light grey, very soft – soft, sub blocky, homogenous, trace calcareous silt and very fine sand in part, trace glauconite, trace very fine disseminated pyrite. (Trace Argillaceous Calcilutite).
2790	2800		<i>Calcimetry: 6% Calcite / nil% Dolomite</i>
		100	CLAYSTONE: as above (move to 10m samples)
		100	CLAYSTONE: as above
2800	2810	100	CLAYSTONE: light olive grey, occasionally medium light grey, very soft – soft, sub blocky, homogenous, trace calcareous silt and very fine sand in part, trace glauconite, trace very fine disseminated pyrite.
2810	2820	100	CLAYSTONE: light olive grey, occasionally medium light grey, very soft – soft, sub blocky, homogenous, trace calcareous silt and very fine sand in part, trace glauconite, trace very fine disseminated pyrite.
2820	2830		<i>Calcimetry: 19% Calcite / nil% Dolomite</i>
			(Cannot catch 5m samples due to high ROPs—stick to 10m samples).
		70	SILTSTONE: light brown to brownish-grey, soft to firm, occasionally very amorphous and reddish brown, generally massive to sub-blocky, common, glauconite grains, trace mica and black carbonaceous specks, trace pyrite, grading into fine sandstone.
2830	2840		<i>Calcimetry: 16% Calcite / nil% Dolomite</i>
		30	ARGILLACEOUS CALCILUTITE: light olive grey, occasionally medium light grey, very soft – soft, sub blocky, homogenous, trace calcareous silt and very fine sand in part, trace glauconite, trace very fine disseminated pyrite.
2830	2840	70	SANDSTONE: clear to translucent, loose, very fine to very coarse, very poorly sorted, sub-angular to sub-rounded grains, trace glauconite, trace pyrite, trace argillaceous matrix, very good inferred porosity, no fluorescence.

Interval (m)		Lithology / Show Description	
From	To	%	
2840	2850	30	SILTSTONE: light brown to brownish-grey, soft to firm, occasionally very amorphous and reddish brown, generally massive to sub-blocky, common, glauconite grains, trace mica and black carbonaceous specks, trace pyrite, grading into fine sandstone.
		90	SANDSTONE: clear to translucent, loose, very fine to very coarse, very poorly sorted, sub-angular to sub-rounded grains, trace glauconite, trace pyrite, trace argillaceous matrix, very good inferred porosity, no fluorescence.
		10	SILTSTONE: light brown to brownish-grey, soft to firm, occasionally very amorphous and reddish brown, generally massive to sub-blocky, common, glauconite grains, trace mica and black carbonaceous specks, trace pyrite, grading into fine sandstone.
2850	2860	60	SANDSTONE: clear to translucent occasionally yellow and pink, loose, very fine to medium grained, mainly fine, very poorly sorted, sub-angular to rounded grains, very rare glauconite, common pyrite, trace argillaceous matrix, good inferred porosity, no fluorescence.
		40	SILTSTONE: light grey to white, soft to friable, occasionally firm, common loose grains, trace mica and black carbonaceous specks, common pyrite, grading into fine sandstone.
2860	2870	80	ARGILLACEOUS SILTSTONE: light grey to white, very soft to friable, occasionally firm, common loose grains of quartz, trace mica and black carbonaceous specks, common pyrite, grading into fine sandstone.
		20	SILTSTONE: light grey to white, soft to friable, occasionally firm, common loose grains, trace mica and black carbonaceous specks, common pyrite, grading into fine sandstone.
2870	2875	100	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into fine sandstone.
2875	2880	90	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into fine sandstone.
		10	CLAYSTONE: light grey, very soft to soft, trace mica and black carbonaceous specks, common pyrite, grading into fine siltstone.
2880	2890	20	SANDSTONE: clear to translucent occasionally yellow, loose, very fine to coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, very good inferred porosity, no fluorescence.
		80	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into fine sandstone.
2890	2900	95	SANDSTONE: clear to translucent occasionally yellow, loose, very fine to coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, very good inferred porosity, no fluorescence.
		5	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into fine sandstone.
2900	2910	80	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into fine sandstone.
		20	SILTY CLAYSTONE: light grey, very soft to soft, trace mica and black carbonaceous specks, common pyrite, grading into fine siltstone.
2910	2920	70	ARGILLACEOUS SILTSTONE: medium grey to white, very soft to amorphous, very rarely firm, common loose grains of fine quartz silt, trace mica and black carbonaceous specks, common pyrite, abundant amorphous white clay matrix inferred, grading into silty claystone with depth.
		30	SILTY CLAYSTONE: light grey, very soft to soft, trace mica and black carbonaceous specks, common pyrite, becoming more dominant with depth.

Interval (m)		Lithology / Show Description	
From	To	%	
2920	2930	100	SILTY CLAYSTONE: light grey, very soft to soft, amorphous to sub-blocky, trace mica and common black carbonaceous specks, common fine rounded-angular quartz silt, common pyrite.
2930	2940	90	CLAYSTONE: light grey, very soft to soft, amorphous to sub-blocky, trace mica and common black carbonaceous specks, non-calcareous, trace fine rounded-angular quartz silt, common pyrite.
		10	SILTY CLAYSTONE: light grey, very soft to soft, amorphous to sub-blocky, trace mica and common black carbonaceous specks, common fine rounded-angular quartz silt, common pyrite.
2940	2950	100	CLAYSTONE: light grey, very soft to soft, amorphous to dispersive, trace mica and common black carbonaceous specks, non-calcareous, trace fine rounded-angular quartz silt, common pyrite.
2950	2960	100	SILTY CLAYSTONE: light to medium grey, occasionally brown and firmer, very soft to firm in part, amorphous to dispersive, trace mica and common black carbonaceous specks, weakly-calcareous in parts (may be cavings?), common pyrite, trace green glauconite grains and greenish stain on some fragments.
2960	2970	10	SANDSTONE: clear to translucent, occasionally yellow, loose, very fine to medium grained, mainly fine grained, poorly sorted, sub-angular to rounded grains, common pyrite, moderate inferred porosity, common argillaceous matrix, no fluorescence.
		90	SILTY CLAYSTONE: light to medium grey, very soft, amorphous to dispersive, trace mica and common black carbonaceous specks, common pyrite, calcareous in part, trace light brown calcite/dolomite-cemented fragments, trace pyrite, trace glauconite.
2970	2980	40	SANDSTONE: clear to translucent, occasionally yellow, loose, very fine to medium grained, mainly fine grained, poorly sorted, sub-angular to rounded grains, common pyrite, moderate inferred porosity, common argillaceous matrix, no fluorescence.
		60	SILTY CLAYSTONE: light to medium grey, very soft, amorphous to dispersive, trace mica and common black carbonaceous specks, common pyrite, calcareous in part, trace light brown calcite/dolomite-cemented fragments, trace pyrite, trace glauconite.
		Tr	CARBONACEOUS CLAYSTONE: black to medium grey, firm to moderately hard, sub-blocky to blocky, laminated into dark and light coloured layers in part, grading into silty claystone.
2980	2990	100	SANDSTONE: clear to translucent, occasionally yellow and white, loose, very fine to very coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, very good inferred porosity, trace argillaceous matrix, no fluorescence.
2990	3000	100	SANDSTONE: clear to translucent, occasionally yellow and white, loose, very fine to very coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, very good inferred porosity, common argillaceous matrix, no fluorescence.
3000	3010	100	SANDSTONE: as above (no shows)
3010	3020	100	SANDSTONE: clear to translucent, occasionally yellow and white to grey, loose, very fine to very coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, loose and cementing grains in rare cases, very good inferred porosity, no fluorescence.
3020	3030	100	SANDSTONE: as above (no shows)
3030	3040	100	SANDSTONE: as above (no shows)
3040	3050	100	SANDSTONE: clear to translucent, occasionally yellow and white to grey, loose, very fine to very coarse grained, mainly medium grained, very poorly sorted, sub-angular to rounded grains, common pyrite, loose and cementing grains in rare cases, very good inferred porosity, no fluorescence.
		Tr	CLAYSTONE: light grey, very soft to soft, amorphous to dispersive, trace mica and common black carbonaceous specks, non-calcareous, trace fine rounded-angular quartz silt, common pyrite.
3050	3060	100	SANDSTONE: as above (no shows)
3060	3070	100	SANDSTONE: as above (no shows)

Interval (m)		Lithology / Show Description	
From	To	%	
3070	3080	90	SANDSTONE: clear to translucent, rare hard aggregates, fine – very coarse, sub angular to well rounded, poorly sorted, trace pyrite cement, trace white argillaceous matrix washing out, very good inferred porosity, no fluorescence.
		10	CLAYSTONE: medium grey, greyish brown, very soft, sub blocky to amorphous, silty in part, trace carbonaceous, very fine pyrite in part, micro mica, gradational in part to Argillaceous Siltstone.
3080	3090	90	SANDSTONE: as above (no shows)
		10	CLAYSTONE: as above (no shows)
3090	3100	80	SANDSTONE: clear to translucent, medium to very coarse, sub angular to well rounded, hi-sphericity, moderately sorted, trace pyrite cement and nodules, very good porosity, no fluorescence.
		20	CLAYSTONE: light grey, brownish grey, very soft, sub blocky to dominantly amorphous, carbonaceous specks, very silty in part, pyritic in part, gradational to Argillaceous Siltstone.
3100	3110	90	SANDSTONE: clear to translucent, fine to very coarse, dominantly medium to very coarse, sub angular to well rounded, hi-sphericity, moderately sorted, trace pyrite cement and nodules, very good porosity, no fluorescence.
		10	CLAYSTONE: light grey, brownish grey, very soft, sub blocky to dominantly amorphous, arenaceous in part, carbonaceous specks, very silty in part, pyritic in part, gradational to Argillaceous Siltstone.
		tr	SILTSTONE: brownish grey, very soft, sub blocky, common carbonaceous specks, very argillaceous, micro mica.
3110	3120	90	SANDSTONE: as above
		10	CLAYSTONE: as above
		tr	SILTSTONE: as above
3120	3130	100	SANDSTONE: clear, medium to coarse, occasionally very coarse, sub angular to well rounded, hi-sphericity, moderately well sorted, trace pyrite cement, very good inferred porosity, no fluorescence.
3130	3140	100	SANDSTONE: clear, rare yellow / brown grains, medium to very coarse, dominantly coarse, sub angular to well rounded, hi-sphericity, well sorted, trace pyrite cement, trace strong siliceous cement, very good inferred porosity, no fluorescence.
3140	3150	95	SANDSTONE: clear to light grey, loose to very hard aggregates, medium to very coarse, poorly sorted, occasional very hard pyrite cement, good inferred porosity in loose component, poor visual porosity in aggregates, no fluorescence.
		5	ARGILLACEOUS SILTSTONE: brownish grey, very soft to amorphous, trace carbonaceous specks, micro mica.
3150	3155	95	SANDSTONE: as above.
		5	ARGILLACEOUS SILTSTONE: as above.
3155	3160	80	SANDSTONE: as above.
		20	ARGILLACEOUS SILTSTONE: as above.
3160	3165	30	SANDSTONE: clear to translucent, fine to very coarse, poorly sorted, sub angular to rounded, moderate to high sphericity, occasional fractured grains, trace strong pyrite cement, good inferred porosity poor visual porosity in pyrite cemented aggregates.
		70	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to soft, rare friable, very carbonaceous in part, carbonaceous laminae, micro mica, trace fine pyrite.
3165	3170	30	SANDSTONE: as above
		70	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to soft, rare friable, sub blocky to amorphous, occasionally sub fissile, very carbonaceous in part, carbonaceous laminae, micro mica, trace fine pyrite.
3170	3175	70	SANDSTONE: clear to translucent, loose, fine to very coarse, poorly sorted, sub angular to rounded, common fractured grains, trace pyrite cement, very good inferred porosity.
		30	ARGILLACEOUS SILTSTONE: as above.



Interval (m)		Lithology / Show Description	
From	To	%	
3175	3180	30	SANDSTONE: clear to translucent, loose, fine to very coarse, poorly sorted, sub angular to rounded, common fractured grains, trace strong pyrite cement, very good inferred porosity in loose fraction, poor visual porosity in aggregates.
		70	ARGILLACEOUS SILTSTONE: light brownish grey, light grey, very soft, dominantly amorphous occasionally sub blocky, trace to locally common carbonaceous specks and carbonaceous laminae, micro mica, trace pyrite.
3180	3185	30	SANDSTONE: as above.
		70	ARGILLACEOUS SILTSTONE: as above.
3185	3190	40	SANDSTONE: as above.
		60	SILTSTONE: brownish grey to light brownish grey, light grey, very soft to rare firm, sub blocky to amorphous, occasionally sub fissile when carbonaceous, common carbonaceous specks and laminae, very argillaceous, trace pyrite, gradational to Argillaceous Siltstone.
3190	3195	70	SANDSTONE: clear to translucent, loose, fine to very coarse, occasionally very coarse, poorly sorted, sub angular to rounded, common fractured grains, trace strong pyrite cement, very good inferred porosity in loose fraction, poor visual porosity in aggregates.
		30	SILTSTONE: as above.
3195	3200	60	SANDSTONE: as above.
		40	SILTSTONE: as above.
3200	3205	40	SANDSTONE: clear to translucent, medium to granular grained, poorly sorted, sub angular to sub rounded, moderate sphericity, occasional fractured grains, trace pyrite cement, very good inferred porosity, no fluorescence.
		60	SILTSTONE: brownish grey to light brownish grey, light grey, very soft to rare firm, sub blocky to amorphous, common carbonaceous specks and laminae, very argillaceous, trace pyrite, gradational to Argillaceous Siltstone.
3205	3210	80	SANDSTONE: as above.
		20	SILTSTONE: as above.
3210	3215	40	SANDSTONE: as above.
		60	SILTSTONE: as above.
3215	3220	40	SANDSTONE: clear to translucent, medium to granular grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, occasional fractured grains, trace pyrite cement, traces of carbonate cement (calcite/dolomite?), very good inferred porosity, no fluorescence except mineral fluorescence.
		60	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, rarely light grey, very soft to rarely firm, sub blocky to amorphous, common carbonaceous specks and laminae, very argillaceous, trace pyrite, gradational to Siltstone.
3220	3225	10	SANDSTONE: clear to translucent, loose, fine grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, occasional fractured grains, trace pyrite cement, good inferred porosity, no fluorescence.
		90	SILTSTONE: brownish grey to light brownish grey, light grey, very soft to rare firm, sub blocky to amorphous, common carbonaceous specks and laminae, very argillaceous, trace pyrite, gradational to Argillaceous Siltstone.
3225	3230	20	SANDSTONE: clear to translucent, loose, very fine grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, occasional fractured grains, trace pyrite cement, moderate inferred porosity, no fluorescence.
		80	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, very argillaceous, trace pyrite, gradational to Siltstone.
3230	3235	40	SANDSTONE: clear to translucent, loose, very fine grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, occasional fractured grains, trace pyrite cement, trace calcite/dolomite cement?, abundant white rock flour, moderate inferred porosity, no fluorescence.
		60	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, possible dolomite/calcite cement in parts?, very argillaceous, trace pyrite, gradational to Siltstone.
3235	3240	Tr	SANDSTONE: clear to translucent, loose, very fine grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, common white rock flour, occasional fractured grains, trace pyrite cement, trace calcite/dolomite cement?, moderate inferred porosity, no fluorescence.

Interval (m)		Lithology / Show Description	
From	To	%	
3240	3245	5	CLAYSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, very silty in part, common carbonaceous specks and laminae, hard dolomite/calcite fragments, trace pyrite, gradational to Argillaceous Siltstone.
		95	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, possible dolomite/calcite cement in parts?, very argillaceous, trace pyrite, gradational to Siltstone.
		30	SANDSTONE: clear to translucent, loose, very fine grained, poorly sorted, sub-angular to sub-rounded, moderate sphericity, abundant white rock flour, occasional fractured grains, trace pyrite cement, trace calcite/dolomite fragments, moderate inferred porosity, no fluorescence.
		15	CLAYSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, silty in part, common carbonaceous specks and laminae, rare very firm dolomite/calcite fragments, trace pyrite, gradational to Argillaceous Siltstone.
		55	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, possible dolomite/calcite cement in parts?, very argillaceous, trace pyrite, gradational to Siltstone.
3245	3250	65	ARGILLACEOUS SILTSTONE: as above
		20	SANDSTONE: as above (no fluorescence)
3250	3255	15	CLAYSTONE: as above
		5	SANDSTONE: clear to translucent, loose, fine grained, trace coarse grains, poorly sorted, sub-angular to sub-rounded, moderate sphericity, common white rock flour, occasional fractured grains, trace pyrite cement, trace calcite/dolomite fragments, moderate inferred porosity, no fluorescence.
		95	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, weak calcite cement in parts, very argillaceous, trace pyrite, gradational to Siltstone.
3255	3260	40	SANDSTONE: clear to translucent, loose, fine to medium grained, trace coarse grains, poorly sorted, sub-angular to sub-rounded, moderate sphericity, abundant white rock flour inferred to indicate sand in cuttings, occasional fractured grains, trace pyrite cement, trace calcite/dolomite fragments, good inferred porosity in part, no fluorescence.
		60	ARGILLACEOUS SILTSTONE: brownish grey to light brownish grey, occasionally light grey, very soft to rarely firm, sub-blocky to amorphous, common carbonaceous specks and laminae, weak calcite cement in parts, very argillaceous, trace pyrite, gradational to Siltstone.
		10	SANDSTONE: white, off white, rare clear to translucent, fine to medium, moderately sorted, rounded, abundant white argillaceous matrix to 90%, commonly matrix supported, poor visible porosity, no fluorescence.
3260	3265	30	SILTSTONE: brownish grey to light brownish grey, argillaceous to rarely arenaceous, very soft to friable, sub fissile in part, common carbonaceous specks and laminations, occasional very fine pyrite.
		60	CLAYSTONE: olive grey, light brownish grey, very soft, amorphous, slightly calcareous, trace carbonaceous grains, rare very fine disseminated pyrite.
		5	SANDSTONE: as above.
		30	SILTSTONE: as above.
3265	3270	65	CLAYSTONE: as above.
		10	SILTSTONE: brownish grey to light brownish grey, argillaceous to arenaceous, very soft to friable, sub fissile in part, common carbonaceous specks and laminations, occasional very fine pyrite.
		90	CLAYSTONE: olive grey, light brownish grey, very light grey to off white very soft, amorphous, slightly calcareous, trace carbonaceous grains, rare very fine disseminated pyrite, common fine sand grains in light grey to off white component.
3270	3275	10	
3275	3280	70	SANDSTONE: clear to translucent, white, loose to soft aggregates, fine to medium, rare coarse, moderately well sorted, sub rounded – sub angular, trace to 40% argillaceous matrix, trace pyrite, fair inferred porosity, no fluorescence.

Interval (m)		Lithology / Show Description	
From	To	%	
3280	3285	10	SILTSTONE: as above
		20	CLAYSTONE: light olive grey, light brownish grey, very light grey, very soft, amorphous, slightly calcareous, rare very fine disseminated pyrite.
		80	SANDSTONE: as above.
		10	SILTSTONE: as above.
3285	3290	10	CLAYSTONE: light olive grey, light brownish grey, trace yellowish brown, very soft, amorphous, slightly calcareous, rare very fine disseminated pyrite.
		80	SANDSTONE: clear to translucent, off white, loose to friable aggregates, fine – very coarse, dominantly medium to coarse, poorly sorted, sub rounded to angular, trace to 50% white argillaceous matrix, trace chlorite, trace lithic grains, fair to good inferred porosity, no fluorescence.
		20	SILTSTONE: light brownish grey, brownish grey, very soft to friable, sub fissile in part, very argillaceous to arenaceous, common carbonaceous specks and flakes, gradational to Carbonaceous Siltstone (possibly some carbonaceous stringers).
		60	SANDSTONE: as above.
3290	3295	20	SILTSTONE: as above.
		20	CLAYSTONE: light brownish grey, occasionally light to medium grey, very soft, amorphous, sticky, slightly carbonaceous in part, silty in part.
		20	SANDSTONE: clear to translucent, off white, loose to friable aggregates, fine – coarse, rare very coarse, poorly sorted, sub rounded to angular, trace to 70% white argillaceous matrix, trace chlorite, trace lithic grains, fair to good inferred porosity, no fluorescence.
		30	SILTSTONE: light brownish grey, olive grey, very soft to soft,
3295	3300	50	CLAYSTONE: light
		10	SANDSTONE: clear to translucent, off white, loose to friable aggregates, very fine – coarse, rare very coarse, poorly sorted, sub rounded to angular, trace to 80% white argillaceous matrix, poor to fair inferred porosity, no fluorescence.
		10	SILTSTONE: as above.
		80	CLAYSTONE: light brown, very light greyish brown, very soft, amorphous, carbonaceous specks in part, silty in part, trace very fine pyrite.
3305	3310	10	SANDSTONE: as above.
		10	SILTSTONE: as above.
		80	CLAYSTONE: as above.
3310	3315	5	SANDSTONE: clear to translucent, off white, loose to soft aggregates, fine – medium, occasionally coarse, moderately sorted, sub rounded to angular, trace to 80% white argillaceous matrix, poor to fair inferred porosity, no fluorescence.
		10	SILTSTONE: as above.
		85	CLAYSTONE: as above.
		20	SANDSTONE: clear to translucent, off white, loose to soft aggregates, fine – coarse, occasionally very coarse, poorly sorted, sub rounded to angular, trace to 60% white argillaceous matrix, fair to good inferred porosity, no fluorescence.
3315	3320	10	SILTSTONE: light brownish grey, brownish grey, very soft, sub blocky to amorphous, common carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		70	CLAYSTONE: light brown, very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, silty in part, trace very fine disseminated pyrite.
		10	SANDSTONE: off white, soft aggregates, occasional loose grains, very fine – medium, moderately well sorted, sub angular to rounded, 80% white argillaceous matrix, poor inferred porosity, no fluorescence.
		40	SILTSTONE: light brownish grey, brownish grey, very soft to soft, sub blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
3320	3325	50	CLAYSTONE: as above.
		5	SANDSTONE: off-white, soft aggregates, occasional loose grains, very fine, moderately well sorted, sub-angular to rounded, 80% white argillaceous matrix, poor inferred porosity, no fluorescence.
		60	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
3325	3330		

Interval (m)		Lithology / Show Description	
From	To	%	
3330	3335	35	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, silty in part, trace very fine disseminated pyrite.
		Tr	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part.
		70	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		25	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, silty in part, trace very fine disseminated pyrite.
3335	3340	5	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part.
		100	SANDSTONE: clear to translucent, occasionally off white, loose, fine to coarse, occasionally very coarse, mainly medium grained, very poorly sorted, sub angular to angular, very good inferred porosity, no fluorescence.
3340	3345	Tr	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		100	SANDSTONE: clear to translucent, occasionally off white and pink, loose, occasionally cemented into small aggregates with silica cement ( quartz overgrowths?), fine to very-coarse, occasionally granular, mainly medium grained, very poorly sorted, sub angular to angular, very good inferred porosity, trace pyrite, trace carbonaceous fragments (possibly cavings?), no fluorescence.
3345	3350	Tr	SILTSTONE: as above.
		30	SANDSTONE: as above (no fluorescence), abundant white rock-flour.
3350	3355	70	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		10	SANDSTONE: clear to translucent, loose, very fine to fine, mainly fine grained, moderately well sorted, sub angular to angular, good inferred porosity, trace pyrite, trace carbonaceous fragments (possibly cavings?), no fluorescence.
		65	SILTSTONE: as above.
		20	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, dolomite cemented in part, silty in part, trace very fine disseminated pyrite.
3355	3360	5	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part.
		10	SANDSTONE: as above, becoming finer grained, no fluorescence.
		60	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		30	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, silty in part, calcareous in part (dolomite stringers?), trace very fine disseminated pyrite.
3360	3365	Tr	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part, grading into carbonaceous claystone.
		10	SANDSTONE: as above, becoming finer grained, no fluorescence.
		30	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
		55	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, silty in part, trace very fine disseminated pyrite.
3365	3370	5	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part, grading into carbonaceous claystone.
		60	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, calcareous cement in part, very argillaceous, disseminated pyrite in part.

Interval (m)		Lithology / Show Description	
From	To	%	
3370	3375	35	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, carbonaceous specks in part, calcareous in part (dolomite stringers?), silty in part, trace very fine disseminated pyrite.
		5	COAL: black to dark brown, soft to very hard and splintery, grading into carbonaceous siltstone, pyrite cemented in part, grading into carbonaceous claystone.
		5	SANDSTONE: as above, becoming finer grained, no fluorescence.
		90	CLAYSTONE: light brown to very light greyish brown, pale grey, very soft, amorphous, abundant carbonaceous specks in part, trace very hard black and white finely laminated fragments, silty in part, trace very fine disseminated pyrite.
		5	COAL: black to dark brown, soft to very hard and splintery (pyritised?), grading into carbonaceous siltstone, very firmly pyrite cemented in part, grading into carbonaceous claystone.
3375	3380	80	CLAYSTONE: light brown to very light greyish brown, occasionally dark brown and carbonaceous, very soft, amorphous, abundant carbonaceous laminae in part, trace very hard (pyritised?) angular black fragments, silty in part, trace very fine disseminated pyrite.
		20	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part.
3380	3385	85	CLAYSTONE: as above
		15	SILTSTONE (1): light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks and laminae, very argillaceous, disseminated pyrite in part. Also SILTSTONE (2) dark grey, brownish black, silicified, very hard, sub blocky, occasionally completely replaced with silica, banded in part.
3385	3390	50	CLAYSTONE: brownish grey, light brownish grey, light grey, very soft, amorphous, silty in part, trace carbonaceous specks, rare pyrite, gradational to Argillaceous Siltstone.
		40	SANDY CLAYSTONE: very light grey to white, very soft, amorphous, lithics, 5 – 30% very fine well rounded quartz sand, grading to Argillaceous Sandstone.
		10	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part.
3390	3395	80	ARGILLACEOUS SANDSTONE: dominantly white to very light grey, minor clear to translucent, dominantly very soft aggregates, minor loose grains, very fine to medium, poorly sorted, sub angular to sub rounded, moderate to high sphericity, trace carbonaceous, abundant white argillaceous matrix, commonly matrix supported, gradational to Sandy Claystone, poor to fair inferred porosity, no fluorescence.
		10	CLAYSTONE: as above.
		10	SILTSTONE: as above (trace very hard silicified/pyritised fragments).
3395	3400	30	ARGILLACEOUS SANDSTONE: dominantly white to very light grey, minor clear to translucent, dominantly very soft aggregates, minor loose grains, very fine to medium, poorly sorted, sub angular to sub rounded, moderate to high sphericity, trace carbonaceous, abundant white argillaceous matrix, commonly matrix supported, gradational to Sandy Claystone, trace pale greenish calcite cemented fragments, poor to fair inferred porosity, no fluorescence.
		60	SANDY CLAYSTONE: very light grey to white, very soft, amorphous, trace lithics, 5-30% very fine well rounded quartz sand, grading to Argillaceous Sandstone.
		10	SILTSTONE: light brownish grey to brownish grey, very soft to soft, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part.
3400	3405	70	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
		30	SANDY CLAYSTONE: very light grey to white, soft to firm, amorphous to sub-blocky, trace lithics, 5-20% very fine well rounded quartz sand, grading to Argillaceous Sandstone, trace calcareous matrix, no fluorescence.

Interval (m)		Lithology / Show Description	
From	To	%	
3405	3410	Tr	COAL: black to dark brown, soft to firm, dull to bright, rare conchoidal fracture, commonly laminated, grading into carbonaceous siltstone, very firmly pyrite cemented in part, grading into carbonaceous claystone.
		10	SANDY CLAYSTONE: very light grey to white, soft to firm, amorphous to sub-blocky, trace lithics, 5-20% very fine well rounded quartz sand, grading to Argillaceous Sandstone, trace calcareous matrix, no fluorescence.
		90	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3410	3415	60	ARGILLACEOUS SANDSTONE: white to pale grey in aggregates, clear when loose, friable when in rare aggregates, fine to medium grained, mainly fine grained, moderately well sorted, sub-angular to angular, abundant white argillaceous clay matrix, trace pale greenish firm calcite cemented fragments, poor inferred visual porosity, trace pyrite, trace carbonaceous fragments and laminations, no fluorescence.
		40	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3415	3420	70	ARGILLACEOUS SANDSTONE: very light grey to white, soft to very soft in aggregates, amorphous to dispersive, mainly loose clear to translucent grains, very fine to fine grained, sub-angular to angular, abundant white argillaceous matrix, calcareous in part, trace lithics, trace pyrite, trace carbonaceous specks, poor inferred visual porosity, no fluorescence.
		30	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3420	3425	100	ARGILLACEOUS SANDSTONE: very light grey to white, soft to very soft in aggregates, abundant amorphous to dispersive non-calcareous matrix, mainly loose clear to translucent grains, very fine to coarse grained, mainly fine grained, very poorly sorted, sub-angular to angular, rare very firm calcareous cemented fragments, trace lithics, trace pyrite, trace carbonaceous specks, poor to moderate inferred visual porosity, no fluorescence.
3425	3430	100	ARGILLACEOUS SANDSTONE: clear to translucent, loose, very fine to coarse grained, mainly fine grained, very poorly sorted, sub-angular to angular, common yellowish-grey firm calcareous cement fragments, trace lithics, trace pyrite, trace carbonaceous specks, poor to moderate visual inferred porosity, no fluorescence.
3430	3435	Tr	COAL: black to dark brown, soft to very firm, sub-blocky to angular, laminated in part, dull to vitreous lustre, conchoidal fracture in part.
		20	ARGILLACEOUS SANDSTONE: clear to translucent, loose, very fine to coarse grained, mainly fine grained, very poorly sorted, sub-angular to angular, abundant white argillaceous matrix, trace aggregations of white calcareous rock-flour in cuttings, trace pyrite, trace carbonaceous specks, poor to moderate visual inferred porosity, no hydrocarbon fluorescence, white mineral fluorescence from rock-flour.
		80	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3435	3440	Tr	COAL: black to dark brown, soft to firm, dull to bright, rare conchoidal fracture, commonly laminated, grading into carbonaceous siltstone, very firmly pyrite cemented in part, grading into carbonaceous claystone.
		20	ARGILLACEOUS SANDSTONE: clear to translucent, mainly loose, very fine to coarse grained, mainly fine grained, very poorly sorted, sub-angular to angular, abundant white argillaceous matrix, trace pyrite, calcite cemented in parts, trace carbonaceous specks, poor to moderate visual inferred porosity, no hydrocarbon fluorescence.
		80	SILTSTONE: light brownish grey to brownish grey, soft to firm, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
		Tr	COAL: black to dark brown, soft to firm, dull to bright, rare conchoidal fracture, commonly laminated, grading into carbonaceous siltstone, very firmly pyrite cemented in part, grading into carbonaceous claystone.

Interval (m)		Lithology / Show Description	
From	To	%	
3440	3445	10	ARGILLACEOUS SANDSTONE: clear to translucent, mainly loose, very fine to medium grained, mainly very fine grained, moderately-poorly sorted, sub-angular to angular, abundant white argillaceous matrix, trace pyrite, calcite cemented in parts, trace carbonaceous specks, poor to moderate visual inferred porosity, no hydrocarbon fluorescence.
		90	SILTSTONE: light brownish grey to brownish grey, soft, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3445	3450	30	ARGILLACEOUS SANDSTONE: clear to translucent, mainly loose, very fine to medium grained, mainly very fine grained, moderately-poorly sorted, sub-angular to angular, abundant white argillaceous matrix, trace pyrite, calcite cemented in parts, trace carbonaceous specks, poor to moderate visual inferred porosity, no hydrocarbon fluorescence.
		70	SILTSTONE: light brownish grey to brownish grey, soft, sub-blocky to amorphous, abundant carbonaceous specks, very argillaceous, disseminated pyrite in part, no fluorescence.
3450	3455	30	ARGILLACEOUS SANDSTONE: as above
		70	SILTSTONE: as above
3455	3460	30	ARGILLACEOUS SANDSTONE: clear to translucent, mainly loose, very fine to coarse, mainly fine grained, poorly sorted, sub-angular to angular, abundant white argillaceous matrix (weathered feldspars?), trace pyrite, poor inferred porosity, no hydrocarbon fluorescence.
		70	SILTSTONE: light brownish grey to whitish-grey, very soft, amorphous, common carbonaceous specks, abundant argillaceous matrix, disseminated pyrite in part, no fluorescence.
3465	3470	60	ARGILLACEOUS SANDSTONE: white, clear to translucent, mainly loose, very fine to coarse, mainly fine grained, poorly sorted, sub-angular to angular, abundant white argillaceous matrix commonly washing out (weathered feldspars?), trace pyrite, poor inferred porosity, no hydrocarbon fluorescence.
		40	SILTSTONE: light brownish grey, brownish grey, whitish-grey, very soft to soft, amorphous, common carbonaceous specks, occasionally very carbonaceous abundant argillaceous matrix, disseminated pyrite in part.
		Tr	COAL: dull black, sub vitreous, firm, brittle, blocky, sub conchoidal fracture.
3470	3475	40	ARGILLACEOUS SANDSTONE: white to very light grey, dominantly very soft aggregates, very fine to fine, well sorted, sub angular to rounded, high sphericity, abundant white argillaceous matrix to 80%, matrix supported, poor inferred porosity, no fluorescence.
		60	SILTSTONE: as above
3475	3480	40	ARGILLACEOUS SANDSTONE: white to very light grey, dominantly very soft aggregates, occasional loose grains, very fine to fine, occasionally medium, moderately well sorted, sub angular to rounded, high sphericity, abundant white argillaceous matrix to 80%, matrix supported, poor to rarely fair inferred porosity, no fluorescence.
		60	SILTSTONE: light brownish grey, brownish grey, off white / light brownish grey, very soft to rare friable, very argillaceous, carbonaceous specks and carbonaceous laminae in part.
3480	3485	60	ARGILLACEOUS SANDSTONE: as above.
		40	SILTSTONE; as above.
3485	3490	60	ARGILLACEOUS SANDSTONE: white aggregates to clear, translucent loose grains, fine to coarse, dominantly fine to medium, moderately sorted, sub angular to angular, moderate sphericity, 70% white argillaceous matrix in aggregates, fair to moderate inferred porosity, no fluorescence.
		40	SILTSTONE: light brownish grey, brownish grey, off white / light brownish grey, very soft to rare friable, occasionally hard, very argillaceous, carbonaceous specks and carbonaceous laminae in part, very pyritic in part, occasionally siliceous and hard.
3490	3495	80	ARGILLACEOUS SANDSTONE: 60% white aggregates to 40% clear translucent loose grains, fine to coarse, dominantly fine to medium, moderately sorted, sub angular to angular, moderate sphericity, 70% white argillaceous matrix in aggregates, fair to moderate inferred porosity, no fluorescence.

Interval (m)		Lithology / Show Description	
From	To	%	
3495	3500	20	SILTSTONE: light brownish grey, brownish grey, off white / light brownish grey, very soft to rare friable, very argillaceous in part, carbonaceous specks and carbonaceous laminae in part, occasional disseminated pyrite.
		75	ARGILLACEOUS SANDSTONE: as above.
		15	SILTSTONE: as above
3500	3505	5	COAL: black, dull black, sub vitreous, firm, blocky, silty in part.
		70	SANDSTONE: 50% white aggregates 50% loose grains, dominantly fine to medium, occasionally coarse, moderately well sorted, sub angular to rounded, high sphericity, common white argillaceous matrix, trace pyrite nodules and cement, good inferred porosity, no fluorescence.
		30	SILTSTONE; as above
3505	3510	60	ARGILLACEOUS SANDSTONE: 70% white aggregates 30% loose grains, dominantly fine to medium, occasionally coarse, moderately well sorted, sub angular to rounded, high sphericity, common white argillaceous matrix, trace pyrite nodules and cement, good inferred porosity, no fluorescence.
		40	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rare sub firm, amorphous to sub blocky, rare sub fissile, trace carbonaceous specks and carbonaceous laminae, occasionally very pyritic and grading to Carbonaceous Siltstone.
		40	ARGILLACEOUS SANDSTONE: 80% white aggregates 20% loose grains, dominantly fine to medium, rare coarse, well sorted, sub angular to rounded, high sphericity, common white argillaceous matrix, trace pyrite nodules and cement, fair inferred porosity. Fluorescence: trace dull yellow, trace very slow cut, trace dull cream incomplete residue ring.
3510	3515	60	SILTSTONE: as above
		30	ARGILLACEOUS SANDSTONE: dominantly white aggregates, trace loose grains, very fine to fine, well sorted, sub angular to rounded, high sphericity, common white argillaceous matrix to 80%, trace pyrite nodules and cement, fair inferred porosity, no fluorescence.
		65	SILTSTONE: as above.
3515	3520	5	COAL: dull black, sub vitreous, firm, brittle in part, hackly fracture, very silty in part and gradational to Carbonaceous Siltstone.
		60	ARGILLACEOUS SANDSTONE: white to very light grey, soft aggregates trace loose grains, very fine to fine, occasional medium grains, well sorted, sub angular – rounded, white argillaceous matrix to 80%, poor inferred porosity, no fluorescence.
		40	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rare sub firm, amorphous to sub blocky, rare sub fissile, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic.
3520	3525	Tr	COAL: as above.
		65	ARGILLACEOUS SANDSTONE: as above, no fluorescence.
		35	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rare sub firm, amorphous to sub blocky, rare sub fissile, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic, occasionally very pyritic.
3525	3530	30	ARGILLACEOUS SANDSTONE: white to very light grey, soft aggregates trace loose grains, very fine to fine, occasional medium grains, well sorted, sub angular rounded, white argillaceous matrix to 80%, poor inferred porosity, no fluorescence.
		70	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rare sub firm, amorphous to sub blocky, rare sub fissile, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic, occasionally very pyritic.
		Tr	COAL: as above. (probably under-represented in cuttings, 20% of rock in reality)
3530	3535	10	ARGILLACEOUS SANDSTONE: as above, no fluorescence.
		90	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rarely firm, amorphous to sub-blocky, rarely sub-fissile, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic, occasionally very pyritic, trace black hard siliceous banded fragments.
		Tr	COAL: as above.
3535	3540	10	ARGILLACEOUS SANDSTONE: as above, no fluorescence.
3540	3545	10	ARGILLACEOUS SANDSTONE: as above, no fluorescence.



Interval (m)		Lithology / Show Description	
From	To	%	
3545	3550	90	SILTSTONE: light brownish grey, brownish grey, light grey, very soft, rarely firm, amorphous to sub-blocky, rarely sub-fissile, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic, occasionally very pyritic.
		Tr	COAL: as above.
		80	ARGILLACEOUS SANDSTONE: white to very light grey, loose grains, very fine to fine, occasional medium grains, well sorted, sub angular to angular, white argillaceous matrix to 80% (weathered feldspars?), poor inferred porosity, no fluorescence.
		20	SILTSTONE: light brownish grey, brownish grey, occasionally white, very soft, amorphous to dispersive, very argillaceous, trace carbonaceous specks and carbonaceous laminae, occasionally pyritic.
3550	3555	Tr	COAL: as above.
		10	ARGILLACEOUS SANDSTONE: white to very light grey, loose grains, very fine to fine, occasional medium grains, well sorted, sub angular to angular, white argillaceous matrix to 80% (weathered feldspars?), poor inferred porosity, no fluorescence.
		90	SILTSTONE: light brownish grey, brownish grey, occasionally white, very soft, amorphous to dispersive, very argillaceous, common carbonaceous specks and carbonaceous laminae, occasionally pyritic, trace very hard black & white finely banded siliceous fragments.
		Tr	COAL: as above.
3555	3560	20	ARGILLACEOUS SANDSTONE: as above
3560	3565	80	SILTSTONE: as above
		10	ARGILLACEOUS SANDSTONE: as above
		90	SILTSTONE: as above
3565	3570	Tr	COAL: as above.
			<b>Trip out change to a rotary assembly and Rock Bit IADC 5-3-7 Smith GF30BOVCPS</b>
		20	ARGILLACEOUS SANDSTONE: as above. (sample very contaminated with cavings following bit trip and should not be trusted with confidence)
		80	SILTSTONE: as above.
3570	3575	10	ARGILLACEOUS SANDSTONE: white to very light grey, loose grains, very fine to fine, occasional medium grains, well-sorted, sub-angular to rounded, white argillaceous matrix to 60% (weathered feldspars?), poor inferred porosity, no fluorescence.
		50	SILTSTONE: light brownish grey, brownish grey, occasionally white, very soft, amorphous to dispersive, very argillaceous, common carbonaceous specks and carbonaceous laminae, occasionally pyritic, trace very hard black & white finely banded siliceous fragments, grading occasionally into brown claystone.
		40	CLAYSTONE: very light greenish-grey, firm to moderately hard, sub-blocky to fissile, occasionally splintery shaped fragments, trace glauconite?, trace silty quartz grains, calcareous in nature.
		Tr	COAL: black, dull-black, sub-vitreous, firm, blocky, silty in part.
3575	3580	15	ARGILLACEOUS SANDSTONE: white to very light grey with carbonaceous laminations, firm to friable, very fine to fine, occasional medium grains, well-sorted, sub-angular to rounded, white argillaceous matrix to 60% (weathered feldspars?), moderate inferred visual porosity, trace pyrite, abundant carbonaceous specks and laminae, glowing white residual crush cut fluorescence inferred to be from carbonaceous material, no hydrocarbon fluorescence noted from clean sand fragments.
		60	SILTSTONE: light brownish grey to brownish grey, occasionally white, very soft to firm, amorphous to laminated, argillaceous, common carbonaceous specks and carbonaceous laminae, occasionally pyritic, grading occasionally into brown claystone.
		20	CLAYSTONE: very light greenish-grey, firm to moderately hard, sub-blocky to fissile, occasionally splintery shaped fragments, trace glauconite?, trace silty quartz grains, calcareous in nature.
		5	COAL: black to very dark brown, hard to very hard, sub-blocky to splintery, dull to bright with vitreous lustre and conchoidal fracture.
3580	3585	5	ARGILLACEOUS SANDSTONE: as above (no H/C fluorescence.)

Interval (m)		Lithology / Show Description	
From	To	%	
3585	3590	70	SILTSTONE: as above
		20	CLAYSTONE: as above
		5	COAL: black to very dark brown, hard to very hard, sub-blocky to splintery, dull to bright with vitreous lustre and conchoidal fracture, commonly pyritised with bright yellowish pyrite.
		5	ARGILLACEOUS SANDSTONE: as above (no H/C fluorescence.)
		80	SILTSTONE: light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common carbonaceous specks and carbonaceous laminae, occasionally pyritic, rare weak yellowish fluorescence from carbonaceous laminations.
3590	3595	15	CLAYSTONE: as above
		Tr	COAL: as above
		40	SANDSTONE: white to very light grey in aggregate form, very firm to hard, very fine to fine white to yellowish grains when loose, occasional medium grains, mainly fine-grained, moderately well-sorted, sub-angular to angular, abundant white argillaceous and calcareous matrix to 40% (weathered feldspars? and calcite cement), poor inferred visual porosity, trace pyrite, trace fractured grains, common black and dark brown carbonaceous/woody specks, trace green chlorite/glaucinite(?) grains, pale yellow mineral fluorescence from calcite cement, no hydrocarbon fluorescence.
		60	SILTSTONE: light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common black and dark brown carbonaceous/woody specks and carbonaceous laminae, occasionally pyritic.
		Tr	COAL: black to very dark brown, hard to very hard, sub-blocky to splintery, dull to bright with vitreous lustre and conchoidal fracture, commonly pyritised.
3595	3600	50	SANDSTONE: white to very light grey in aggregate form, very firm to hard, very fine to fine white to yellowish grains when loose, occasional coarse grains, mainly fine-grained, moderately well-sorted, sub-angular to angular, abundant white argillaceous and calcareous matrix to 40% (weathered feldspars? and calcite cement), poor inferred visual porosity, trace pyrite, trace fractured grains, trace carbonaceous specks, pale yellow mineral fluorescence from calcite cement, no hydrocarbon fluorescence.
		50	SILTSTONE: light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common black and dark brown carbonaceous/woody specks and carbonaceous laminae, occasionally pyritic.
		70	SANDSTONE: white to very light grey in aggregate form, very firm to hard, very fine to fine clear to whitish grains when loose, occasional coarse grains, mainly fine-grained, moderately well-sorted, sub-angular to angular, abundant white argillaceous and calcareous matrix to 40% (weathered feldspars? and calcite cement), moderate-poor inferred visual porosity, trace pyrite, trace fractured grains, trace carbonaceous specks, pale yellow mineral fluorescence from calcite cement, no hydrocarbon fluorescence.
3600	3605	30	SILTSTONE: light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common black and dark brown carbonaceous/woody specks and carbonaceous laminae, occasionally pyritic.
		40	SANDSTONE: white to very light grey in aggregate form, occasionally yellowish to bluish-white, firm to very well cemented in part, very fine to coarse clear to opaque grains when loose, occasional granular grains, mainly medium-grained, poorly-sorted, sub-angular to angular, common white argillaceous matrix (weathered feldspars?), common quartz overgrowths cementing sandstone, poor to fair inferred visual porosity, common pyrite both as cement and in nodular form, trace fractured grains, trace carbonaceous specks, pale yellow mineral fluorescence from calcite cement, no hydrocarbon fluorescence.
		60	SILTSTONE: light brownish grey to brownish grey, occasionally dark brown, soft to firm, amorphous to laminated, argillaceous, common black and dark brown carbonaceous/woody specks and carbonaceous laminae, occasionally pyritic.
		Tr	COAL: black to very dark brown, hard to very hard, sub-blocky to splintery, dull to bright with vitreous lustre and conchoidal fracture, commonly pyritised.

Interval (m)		Lithology / Show Description	
From	To	%	
3610	3615	40	SANDSTONE: white to very light grey aggregates, rare loose grains, very fine to fine, rare medium to coarse loose grains, well sorted in aggregates, sub angular to rounded, occasional carbonaceous grains, trace weak calcareous cement, trace pyrite, 30 – 80% argillaceous matrix, poor – fair inferred and visual porosity, no fluorescence.
		60	SILTSTONE: light brownish grey, black / brownish grey, very soft to sub firm, amorphous to sub blocky, common carbonaceous specks and laminae, trace pyrite, argillaceous in part, intercalated with very fine to fine white sandstone.
		Tr	COAL: as above
3615	3620	40	SANDSTONE: 80% white to very light grey aggregates, 20% loose grains, very fine to fine in aggregates, medium to coarse in loose grains, poorly sorted, moderately well sorted in aggregates, sub angular to rounded, occasional carbonaceous grains, trace weak calcareous cement, trace pyrite, 20 – 70% argillaceous matrix, poor – fair inferred and visual porosity. Fluorescence trace dull, light yellow to cream, no cut, probably from the calcareous cement.
		60	SILTSTONE: as above
3620	3625	60	SANDSTONE: 50% white to very light grey aggregates, 50% loose grains, very fine to fine in aggregates, fine to occasionally coarse in loose grains, poorly sorted, moderately well sorted in aggregates, sub angular to rounded, occasional carbonaceous grains, strong calcareous and occasionally siliceous cement, trace pyrite, 20 – 70% argillaceous matrix, poor inferred and visual porosity. Fluorescence 5% dull yellow, no cut, from the calcareous cement.
		40	SILTSTONE: light brownish grey, black / brownish grey, very soft to sub firm, amorphous to sub blocky, common carbonaceous specks and laminae, trace pyrite, argillaceous to arenaceous, intercalated with very fine to fine white sandstone.
		20	SANDSTONE: white to very light grey aggregates, loose grains, fine to medium in aggregates, fine to rare coarse in loose component, poorly sorted, moderately well sorted in aggregates, sub angular to rounded, occasional carbonaceous grains, strong calcareous and occasionally siliceous cement, trace pyrite, 10-40% white argillaceous matrix in part, poor inferred and visual porosity. Fluorescence 10% dull yellow, no cut, from the calcareous cement.
3630	3635	80	SILTSTONE: as above.
		30	SANDSTONE: as above
		70	SILTSTONE: light brownish grey, very light brownish grey, very soft, rare sub firm, amorphous, carbonaceous specks and laminae, very argillaceous, occasional pyrite.
3635	3640	30	SANDSTONE: white very light grey, clear, hard to occasionally friable aggregates, loose grains in part, fine to coarse, sub rounded to angular, poorly sorted, single aggregated are moderately well sorted, carbonaceous grains in part, occasional pyrite, occasional hard calcareous cement, poor visual porosity in calcareous cemented aggregates, poor to fair porosity in friable aggregates, 10% dull yellow mineral fluorescence from calcareous cement.
		65	SILTSTONE; as above
		5	COAL: dull black, firm, brittle in part, sub vitreous to rarely vitreous in patches, occasionally pyritic, commonly silty and gradational to Carbonaceous Siltstone.
3640	3645	15	SANDSTONE: very light grey, off white, 20% clear loose grains, very fine to coarse, dominantly very fine to fine in aggregates, poorly sorted, well sorted in aggregates, soft to friable aggregates, rare hard with calcareous cement, sub angular to rounded, moderate to high sphericity, occasionally with silty lithics and carbonaceous grains, rare pyritic, weak siliceous to occasionally hard calcareous cement, 20 – 80% white argillaceous matrix, poor to fair visual and inferred porosity, trace dull yellow mineral fluorescence from calcareous cement.
		80	SILTSTONE: light brownish grey, very light brownish grey, very soft, rare sub firm, argillaceous, amorphous, carbonaceous specks and laminae, occasional pyrite, occasionally gradational to Carbonaceous Siltstone.
		5	COAL: dull black, firm, brittle in part, sub vitreous to rarely vitreous in patches, occasionally pyritic, commonly silty and gradational to Carbonaceous Siltstone.

Interval (m)		Lithology / Show Description	
From	To	%	
3645	3650	65	SANDSTONE: white to very light grey in aggregate form, occasionally clear to white when in loose grains, firm to very well cemented in part, blocky to massive, very fine to medium grained, mainly fine-grained, moderately-sorted, sub-angular to angular, common white argillaceous matrix (weathered feldspars?), common quartz overgrowths cementing sandstone, common calcareous cement, poor inferred visual porosity, common pyrite both as cement and in nodular form, trace fractured grains, trace carbonaceous specks and laminations, common (5%) pale yellow-dull orange mineral fluorescence from calcite/silica(?) cement, no hydrocarbon fluorescence.
		30	SILTSTONE: light brownish grey, very light brownish grey, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, gradational to Carbonaceous Siltstone.
		5	COAL: dull black, firm, brittle in part, sub vitreous to rarely vitreous in patches, occasionally pyritic.
3650	3655	20	SANDSTONE: as above (mineral fluorescence only).
		80	SILTSTONE: light brownish grey, very light brownish grey, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, gradational to Carbonaceous Siltstone.
		Tr	COAL: as above.
3655	3660	20	SANDSTONE: white to very light grey in aggregate form, occasionally clear to white when in loose grains, firm to well cemented in part, blocky to massive, very fine to coarse grained, mainly fine-grained, poorly-sorted, sub-angular to angular, common white argillaceous matrix (weathered feldspars?), common quartz overgrowths cementing sandstone, common calcareous cement, poor inferred visual porosity, common pyrite both as cement and in nodular form, trace fractured grains, trace carbonaceous specks and laminations, common pale yellow-dull orange mineral fluorescence from calcite/silica(?) cement, no hydrocarbon fluorescence.
		80	SILTSTONE: light brownish grey, very light brownish grey, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, gradational to Carbonaceous Siltstone.
		Tr	COAL: as above.
3660	3665	30	SANDSTONE: white to very light grey in aggregate form, occasionally clear to white when in loose grains, firm to well-cemented in part, blocky to massive, very fine to medium grained, mainly fine-grained, poorly to moderately-sorted, sub-angular to angular, trace white argillaceous matrix (weathered feldspars?), trace quartz overgrowths, trace calcareous cement, poor inferred visual porosity, trace carbonaceous specks and laminations, trace pale yellow-dull orange mineral fluorescence from calcite(?) cemented fragments, no hydrocarbon fluorescence.
		70	SILTSTONE: brownish grey to very light brownish grey, occasionally dark grey, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, grading into Carbonaceous Siltstone.
		Tr	COAL: as above.
3665	3670	20	SANDSTONE: as above (5% mineral fluorescence).
		80	SILTSTONE: as above.
		Tr	COAL: as above.
3670	3675	30	SANDSTONE: white to very light grey in aggregate form, occasionally clear to white when in loose grains, soft to weakly-cemented in part, blocky to massive, very fine to coarse grained, mainly fine-grained, poorly-sorted, sub-angular to angular, trace white argillaceous matrix (weathered feldspars?), trace quartz overgrowths, moderate inferred visual porosity, trace carbonaceous specks and laminations, trace pale yellow-dull orange mineral fluorescence from calcite/silica(?) cemented fragments, no hydrocarbon fluorescence.
		70	SILTSTONE: brownish grey to very light brownish grey, occasionally dark brown, soft to very firm, argillaceous, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, grading into Carbonaceous Siltstone.
		Tr	COAL: as above.

Interval (m)		Lithology / Show Description	
From	To	%	
3675	3680	100	SILTSTONE: brownish grey to very light brownish grey, occasionally dark brown, soft to very firm, argillaceous, common fine quartz grains, amorphous to laminated, common carbonaceous specks and laminae, occasional pyrite, grading into Carbonaceous Siltstone.
		Tr	COAL: as above.
3680	3685	20	SANDSTONE: white to very light grey in aggregate form, occasionally clear and yellowish to white when in loose grains, well-cemented in part, blocky to massive, very fine to rarely coarse grained, mainly fine-grained, moderately-sorted, sub-angular to angular, trace white argillaceous matrix (weathered feldspars?), trace quartz overgrowths, trace carbonate cement, poor inferred visual porosity, trace carbonaceous specks and laminations, trace pale yellow-dull orange mineral fluorescence from carbonate-cemented fragments, no hydrocarbon fluorescence.
		80	SILTSTONE: brownish grey to very light brownish grey, occasionally dark brown, soft to very firm, argillaceous, common fine quartz grains, amorphous to laminated, common carbonaceous specks and laminae, occasional carbonate cement, occasional pyrite, grading into Carbonaceous Siltstone.
		Tr	COAL: as above.
3685	3690	20	SANDSTONE: as above.
		80	SILTSTONE: light brownish grey, very soft, occasionally sub firm, amorphous to sub blocky, occasionally sub fissile when carbonaceous, commonly carbonaceous grains and laminae, very argillaceous, trace pyrite, intercalated with very fine sandstone.
		Tr	COAL: dull black, sub vitreous, firm, brittle in part, hackly fracture, silty.
3690	3695	30	SANDSTONE: white to very light grey, dominantly soft to friable aggregates, occasional hard aggregates, also loose grains, very fine to fine, occasional medium grains, sub angular to well rounded, moderately well sorted, white argillaceous matrix to 80%, occasional carbonaceous grains and siltstone lithics, poor to fair porosity, no fluorescence.
		70	SILTSTONE: as above.
3695	3700	40	SANDSTONE: white to very light grey, dominantly soft to friable aggregates, also loose grains, very fine to fine, occasional medium grains, sub angular to well rounded, moderately well sorted, 5 – 80% white argillaceous matrix, occasional carbonaceous grains and siltstone lithics, poor to fair porosity, no fluorescence.
		60	SILTSTONE: light brownish grey, very soft to sub firm, amorphous to sub blocky, occasionally sub fissile when carbonaceous, commonly carbonaceous grains and laminae, very argillaceous, trace pyrite, intercalated with very fine sandstone.
3700	3705	30	SANDSTONE: white soft aggregates to 60% loose grains, fine to medium, occasionally coarse, sub rounded to angular, moderately well sorted, weak siliceous and argillaceous cement in part, white argillaceous matrix to 70% in part, trace carbonaceous grains in aggregates, fair to good inferred porosity, no fluorescence.
		65	SILTSTONE: as above.
		5	COAL: as above
3705	3710	70	SANDSTONE: clear to translucent loose grains, minor very light grey friable aggregates, fine to very coarse, dominantly medium to coarse, sub rounded to sub angular, moderately sorted, weak argillaceous cement, trace to 30% argillaceous matrix, carbonaceous grains in part, rare pyrite nodules, good porosity, no fluorescence.
		30	SILTSTONE: as above.
3710	3715	40	SANDSTONE; as above.
		60	SILTSTONE: light brownish grey, very soft to occasionally firm, amorphous to blocky, occasionally sub fissile when carbonaceous, commonly carbonaceous grains and laminae, very argillaceous, slightly dolomitic in part, trace pyrite, intercalated with very fine sandstone.
3715	3720	60	SANDSTONE: clear to translucent, occasional white aggregates, dominantly loose, fine to very coarse, sub angular to sub rounded, poorly sorted, white argillaceous matrix in part, moderately strong siliceous cement in part, occasional hard pyrite cement, fair to good inferred porosity, no fluorescence.
		35	SILTSTONE: light brownish grey, very soft to firm, argillaceous, carbonaceous specks and laminae, intercalates with very fine sand, occasional pyrite.

Interval (m)		Lithology / Show Description	
From	To	%	
3720	3725	5	DOLOMITE: dark yellowish brown, hard, blocky, sub conchoidal fracture in part, cryptocrystalline, trace pyrite. Trace dull yellow mineral fluorescence.
		60	SANDSTONE: clear, white, occasionally orange-brown and yellow, loose to soft aggregates, dominantly very fine to fine, occasionally medium to coarse, sub angular to rounded, moderately well sorted, common calcareous matrix, white argillaceous matrix in part, abundant carbonaceous specks and lithics, fair to good porosity, trace dull yellow, pinpoint, no direct cut, trace crush cut, trace light green / cream broken residue ring.
		40	SILTSTONE: light brownish grey, very soft, amorphous, very argillaceous, occasional carbonaceous grains, very fine sand grains in part, intercalated with very fine light grey sandstone.
3725	3730	20	SANDSTONE: white to light brownish grey in fragments, translucent to white when loose, dominantly very fine to fine, occasionally medium to coarse, sub angular to sub-rounded, moderately well sorted, white argillaceous matrix in part, fair to moderate porosity, trace pyrite, trace carbonaceous specks, trace dull yellow, mineral fluorescence only.
		80	SILTSTONE: light brownish-grey, very soft, amorphous, very argillaceous, occasional carbonaceous grains, very fine sand grains in part, intercalated with very fine light grey sandstone.
		Tr	DOLOMITE: dark yellowish brown, hard, blocky, sub conchoidal fracture in part, cryptocrystalline, trace pyrite. Trace dull yellow mineral fluorescence.
		Tr	COAL: as above.
3730	3735	100	SILTSTONE: light brownish-grey to dark grey, very soft, amorphous, very argillaceous, common carbonaceous grains, trace pyrite, very fine sand grains in part, grading to very fine sandstone.
3735	3740	40	SANDSTONE: white to light brownish grey in fragments, occasionally speckled black and white due to carbonaceous specks, translucent to white when loose grains, dominantly very fine to fine, very occasionally medium to coarse, sub-angular to angular, moderately well sorted, common white argillaceous matrix in part, poor inferred visual porosity, trace pyrite, trace calcareous cement in part, trace to common carbonaceous specks, trace dull yellow, calcite mineral fluorescence only, grading into coarse brown carbonaceous siltstone.
		60	SILTSTONE: light to dark brownish-grey, soft to firm, amorphous to fissile in parts, very argillaceous, common carbonaceous grains and laminations, very fine sand grains in part, trace pyrite, grading to fine sandstone.
		Tr	COAL: as above.
3740	3745	5	SANDSTONE: as above (trace mineral(?) fluorescence showing dull yellow crush-cut residue ring in UV light).
		95	SILTSTONE: light to dark brownish-grey, soft to firm, amorphous to fissile in parts, very argillaceous, common carbonaceous grains and laminations, very fine sand grains in part, trace pyrite, grading to very fine silty sandstone.
		Tr	COAL: as above.
3745	3750	10	SANDSTONE: as above. (Yellow-white and dull orange-yellow direct UV mineral fluorescence only).
		85	SILTSTONE: light to dark brownish-grey, soft to firm, amorphous to sub blocky, very argillaceous, common carbonaceous grains and laminations, trace very fine sand grains in part, trace pyrite, grading to fine sandstone.
		5	COAL: dull black, sub vitreous, firm, brittle in part, hackly fracture, silty.
3750	3755	5	SANDSTONE: white to very light grey, soft to rarely firm aggregates, very fine to fine, occasionally medium, sub angular to rounded, moderately well sorted, abundant white argillaceous matrix, poor inferred porosity, Fluorescence trace dull yellow mineral fluorescence.
		90	SILTSTONE: as above
		5	COAL: as above.
3755	3758	10	SANDSTONE: white to light grey, occasionally speckled white / black when carbonaceous, soft to very soft aggregates, very fine to fine, rarely medium, sub angular to rounded, high sphericity, common carbonaceous grains in part, 5 – 80% white argillaceous (weathered feldspar?) matrix, poor porosity, trace dull yellow mineral fluorescence.
		90	SILTSTONE: as above.

**3758m TD**

