SEL26/2005

Annual Report year 2

July 2008

APPENDIX 4

Drill Logs

Hole ID: Bangor

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Bangor	GDA94	508,572	5,440,427	204	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	26/05/2008	27/05/2008	Gerald Spalding Drilling
HQ core	102	252.2	03/06/2008	09/06/2008	Gerald Spalding Drilling

Data Set	Prospect	Hole _ID	m From	mTo	Rock 1	Rock 2	Rock 1_ Qual	Rock 2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph + Ore_ Type	Vn_ Type	Vn_ %	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL26/2005	Bangor	0	3	MST	SQ	SQ	SQ	A/B	SAPRK	-	-	-	-	-	-	-	-	-	-	Finely laminated serricitic quartz silty sandstones (bedding thickness interpreted to be mm scale) and siltstone with minor black carbonaceous shale.
KUTh	SEL26/2005	Bangor	3	6	MST	SQ	SQ	SQ	A/B	SAPRK	-	-	-	-	-	-	-	-	-	-	As above with increasing proportion of clay and a reduction in Fe staining.
KUTh	SEL26/2005	Bangor	6	18	MST	SQ	SQ	SQ	A/B/D	SAPRK	-	-	-	-	-	-	-	-	-	-	Black carbonaceous shaly siltstone becoming equal in proportion to finely laminated serricitic quartz silty sandstone with Fe staining common.
KUTh	SEL26/2005	Bangor	18	24	MST	SQ	ST/SB	ST/SB	D/A	FRESH	-	-	<2	PY	-	-	-	-	-	-	Black carbonaceous shaley siltstone dominant with subordinate grey quartz silty sandstone. Minor pyrite.
KUTh	SEL26/2005	Bangor	24	30	MST	SQ	ST/SB	ST/SB	D	FRESH	-	-	<2	PY	-	-	-	-	-	-	As above with increasing proportion of black shaley siltstone.
KUTh	SEL26/2005	Bangor	30	36	MST	SQ	ST/SB	ST/SB	A/D	FRESH	-	-	-	-	-	-	-	-	-	-	Grey quartz silty sandstone with finely laminated black carbonaceous siltstone.
KUTh	SEL26/2005	Bangor	36	102	MST	SQ	ST/SB	ST/SB	A	FRESH	-	-	<2	PY	-	-	-	-	-	-	Black carbonaceous shaley siltstone with minor disseminated pyrite. Occasional/rare lenses of grey quartz siltstone subordinate to the black shale.
				EOH																	

Hole ID: Ben Lomond

Hole Summary:

Hole ID	Datum	Easting[#]	Northing[#]	RL(m)[#]	Azimuth	Survey
Ben Lomond	WGS84	546,613	5,402,059	695	Vertical	Yes

[#]GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	126	17/12/2007	18/12/2007	Gerald Spalding Drilling
HQ core	126	276.1	09/01/2008	17/01/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock 2	Rock1 _Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph +Ore_ %	Sulph+ Ore_ Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Ben Lomond	0	3	Sds - Mathinna quartzwacke turbidite sequences	OST	V	FT		B	SAPRK					Q	5%			SR	U	Mathinna sediments, mildly foliated with sericitic sheen. Lt brown coloured siltstone. Qz xls present from proximal veining.
KUTh	SEL 26/2005	Ben Lomond	3	6	Sds - Mathinna quartzwacke turbidite sequences	OST	V	FT		B/W	SAPRK					Q	50%			SR	U	Mathinna sediments, mildly foliated with sericitic sheen. Lt brown coloured siltstone. Interval composed of approx. 50% qz due to veining
KUTh	SEL 26/2005	Ben Lomond	6	9	Sds - Mathinna quartzwacke turbidite sequences	OST	V	FT		B/A/W	SAPRK			<1%	PY	Q	40%			SR	U	Random assortment of brown-grey-dark grey mathinna siltstones Sericitic sheen obvious in this interval, with some micas visable without hand lens. Trace PY disseminated. Qz a uniformly milky colour, fragmenting into sharp small pieces
KUTh	SEL 26/2005	Ben Lomond	9	12	Sds - Mathinna quartzwacke turbidite sequences	OST		FT/LA		A2/B	SAPRK					Q	3%		minor	SR	U	Dominantly dark grey mathinna siltstone, uniformly fracturing in platey manner, into small pieces. Finer grained siltstone than the brown ST in previous intervals. Less SR than previous intervals, although sheen still prevalent.
KUTh	SEL 26/2005	Ben Lomond	12	15	Sds - Mathinna quartzwacke turbidite sequences	OST	V	FT/LA		A2/B/W	SAPRK					Q	20%			SR	U	Interval composed of equal mix of the brown ST, and dark grey ST (both foliated). Qz uniformly milky colour
KUTh	SEL 26/2005	Ben Lomond	15	18	Sds - Mathinna quartzwacke turbidite sequences	OST	V	FT/LA		A2/B/W	SAPRK					Q	20%		minor	SR	U	As above, with a greater abundance of the dark grey, finer grained siltstone.
KUTh	SEL 26/2005	Ben Lomond	18	30	Sds - Mathinna quartzwacke turbidite sequences	OST		LA		A2	FRESH											Fresh dark grey mathinna siltstone displaying mild lamination in the bedding/ie uniform fracturing in a fine platey manner. No Qz or sulfides present
KUTh	SEL 26/2005	Ben Lomond	30	39	Sds - Mathinna quartzwacke turbidite sequences	OST		LA		A2/R	FRESH								minor	SR	U	AS above, with the inclusion of FeO stained fragments. Minor micaceous sheen visable on surfaces of laminations.
KUTh	SEL 26/2005	Ben Lomond	39	42	Sds - Mathinna quartzwacke turbidite sequences	OST	V	LA		A2	FRESH					Q	10%					Fresh dark grey siltstone with minor qz veining
KUTh	SEL 26/2005	Ben Lomond	42	51	Sds - Mathinna quartzwacke turbidite sequences	OST		LA		A2	FRESH					Q	1%					As above
KUTh	SEL 26/2005	Ben Lomond	51	54	Sds - Mathinna quartzwacke turbidite sequences	OST	V	LA		A2/W	FRESH					Q	40%					Standard siltstone with a large Qz vein - milky white fragmenst up to 1.5cm wide.
KUTh	SEL 26/2005	Ben Lomond	54	66	Sds - Mathinna quartzwacke turbidite sequences	OST		LA		A	FRESH					Q	5%					Grey siltstones with very micaseous sheen. Minor Qz veining
KUTh	SEL 26/2005	Ben Lomond	66	81	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	LA		A2	FRESH					Q	3%					Dark grey mudstone and lighter siltstones. Very small fragments. Fractures in a very platey manner. Siltstones have a micaceous sheen
KUTh	SEL 26/2005	Ben Lomond	81	87	Sds - Mathinna quartzwacke turbidite sequences	OST		LA		A	FRESH					Q	10					Siltstone interval with very clean, milky qz veining within.
KUTh	SEL 26/2005	Ben Lomond	87	111	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	LA		A2/A	FRESH											Dominantly dark grey mudstone, with minor lighter grey siltstone. Micaseous sheen becoming less obvious in the siltstones. No qz veining.
KUTh	SEL 26/2005	Ben Lomond	111	114	Sds - Mathinna quartzwacke turbidite sequences	OSU	Q	LA		A2/W	FRESH					Q	50					Very large fragment of quartz present (takes up half of chip slot), may therefore unrepresentitive of actual qz present in the interval. Milky whit in colour.
KUTh	SEL 26/2005	Ben Lomond	114	126	Sds - Mathinna quartzwacke turbidite sequences	OST	OSU	LA		A2/A	FRESH					Q	10					Interbedded siltstones and mudstones
			End of RC hole																			
KUTh	SEL 26/2005	Ben Lomond	126.1	128.7	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		D/A	FRESH		25		PY	Q/B/Y			5	AK	U	Moderately sheared mudstone, with slatey texture. Minor quartz- carbonate ± pyrite. The carbonate vnlets found cross-cutting the larger quartz veins. Ankerite is found as an alteration mineral both within the veins, and between the laminations in the beds. a ^c 10, b>c 24°
KUTh	SEL 26/2005	Ben Lomond	128.7	129.1	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		D/A	FRESH		25		PY/(CO/ GL???)	X/Q/B			50	SI	V	Same unit as above, but it has one very distinct 7mm wide sulphide-quartz-carbonate vein. See photos. The vein has very sharp/distinct edges, and silicification proximal to the vein. While pyrite is the most dominant sulphide, may be other sulphides present. Vn is dominantly quartz-70%, suplhides 20%, carbonate 10%
KUTh	SEL 26/2005	Ben Lomond	129.1	130.2	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A2/A	FRESH		25						5	AK	U	Minor ankerite present between the fine laminations. Otherwise unaltered fresh mathinna group mudstone.
KUTh	SEL 26/2005	Ben Lomond	130.2	130.7	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT		A/A2	FRESH		35		PY	Q/B/X			50	SI	V	Short interval that has undergone a mild metamorphis, with at least two episodes of veining, and an interesting coarse looking jumbled texture. See photos. As you can see from the photos the small yellow veins have quite intense silicification proximal to the vein. These x-cutting veinlest are quartz. The larger white, discontinuous 'wormlike' veins are quartz dominated, with carbonate, and minor pyrite.
KUTh	SEL 26/2005	Ben Lomond	130.7	132.1	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A/A2	FRESH		25		PY/GL	AK/X			5	AK	U	Laminations becoming thicker. Brown alteration mineral (Ankerite/possibly sericite) common between the beds/laminations. At 132m very pyritic very ankerite rich veinlets. No reaction with HCL, very soft.
KUTh	SEL 26/2005	Ben Lomond	132.1	133	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A/A2	FRESH		35		PY	Q/B/X		10/5	AK/CH	V/U	Interval has quite strong metaoprhic features, with q shaped curvature of the beds around the large quartz inclusions. See photos. Pyrite and (galeena ?) are common throughout both generations of qz-cb veining. Small xls. Ankerite is common throughout the smaller second generation veins. And chlorite is common in the first generation of veining. Ankerite is also common throughout the laminations in the beds. Qz veins at a high angle to bedding.
KUTh	SEL 26/2005	Ben Lomond	133	134.1	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A	FRESH		25		PY/GL	Q/B/X				CH/AK	V	Includes one small pyrite rich quartz/carbonate vein, about 3mm thick, with minor galeena within. Vein also has minor chlorite ans ankerite alteration.
KUTh	SEL 26/2005	Ben Lomond	134.1	135	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A	FRESH		25		PY	B/Q/Y						includes several small carbonate veins (dolomite) sub-vertically dipping. Second generation of veining is much larger; quartz dominated, minor carbonate and pyrite associated. Interval also includes several very small sub horizontal veinlets of pyrite.
KUTh	SEL 26/2005	Ben Lomond	135	145.9	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A/D	FRESH		25		PY	Q/B/X						Dominantly grey, with very fine baick laminations. Ankerite is very common between the laminations. Includes several minor qz-carb-pyrite veins, never >5mm wide. Pyrite present, but not a dominant feature of this drillcore. A ^ c 30°, b=c?
KUTh	SEL 26/2005	Ben Lomond	145.9	156	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A2/D	FRESH		25			AK/B				AK	VSD	As above, but darker coloured interval. Fairly uninteresting. Includes many ankerite-rich, soft, clayey veins that have no particular orientation. At around 153m, a small, very sharp lined, clean white carbonate vein, dipping at around 70deg is present. a ^c 17, b>c 10°
KUTh	SEL 26/2005	Ben Lomond	156	162	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/LA/BD		A1/D	FRESH		15							AK/CH	VSD	Interbedded mudstone. When looking at broken ends of drill core, the lighter layers/beds seem to be more siliceous than the black beds. Sedimentary textue is becoming more like bedding than fine laminations. Several small quartz dominated Ankerite ± Carbonate are present. At 156.6m a 1cm wide Qz vein with obvious silicification of the mudstone on either side is present. Also includes chlorite as an alteration mineral. A ^ c 10º, b>c 20º
KUTh	SEL 26/2005	Ben Lomond	162	170.1	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A2	FRESH		25		PY	B/Q/X						dark coloured laminated mudstone/slate. Few sericite/ankerite veinlets/selective replacement of bedding between laminations. A 2cm wide sub-horizontal (barren) Quartz vein present. Directly below this vein is a dark, qz-dominated vein + minor carbonate along the edges and associated pyrite mineralsiation. No other veining in this interval.
KUTh	SEL 26/2005	Ben Lomond	170.1	192	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A2	FRESH		25		PY	B/Q/X				CH		Same as above, but with a larger number of carbonate + quartz ± pyrite present. At **86.7m** a large carbonate inclusion with fragments of host mudstone rock. See photo. Veins are calcerious rather than quartz dominated. Often very fine grained sulphides are disseminated within. Also common to get broken angular fragments of the mudstone within the vein. Finley laminated. Ankerite is common within the smaller, sub 2mm veins. A larger vein at 188m shows vein zoning: Pÿ Cb Ÿ Qz. Chlorite is often present on the fractured surfaces. a ^ c 20°, b>c 20°. RWU from graded bedding.
KUTh	SEL 26/2005	Ben Lomond	192	194	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A2	FRESH		25		PY	B/Q/A K/X		10	SI	V	As above, but includes a distinctive qz-cb, brown vein about 1cm thick. Very minor disseminated pyrite within. Weak silicification of mudstone where vein contacts. Futher DH a series of very FE-rich CB veinlets; bright red-brown and react with HCL. A ^ c 18º, b>c 14º
KUTh	SEL 26/2005	Ben Lomond	194	196.7	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		30		PY							Interbedded siltstones and mudstones, very finely bedded, showing convolute lamination. with pinch and swell boudinage structures. Pyrite is very common as fracture fill/found on fractured surfaces (see photos). Core is crossed with many many very small, sub mm red veinlets - assuming these veinlets are actually fracture lines with pyrite infill. A ^ c 18º, b>c 39º
KUTh	SEL 26/2005	Ben Lomond	196.7	198	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		25		PY/CO(?)	B/Q/X						Right at the start of the interval, some interesting FE-rich carbonate veinlets with a distinct 'S' shape deformation around the CB clast. See photo. Pyrite is common in the veinlets, and possibly other sulphides. Several pyrite veinlets present - no particular orientation. Right at 197m is an interesting carbonate/quartz vein with a banded texture. May contain minor chalcopyrite(?). See photo. The fracture at 197.2 shows clear kink-band micro folding (see photo). Fracture surface pyrite common, has the same texture as lichen on a rock.
KUTh	SEL 26/2005	Ben Lomond	198	200	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		25		PY							Interbedded mudstone and siltstone, ratio of ST:SU increasing. Fine beds getting thicker, and convolute lamination/soft sed deformation becoming more distinct. Pyrite present as fracture fill. A ^ c 24º, b>c 24º
KUTh	SEL 26/2005	Ben Lomond	200	202	Sds - Mathinna quartzwacke turbidite sequences	OST	OSU	FT/BD		A/A2	FRESH		20		PY	B/Q/X		10	SI/CH	V		Bedding layers becoming thicker and more distinct. Although still not 'flat' top and bottom to the layers, and difficult to determine RWU. Looks like the layers have been 'pulled apart', deformation texture- boudinage structures. Interval has a 7mm wide carbonate vein. Less bliated/claeved than previous intervals, Fractured surface has a grainey/crystaline texture; becoming more siltstone rich. Carbonate-Quartz vein has fine py selvage, and minor silicification where in contact with the sediments. Moving further DH, increase in the number of small quartz-carbonate veins. Micro folding within, see photos. Chlorite and pyrite occur as selvage to the carbonate veins. Photos display deformation texture of the rock.
KUTh	SEL 26/2005	Ben Lomond	202	212	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		20		PY	B/Q/X		10	CH	V	Beds becoming thinner, cross cut by many small carbonate veins. At 204.6; zone is likely to be a vein, also includes CB, but has no distinct boundary to the sediments, see photo. Very minor pyrite in association with the vein. The quartz and carbonate within have a granular texture, not as silicified as previous example. Several Q-CB-PY±chlorite throughout interval. Some display selvage-like baking, but the sediments are not silicified in this zone; see photo. A ^ c 15º, b>c 27º
KUTh	SEL 26/2005	Ben Lomond	212	212.15	Sds - Mathinna quartzwacke turbidite sequences	Q		BX		K/A	FRESH		70		PY	Q/B		30	CH/SR/B			Strongly altered, clay-rich zone, probably a fault zone. No brecciation. Quartz rich, very soft white mineral -talc. Many micro faults between the finely bedded chlorite-rich layers and soft sediments. Sericite/ankerite is also abundant throughout. Quartz present as broken veins up to 2cm thick. Minor carbonate is also associated with the veins.
KUTh	SEL 26/2005	Ben Lomond	212.15	214	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		25		PY					FE	F-Fill	Standard fine interbedded mudstone and siltstone. Includes a few very minor veinlets; fractures which are infilled with Fe- pyrite.
KUTh	SEL 26/2005	Ben Lomond	214	215	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A	FRESH		20		PY	Q/B						Generally much lighter in colour interval, with many white to bright orange tabular shaped/angular, elongated inclusions/discontinous veins, see photos. Dominantly quartz with minor carbonate. Orange from fe-staining, possibly ankerite. Within the inclusions are distinct microbanding, like a conchidal fracture texture. Only very minor, very finely disseminated pyrite present in trace amounts, in association with the veins.
KUTh	SEL 26/2005	Ben Lomond	215	223.3	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		20			Q/B				FE	F-Fill	Standard fine interbedded mudstone and siltstone with mild boudinage texture. Several very small B/Q veins. Rich in Fe alteratio as fracture infill.
KUTh	SEL 26/2005	Ben Lomond	223.3	223.8	Sds - Mathinna quartzwacke turbidite sequences	CY		BX/FT		A	FRESH		80							CY	fault	Fault zone about 6cm thick, dipping at about 70°. Mildly brecciated, foliated within, with strong shearing. Minor carbonate about 2mm thick zone between fault zone and sediments. Very sharp contact.
KUTh	SEL 26/2005	Ben Lomond	223.8	242	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		25-30			Q/B						Large interval with very few veins. Shearing quite strong, but not quite slate. Veins present are very small, and very few and far between. @230m A ^ c 18º, b>c 18º
KUTh	SEL 26/2005	Ben Lomond	242	247.3	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST/C	FT/BD		A/A2/W	FRESH		20		PY	Q/B/X		10	CH/SI	V/VSD	Starting at 242.2 is the first of a series of milky quartz ± pyrite veins. Chlorite is often associated with the veins, especially on the edges. Pyrite is found as fine cubes disseminated throughout the veins, also found as small granular clusters. At 243.4 interesting texture in the quartz vein, with strong banding features of the qz and cb. Seems to be layered rather than zoned, with several joints perpendicular to the layers - see photos. Minor silicification as selvage to the vein. Deformation, with microfolding of bedding visable at 245.3. @242m A ^ c 10º, b>c 56º
KUTh	SEL 26/2005	Ben Lomond	247.3	248.9	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		30		PY	Q/B/X				CH	V	Orientation of bedding and cleavage becoming quite random, and difficult to tell. Area has been deformed/metamorphosed. At 247.75m can see the deformation in small quartz veins, with small rounded folds; about 1.5cm top to bottom see photos. Also starting at this point is a small intensely brecciated Qz-py-cb fault zone.
KUTh	SEL 26/2005	Ben Lomond	248.9	252	Sds - Mathinna quartzwacke turbidite sequences	OSU	Q	FT/MA		W/A2	FRESH		40		PY	Q/B/X				CH/CY	V	Zone dominated by a large quartz vein, often the width of the core. At about 50 angle. See photos. In inbwtewwn is strongly sheared shale. Carbonate is also a large constituent of the veining. Small breccciated zones between the quartz is common. Few vugs in the veins, generally massive. Where vugs are present they are often filled with white clay/pyrite. Pyrite is common in both small granular clusters, and fine dissemination throughout the vein and mudstone. Chlorite is very common throughout the whole interval. The clay present is very soft, very white; low grade alteration - kaolonite(?). At 250.3m particularly vuggy section; pyrite found as a thick infill. @249-251 qz vn. A ^ Vn 50 at top and bottom.
KUTh	SEL 26/2005	Ben Lomond	252	256	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/LA/BD		A/A2	FRESH		25									Fairly standard interbedded mudstone and siltstone. Very minor/hardly worth mentioning ankerite veinlets.
KUTh	SEL 26/2005	Ben Lomond	256	257	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		30							CY	fract	Interval defined by small-scale deformation. Beds are at no particular orientation, have been folded in a random manner. Very minor veining, clay rich minerals in fractures/fracture fill. See photos. Can also see small kink-folds in these photos.
KUTh	SEL 26/2005	Ben Lomond	257	258.3	Sds - Mathinna quartzwacke turbidite sequences	OSU	Q	FT/BD		A2/a	FRESH		25-30		PY	Q/B/X				CH	V	Very deformed interval, with 2 generations of veining and folding. i)Quartz that was intruded pre-deformation, and ii) cb that x-cuts the qz vein, post deformation. See photo
KUTh	SEL 26/2005	Ben Lomond	258.3	261.8	Sds - Mathinna quartzwacke turbidite sequences	OSU		FT/BD		A/A2	FRESH		20									at 259.9m a cm wide vein with black micas on depest contact. At 260.3m 2 cb inclusions (as opposed to being veins). Sediments are mildly deformed, much less than previous interval.
KUTh	SEL 26/2005	Ben Lomond	261.8	275	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/LA/BD		A/A2	FRESH		25			B/AK				AK	v	Standard interbedded mudstone/siltstone. Very good example of fin laminations at 270.8m. Shows beds are overturned, see photos. Ankerite present as infill within veinlets, otherwise veins are dominantly carbonate. @264m A ^ C 12º, b>c 10º @271 A ^ c 16º, b>c 10º Overturned- from graded laminations.
KUTh	SEL 26/2005	Ben Lomond	275	276.1	Sds - Mathinna quartzwacke turbidite sequences	OSU	OST	FT/BD		A/A2	FRESH		20			B/AK				AK	V	Increased thickness of beds. Cleaving strongly disjointing bedding. See photos. A ^ c 11º, b>c 44º
				EOH																		

Hole ID: Bluestone

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Bluestone	GDA94	571,901	5,300,093	353	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	30/05/2008	02/06/2008	Gerald Spalding Drilling
HQ core	102	252.2	12/06/2008	17/06/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFro	mTo	Formation	Rock1	Rock2	Rock1_Qu	Rock2_Qual	Colour	Regolith	Reg_Qu	Shear	Sulph+Ore_	Sulph+Ore_Ty	Vn_Typ	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL26/2005	Bluestone	0	3	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									Fresh unaltered fine grained dolerite. Uniform in texture/colour
KUTh	SEL26/2005	Bluestone	3	6	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	6	9	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	9	12	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	12	15	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	15	18	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	18	21	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	21	24	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	24	27	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	27	30	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	30	33	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	33	36	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	36	39	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	39	42	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH	F	0			B/Q	1					Dolerite as above, very minor fe in association with the few 1-3mm thick carbonate ±
KUTh	SEL26/2005	Bluestone	42	45	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	45	48	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	48	51	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	51	54	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	54	57	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	57	60	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			B/Q	1					Dolerite as above, with few 1-3mm thick carbonate ± quartz veins
KUTh	SEL26/2005	Bluestone	60	63	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			Q	1-2					Fresh unaltered fine grained dolerite. Uniform in texture/colour. Minor quartz veining
KUTh	SEL26/2005	Bluestone	63	66	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									Fresh unaltered fine grained dolerite. Uniform in texture/colour.
KUTh	SEL26/2005	Bluestone	66	69	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	69	72	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	72	75	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0			Q	1-2					Fresh unaltered fine grained dolerite. Uniform in texture/colour. Minor quartz veining
KUTh	SEL26/2005	Bluestone	75	78	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									Fresh unaltered dolerite. Very little, (if any in some intervals) quartz veining
KUTh	SEL26/2005	Bluestone	78	81	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	81	84	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	84	87	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	87	90	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	90	93	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	93	96	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	96	99	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
KUTh	SEL26/2005	Bluestone	99	102	Jdl - Jurassic Dolerite	JDD		FG		A2	FRESH		0									As above
				EOH RC																		
KUTh	SEL26/2005	Bluestone	102	121	Jdl - Jurassic Dolerite	JDD		MG		A1/A	FRESH					B/Q	<5	M	20	CY/C	V	Generally competent (Avg 2 breaks/M). Equal ratio of plag to pyroxene. Pyx very light in colour. Includes several small Carbonate ± Qz veinlets, and 2 larger (1cm wide) multistage Cb veins with associated alteration as selvage, including low grade meta clays, minor chlorite, and FE staining. Veins usually white to green. Fractures associated with larger 2 veins, but not smaller veins
KUTh	SEL26/2005	Bluestone	121	123	Jdl - Jurassic Dolerite	JDD		MG		A/A1	FRESH					B/C	20	S	20	CY/C	V	Interval characterised by a large vein that has developed over multiple stages of fluid throughflow. Approx 80˚ dip. Core is fractured along the vein, as multiple sheet like fractures. Phenocrysts of the pyx becoming fewer, with the plag groundmass the dominant constituent. Veins very soft and clay rich within, with few subhedral calcite xls present
KUTh	SEL26/2005	Bluestone	123	124	Jdl - Jurassic Dolerite	JDD		MG/CG		A1/A	FRESH											fresh unaltered, vein free dolerite. Most pyx phenocrysts medium grained, but often coarse grained (>5mm)
KUTh	SEL26/2005	Bluestone	124	127	Jdl - Jurassic Dolerite	JDD		FG/MG		A	FRESH					Q	<1%					Dominantly FG phenocrysts of Pyx, with many MG phenocrysts. Very competent interval. One small qz vein with no associated alteration.
KUTh	SEL26/2005	Bluestone	127	130	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH					Q	<1%					MG dolerite. Competent. Plag > Pyx. Phenocrysts subhedral in form. Includes 1 steeply dipping unfractured orange/white quartz vein.
KUTh	SEL26/2005	Bluestone	130	136	Jdl - Jurassic Dolerite	JDD		MG		A/A1	FRESH					B/Q	<2					increased % pyroxene, with crystals euhedral- tabular to sometimes asicular. Light grey phenocrysts, with darker groundmass, giving the dolerite a spotty texture. Competent, with avg 2 fractures/M
KUTh	SEL26/2005	Bluestone	136	136	Jdl - Jurassic Dolerite	JDD	R	MG/CG		A/K	FRESH					B	20		20	CY/C	V	Interval dominated by a large khaki coloured carbonate vein. Approx 45 ˚ dip, and 2 smaller carb. Veinlets at end of interval. CB vein appears zoned within, white to green in colour. Soft, white, with minor fe halo up to adjacent to veinlets.
KUTh	SEL26/2005	Bluestone	136	154	Jdl - Jurassic Dolerite	JDD		MG/CG		A1/A	FRESH					B/Q	<1					Competent, unaltered, vein free dolerite. Dominantly medium to course grained. Distinct light grey euhedral pyroxene tabular crystals. Generally equal Plag to Pyx ratio. Very little CB ± Qz veinlets. Right at beginning of interval 135.8-135.9m 45 ˚ dip band of fine grained dark mafics and fine bronze asicular pyx crystals.
KUTh	SEL26/2005	Bluestone	154	161	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH					Q/B	<1%		20	B	V	Decreasing in grainsize (still MG though). Increase in Pyx to Plag ratio. Phenocrysts generally anhedral, giving core a mottley appearace, although becoming subhedral down hole. Generally vein free, except for one with 30 ˚ dip, with associated biotite selvage. Very competent

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KUTh	SEL26/2005	Bluestone	161	173	Jdl - Jurassic Dolerite	JDD		MG/FR		A	FRESH					B	<1	M	30	CY/C	V	Highly fractured MG dolerite, fractures are usually sub-horizontal to <45 °. Pyx>Plag, with phenocrysts generally becoming more euhedral towards end of interval. Very little veining and alteration, with the largest vein @171m. Soft white puggy CB vein, made up of a series of veinlets. Includes green chlorite and associated clays.
KUTh	SEL26/2005	Bluestone	173	177	Jdl - Jurassic Dolerite	JDD		MG-CG		A1/A2	FRESH					Q	1-2%					Meduim to at times Coarse grained competent dolerite. Euhedral light grey phenocrysts of pyx. Very minor veining, with 2 generations present. Light green to white qz rich vnlets found cutting hard orange veinlets. Interval darker than previous ones, with an increase in black vfg mafics in the groundmass.
KUTh	SEL26/2005	Bluestone	177	180	Jdl - Jurassic Dolerite	JDD		FG-MG		A/A2	FRESH					Q/B	<1%					Fine to at times MG dolerite. Pyx phenocrysts generally anhedral. % of fine grained black mafics decreasing. 2 generations of veinlets, as above
KUTh	SEL26/2005	Bluestone	180	183	Jdl - Jurassic Dolerite	JDD		MG		A/G1	FRESH					Q	2					Pyx > Plag interval, often euhedral tabular crystals. Groundmass often light green, and pyx becoming bronze in colour. Some of the randomly orientated phenocrysts are up to 5mm long asicular xls. 3 small veinlets, all dipping 30-45 °, hard, not fractured; with intergrowth of pyx xls along boundaries, not sharp boundaries like most veining in this
KUTh	SEL26/2005	Bluestone	183	187	Jdl - Jurassic Dolerite	JDD		FG-MG		A/G	FRESH					Q	1		10	Calci	F	Fine to at times MG, mottley rather than euhedral. Groundmass ofthen includes very green 'layers'. Veins as above. Competent interval. Fracturing at 1m displays well formed calcite crystals within.
KUTh	SEL26/2005	Bluestone	187	189	Jdl - Jurassic Dolerite	JDD		MG		A/G	FRESH					B/	2		10	Zeolit	F	MG competent. Half subhedral, and half euhedral. Often asicular xls of pyx. Minor Cb veining. @ 188.43 - 9cm fractured zone due to 2 cb+zeolite veinlets. Fractured surface shows well formed pyx xls. Plag groundmass has distinct light green to blue colour. 2nd generation of hard green veins have intergrowth of pyx xls at end of interval.
KUTh	SEL26/2005	Bluestone	189	200	Jdl - Jurassic Dolerite	JDD		MG		A1/A	FRESH					B	1					groundmass > phenocrysts (subhedral). Few cb veins. Mottley texture. FG Black mafic component often leaving pits in the core (perhaps due to pervasive selective alteration to chlorite). Competent
KUTh	SEL26/2005	Bluestone	200	203	Jdl - Jurassic Dolerite	JDD		MG		A1/A	FRESH					B	5	V		Zeolit	V/F	Less compenent interval with several breaks. Increase in veining, with many steep dipping veinlets, and two larger vuggy veins with MG zeolites (vitreous, asicular, striated) within. Veins otherwise dominantly Cb. Pyx xls generally larger when proximal to veins, and plag groundmass becomes much greener.
KUTh	SEL26/2005	Bluestone	203	209	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH											Competent, No veins/alteration. Often euhedral phenocrysts. Increase in % FG mafics, with groundmass distinctly darker.
KUTh	SEL26/2005	Bluestone	209	217	Jdl - Jurassic Dolerite	JDD		FG		A	FRESH					CB	<1					Very minor Cb veinlets. Equal ratio of Pyx: plag. Some med. Grained phenocrysts, but dominantly fine grained. Decrease in mafics from previous interval
KUTh	SEL26/2005	Bluestone	217	226	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					CB	2	V				Distinct increase in groundmass to phenocrysts. Pyx medium grained, and groundmass dark grey. Very competent interval. Includes many white, randomly orientated Cb veinlets, with only 1 vn>2mm wide (cb with zeolites, and distinct Fe aureol. Porus/vuggy, and up to 5mm wide).
KUTh	SEL26/2005	Bluestone	224	226	Jdl - Jurassic Dolerite	JDD		MG/FR		A/A2	FRESH											Interval within the interval above that is distinguised by moderate level of fracturing.
KUTh	SEL26/2005	Bluestone	226	235	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					CB/I	3			B	V	As above, but includes several biotite-rich veinlets. Submm, and often the biotite is selvage to cb vein. Generally randomly orientated, and not linear (ie 'squiggly' paths). @231.1-231.25m small brecciated zone; very high in biotite and calcite. Voids filled with massive calcite, and biotite at all void surfaces/boundaries to the calcite. Some parts of the breccia a cavity with biotite and calcite xls growing freely. The 5cm leading up to the breccia is also very rich in biotite, growing is blade -like masses. Groundmass dark grey. Interval moderate competence
KUTh	SEL26/2005	Bluestone	235	240	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					B	3					Dolerite as above, but much less competent; generally fracturing on the horizontal. 10cm zone at 234.6m very fractured, partly due to cb veining. Veining as descirbed above (ie biotite/Cb) but less common. Steeply dipping CB vein at 238-239m, 6mm wide displays horizontal displacement by 5mm. Groundmass dark grey, Pxy xls subhedral, bronze. <5% fine grained black mafics
KUTh	SEL26/2005	Bluestone	240	243	Jdl - Jurassic Dolerite	JDD		FG-MG		A/A2	FRESH					B	2	V		zeolit	V/F	Groundmass > Phenocrysts. No biotite in the steeply dipping CB veins. Vein at beginning of interval vuggy with zeolites within. Groundmass increases in green colour with proximity to veins. Very competent interval
KUTh	SEL26/2005	Bluestone	243	252	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH					B	<1					Compenent, with few horizontal breaks. Unaltered. Only 1 obvious veinlet. Groundmass light in colour, with distinct blue colouring. Subhedral phenocrysts. Mafics 5-10%.

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Hole ID: Charlton1

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Charlton1	WSG84	545,174	5,339,821	242	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	16/01/2008	18/01/2008	Gerald Spalding Drilling
HQ core	102	134	12/03/2008	20/03/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	m From	m To	Formation	Rock 1	Rock 2	Rock 1_Qual	Rock 2_Qual	Colour	Regolith	Reg Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_ %	Vn_ Qual	Int_Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Charlton1	0	3	Tb - Tertiary Basalt	TBM	-	PO/V	-	L2A	Fresh	F	0	<1	?Py	?Prehnite	<1	?D	<10	CY/FE	Undif.	Ferruginised vesicular basalt. Minor ?prehnite vien and minor white smectitic teriary clays
KUTh	SEL 26/2005	Charlton1	3	6	Tb - Tertiary Basalt	LCY	TBM	Y	PO	W/2L/A	Fresh	F	0	0	-	-	0	-				Mostly white smectite/?montmorilonitic clay associated with base of lava flow? - Effervesces slightly (when rehydrating) in water and acid (carbonate) then becomes very soft. Basalt is grey and ferruginised brown and is the minor constituent within this interval ~5%
KUTh	SEL 26/2005	Charlton1	6	9	Tb - Tertiary Basalt	LCY	-	Y	-	W	Fresh	F	0	0	-	-	0	-				Tertiary clays
KUTh	SEL 26/2005	Charlton1	9	12	Tb - Tertiary Basalt	LCY	-	Y	-	W	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	12	15	Jdl - Jurassic Dolerite	JDD	LCY/TBM		Y	L2A/W	Fresh	F	0	0	-	-	0	-				Dolerite/basalt? is grey and brown (ferruginised) and 55% of interval with white sericitic/phlogopite clay 45%. Associated with shear base of lava flow - Effervesces slightly in water and acid and then becomes very soft.
KUTh	SEL 26/2005	Charlton1	15	18	Jdl - Jurassic Dolerite	JDD	-		-	L2A/OB	Fresh	F	0	0	-	-	0	-				fresh dolerite and orange brown ferruginised dolerite chips.
KUTh	SEL 26/2005	Charlton1	18	21	Jdl - Jurassic Dolerite	JDD	-		-	L2A/OB	Fresh	F	0	<1	Py	-	0	-				as above-dolerite becoming fresher (less orange-brown chips)
KUTh	SEL 26/2005	Charlton1	21	24	Jdl - Jurassic Dolerite	JDD	-		-	L2A/OB	Fresh	F	0	0	-	-	0	-				as above-dolerite becoming fresher (less orange-brown chips)
KUTh	SEL 26/2005	Charlton1	24	27	Jdl - Jurassic Dolerite	JDD	LCY		Y	L2A/OB	Fresh	F	0	<1	Py	-	0	-				as above-dolerite becoming fresher (less orange-brown chips)- minor white sericitic clay
KUTh	SEL 26/2005	Charlton1	27	30	Jdl - Jurassic Dolerite	JDD	-		-	L2A/OB	Fresh	F	0	0	-	-	0	-				as above-dolerite becoming fresher (less orange-brown chips)- minor white sericitic clay
KUTh	SEL 26/2005	Charlton1	30	33	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite
KUTh	SEL 26/2005	Charlton1	33	36	Jdl - Jurassic Dolerite	JDD	LCY		Y	L2A/B/W	Fresh	F	0	<1	Py	-	0	-				mainly fresh grey-blue dolerite. White sericitic clay present along with large piece (2.5cm) of ferruginised dolerite.
KUTh	SEL 26/2005	Charlton1	36	39	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	<1	Py	-	0	-				fresh grey-blue dolerite
KUTh	SEL 26/2005	Charlton1	39	42	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	42	45	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	45	48	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	48	51	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	51	54	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	<1	Py	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	54	57	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	57	60	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	<1	Py	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	60	63	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	63	66	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	66	69	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	<1	Py	-	0	-				fresh grey-blue dolerite- chips fining
KUTh	SEL 26/2005	Charlton1	69	72	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite- chips fining. Minor white zeolite/sericitic clay present
KUTh	SEL 26/2005	Charlton1	72	75	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	<1	Py	-	0	-				fresh grey-blue dolerite- chips coarser
KUTh	SEL 26/2005	Charlton1	75	78	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite
KUTh	SEL 26/2005	Charlton1	78	81	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	81	84	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				As above
KUTh	SEL 26/2005	Charlton1	84	87	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite- chips fining. Minor white zeolite/sericitic clay present
KUTh	SEL 26/2005	Charlton1	87	90	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite - chips coarser. Minor white zeolite/sericitic clay present
KUTh	SEL 26/2005	Charlton1	90	93	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite - chips coarser
KUTh	SEL 26/2005	Charlton1	93	96	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite- chips fining. Minor orange-brown zeolite/sericitic clay present
KUTh	SEL 26/2005	Charlton1	96	99	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite- chips fining. Minor white zeolite/sericitic clay present
KUTh	SEL 26/2005	Charlton1	99	102	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-				fresh grey-blue dolerite - chips fining EOH
		Charlton1		EOH		End of RC Drilling and Beginning of Diamond Drilling																
KUTh	SEL 26/2005	Charlton1	102.3	102.9	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-	-	-	-	medium/coarse grained competent dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Charlton1	102.9		Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	B	<1	S	10	CH	SP	Fracture surface, with some carbonate and possibly some zeolite/serricite and minor quartz associated infill. Fracture sub-horizontal.
KUTh	SEL 26/2005	Charlton1	102.9	103.2	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-	-	-	-	medium/coarse grained competent dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Charlton1	103.15		Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-	-	-	-	Minor irregular Qtz carbonate/zeolite vein generally less than 3mm wide at ~40degrees to core with green selvage likely to be chlorite.
KUTh	SEL 26/2005	Charlton1	105		Jdl - Jurassic Dolerite	JDD			-	L2/A	Fresh	F	0	0	-	-	0	-	-	-	-	mm scale qtz/sericite/carbonate/zeolite vein. Orientation variable from sub-vertical to ~60degrees
KUTh	SEL 26/2005	Charlton1	105	117.7	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	<1	D	-	-	-	Competent medium/coarse grained dolerite with rare mm to sub-mm sheeted zeolite/carbonate veins. Moderately magnetic.
KUTh	SEL 26/2005	Charlton1	117.73	117.8	Jdl - Jurassic Dolerite	JDD			-	L2/A	Fresh	F	0	0	-	-	100	S	0	-	-	1cm thick dull white zeolite? (?prehnite) vein within the dolerite at ~45degrees to core. No sense of faulting along vein.
KUTh	SEL 26/2005	Charlton1	118.18	125.5	Jdl - Jurassic Dolerite	JDD	-	-	-	L2/A	Fresh	F	70	0	-	-	0	-	10	-	SP	Fault (84degrees to core). Dolerite becoming increasingly broken with minor zeolite on steeply dipping face. Main fault zone laying between 122.35 to 123metres. Talc present. Minor chlorite present.
KUTh	SEL 26/2005	Charlton1	123.05	~124	Jdl - Jurassic Dolerite	JDD	-	-	-	L2/A	Fresh	F	0	0	-	B/Q/Zeolite	0	-	10	-	SP	12mm wide vein @ ~84degrees to core. Same genesis as vein in the above interval. Chlorite alteration variable and patchy.
KUTh	SEL 26/2005	Charlton1	125.5	128.5	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	-	0	-	-	-	-	medium/coarse grained competent dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Charlton1	128.48		Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	B/Q/Zeolite	0	-	10	-	SP	1mm thick qtz/carbonate vein at 58 degrees to core.
KUTh	SEL 26/2005	Charlton1	128.48	133.8	Jdl - Jurassic Dolerite	JDD	-		-	L2/A	Fresh	F	0	0	-	B/Q/Zeolite	0	S	10	-	SP	medium/coarse grained competent dolerite. Moderately magnetic.
				EOH																		

Hole ID: Charlton2

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Charlton2	WSG84	545,172	5,339,826	242	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
HQ core	0	250.6	25/03/2008	02/04/2008	Gerald Spalding Drilling

Hole ID: Elizabeth

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Elizabeth	GDA94	549,515	5,356,726	440	Vertical	Yes

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	150	15/11/2007	17/11/2007	Gerald Spalding Drilling
HQ core	150	297.7	10/12/2007	13/12/2007	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock1_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL26/2005	Elizabeth	0	3	JDl - Jurassic Dolerite	JDD	-	O/A2	SAPRK	FE	0	0	-	-				-	-	Lower saprolite. Weathered insitu dolerite. Predominantly ferruginous weathered dolerite chips intermixed with dark grey fresher dolerite gravel fragments.
KUTh	SEL26/2005	Elizabeth	3	6	JDl - Jurassic Dolerite	JDD	-	O/A2	SAPRK	FE	0	0	-	-				-	-	Lower saprolite. Weathered insitu dolerite. Predominantly f resh dolerite gravel fragments with lesser proportion of orange weathered dolerite chips.
KUTh	SEL26/2005	Elizabeth	6	9	JDl - Jurassic Dolerite	JDD	-	A/D	FRESH	-	0	0	-	-				-	-	Fresh grey/black dolerite chips with v ery minor disseminated ?pyrite. Magnetite present within dolerite.
KUTh	SEL26/2005	Elizabeth	9	12	JDl - Jurassic Dolerite	JDD	-	A/D/O	FRESH	-	0	0	-	B	<5			-	-	Fresh grey/black dolerite chips with minor carbonate v eining (?stockwork) and oxidation associated with the v eining.
KUTh	SEL26/2005	Elizabeth	12	15	JDl - Jurassic Dolerite	JDD	-	A2/D/O	FRESH	-	0	0	-	B	<2			-	-	Grey/black dolerite chips intermixed with oxidised orange dolerite fragments with minor ?carbonate (?stockwork) v eining and very minor disseminated (?)pyrrhotite.
KUTh	SEL26/2005	Elizabeth	15	18	JDl - Jurassic Dolerite	JDD	-	A2/O	FRESH	-	0	0	-	B	<1			-	-	Black grey mostly f resh dolerite (>70%) with minor f ragments of weakly ferruginised weathered dolerite - moderately magnetic and minor carbonate
KUTh	SEL26/2005	Elizabeth	18	21	JDl - Jurassic Dolerite	JDD	-	A1/O	FRESH	-	0	0	-	B	<2			-	-	~50/50 intermixed poorly consolidated ?f ault related weathered dolerite with intermixed f resh dolerite chips. Small mm scale carbonate veining. Chips coarsing.
KUTh	SEL26/2005	Elizabeth	21	24	JDl - Jurassic Dolerite	JDD	-	A2/D/W	FRESH	-	0	0	-	B	2			-	-	Greater proportion of fresh dolerite chips (>70%) to oxidised dolerite. Very minor dull white carbonate v eining. Moderately magnetic.
KUTh	SEL26/2005	Elizabeth	24	27	JDl - Jurassic Dolerite	JDD	-	A2/D/W	FRESH	-	0	0	-	B	<2			-	-	Fresh unweathered subhedral dolerite chips with v ery minor carbonate veining.
KUTh	SEL26/2005	Elizabeth	27	30	JDl - Jurassic Dolerite	JDD	-	A/O	FRESH	-	0	0	-	B	<1			-	-	Lightly weathered dolerite with v ery minor carbonate v eining.
KUTh	SEL26/2005	Elizabeth	30	33	JDl - Jurassic Dolerite	JDD	-	A2/D/W	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite with minor carbonate (v ein hosted)
KUTh	SEL26/2005	Elizabeth	33	36	JDl - Jurassic Dolerite	JDD	-	A2/O/W	FRESH	-	0	0	-	B	<2			-	-	Fresh dolerite chips with minor carbonate v eining
KUTh	SEL26/2005	Elizabeth	36	39	JDl - Jurassic Dolerite	JDD	-	A2/O?W	FRESH	-	0	0	-	B	3			-	-	Fresh dolerite chips with increasing carbonate hosted v eining, minor oxidation probably associated with the v eining
KUTh	SEL26/2005	Elizabeth	39	42	JDl - Jurassic Dolerite	JDD	-	A/O	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite with v ery minor vein hosted carbonate and minor FeO stained chips
KUTh	SEL26/2005	Elizabeth	42	45	JDl - Jurassic Dolerite	JDD	-	A/O	FRESH	-	0	0	-	B	<2			-	-	As above
KUTh	SEL26/2005	Elizabeth	45	48	JDl - Jurassic Dolerite	JDD	-	A/O	FRESH	-	0	0	-	B	<5			-	-	Moderately weathered coarser chipped dolerite mixed with lesser proportion of fresh smaller dolerite chips and v ein hosted carbonate
KUTh	SEL26/2005	Elizabeth	48	51	JDl - Jurassic Dolerite	JDD	-	A	FRESH	-	0	0	-	B	<5			-	-	Fresh dolerite with v ery minor vein hosted carbonate and minor FeO stained chips
KUTh	SEL26/2005	Elizabeth	51	54	JDl - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<2			-	-	As above
KUTh	SEL26/2005	Elizabeth	54	57	JDl - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<2			-	-	As above
KUTh	SEL26/2005	Elizabeth	57	60	JDl - Jurassic Dolerite	JDD	-	A/A1	FRESH	-	0	0	-	B	<2			-	-	As above but increased proportion of carbonate
KUTh	SEL26/2005	Elizabeth	60	63	JDl - Jurassic Dolerite	JDD	-	D/B	FRESH	-	0	0	-	B	<2			-	-	Fresh dolerite with v ery minor vein hosted carbonate and minor FeO stained chips. Chips coarser
KUTh	SEL26/2005	Elizabeth	63	66	JDl - Jurassic Dolerite	JDD	-	A	FRESH	-	0	0	-	B	<2			CH	V	Fresh dolerite with v ery minor vein hosted carbonate and minor FeO stained chips. Minor chlorite also present
KUTh	SEL26/2005	Elizabeth	66	69	JDl - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<5			CH	V	As above - increase in chlorite and carbonate content
KUTh	SEL26/2005	Elizabeth	69	72	JDl - Jurassic Dolerite	JDD	-	A/B/W	FRESH	-	0	<1	PY	B	<1			CH	V	Fresh dolerite chips with increased carbonate v eining, otherwise as above.
KUTh	SEL26/2005	Elizabeth	72	75	JDl - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<2			-	-	As above - carbonate v eining decreasing and lesser chlorite alteration
KUTh	SEL26/2005	Elizabeth	75	78	JDl - Jurassic Dolerite	JDD	-	A	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite chips with v ery minor carbonate v eining
KUTh	SEL26/2005	Elizabeth	78	81	JDl - Jurassic Dolerite	JDD	-	A1/B/W/G2	FRESH	-	0	0	-	B	<1			-	-	As above
KUTh	SEL26/2005	Elizabeth	81	84	JDl - Jurassic Dolerite	JDD	-	A/B/D	FRESH	-	0	<1	PY	B	<2			-	-	Fresh dolerite chips with v ein hosted carbonate, increasing oxidation and minor disseminated pyrite
KUTh	SEL26/2005	Elizabeth	84	87	JDl - Jurassic Dolerite	JDD	-	A2/A1/W/B	FRESH	-	0	0	-	B	<2			-	-	Fresh dolerite chips with v ery minor increase in v ein hosted carbonate and FeO staining
KUTh	SEL26/2005	Elizabeth	87	90	JDl - Jurassic Dolerite	JDD	-	B/W/P	FRESH	-	0	0	-	B	<5			CH	V	Coarser dolerite chips with increased carbonate v eining and associated FeO and chlorite alteration. Possible minor gypsum.
KUTh	SEL26/2005	Elizabeth	90	93	JDl - Jurassic Dolerite	JDD	-	A2/B/W	FRESH	-	0	0	-	B	<5			-	-	Finer fresh dolerite chips with v ery minor vein hosted carbonate and ~30% FeO stained chips
KUTh	SEL26/2005	Elizabeth	93	96	JDl - Jurassic Dolerite	JDD	-	A/O	FRESH	-	0	0	-	B	<1			-	-	As above with decreasing proportion of carbonate. Significant proportion (~50%) FeO stained - moderately weathered.
KUTh	SEL26/2005	Elizabeth	96	99	JDl - Jurassic Dolerite	JDD	-	D/B	FRESH	-	0	0	-	B	<1			-	-	As above with a mix of fine and coarser chips decreasing proportion of carbonate. Significant proportion (<30%) FeO stained - weathered.
KUTh	SEL26/2005	Elizabeth	99	102	JDl - Jurassic Dolerite	JDD	-	D/B	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite chips with v ery minor oxidation, minor v ein hosted carbonate present.
KUTh	SEL26/2005	Elizabeth	102	105	JDl - Jurassic Dolerite	JDD	-	D	FRESH	-	0	0	-	B	<1			-	-	As above with decreased proportion of carbonate

KUTh	SEL26/2005	Elizabeth	105	108	JDI - Jurassic Dolerite	JDD	-	D	FRESH	-	0	<1	rhotite/?P	B	<1			-	-	Fresh dolerite chips with minor carbonate veining and <1% disseminated ?pyrrhotite/?pyrite	
KUTh	SEL26/2005	Elizabeth	108	111	JDI - Jurassic Dolerite	JDD	-	A2/G	FRESH	-	0	0	Pyrite	B	<1			CH	minor	Increasingly weathered dolerite with minor vein hosted carbonate and chlorite.	
KUTh	SEL26/2005	Elizabeth	111	114	JDI - Jurassic Dolerite	JDD	-	A2/G/B	FRESH	-	0	0	-	B	<1			-	-	As above, decreasing carbonate	
KUTh	SEL26/2005	Elizabeth	114	117	JDI - Jurassic Dolerite	JDD	-	D/W	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite chips with very minor carbonate	
KUTh	SEL26/2005	Elizabeth	117	120	JDI - Jurassic Dolerite	JDD	-	D/G	FRESH	-	0	0	-					CH	minor	Subhedral dolerite with minor chlorite alteration with <1% disseminated pyrite and minor FeO stained chips.	
KUTh	SEL26/2005	Elizabeth	120	123	JDI - Jurassic Dolerite	JDD	-	A2/B/W	FRESH	-	0	0	-	B	<5			-	-	Mostly fresh dolerite chips with minor weathered/oxidised orange/red fragments. Carbonate veining (mm scale) with very minor disseminated pyrite.	
KUTh	SEL26/2005	Elizabeth	123	126	JDI - Jurassic Dolerite	JDD	-	A2/B/W	FRESH	-	0	0	-	B	<2			-	-	As above with decreasing proportion of vein hosted carbonate	
KUTh	SEL26/2005	Elizabeth	126	129	JDI - Jurassic Dolerite	JDD	-	A2/B	FRESH	-	0	<1%	Pyrite	B	<1			-	-	Fresh dolerite chips with minor FeO stained chips and minor pyrite	
KUTh	SEL26/2005	Elizabeth	129	132	JDI - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<1			-	-	Fresh dolerite intermixed with minor <5% FeO stained chips	
KUTh	SEL26/2005	Elizabeth	132	135	JDI - Jurassic Dolerite	JDD	-	A/B	FRESH	-	0	0	-	B	<2			-	-	Fresh dolerite chips with vein hosted carbonate, increasing oxidation	
KUTh	SEL26/2005	Elizabeth	135	138	JDI - Jurassic Dolerite	JDD	-	A2/G	FRESH	-	0	0	-	B	<5			CH	minor	As above with increase in vein hosted carbonate.	
KUTh	SEL26/2005	Elizabeth	138	141	JDI - Jurassic Dolerite	JDD	-	A2/G	FRESH	-	0	0	-	B	<2			"	-	Fresh dolerite chips becoming finer. Lesser vein hosted carbonate. FeO stained/weathered dolerite <5%	
KUTh	SEL26/2005	Elizabeth	141	144	JDI - Jurassic Dolerite	JDD	-	A2/G	FRESH	-	0	0	-	B	<1			"	-	As above	
KUTh	SEL26/2005	Elizabeth	144	147	JDI - Jurassic Dolerite	JDD	-	A	FRESH	-	0	0	-	B	<1			CH	minor	Fresh dolerite chips with minor vein hosted carbonate and FeO weathering	
KUTh	SEL26/2005	Elizabeth	147	150	JDI - Jurassic Dolerite	JDD	-	A	FRESH	-	0	0	-	B	<1			CH	minor	As above with lesser carbonate.	
				EOH																	
KUTh	SEL26/2005	Elizabeth	149.7	158.5	JDI - Jurassic Dolerite	JDD	MG	A/A2	FRESH											fresh dolerite about 30-40% plag, medium grained.	
KUTh	SEL26/2005	Elizabeth	158.5	166	JDI - Jurassic Dolerite	JDD	MG	A/A2/D	FRESH					B/Q				FE	U	dolerite as above, with an increase in small black mafic xls. Several small largely alteration free carbonate and qz veinlets. Only some minor Fe-oxide alteration present on some fractured surfaces.	
KUTh	SEL26/2005	Elizabeth	166	172.8	JDI - Jurassic Dolerite	JDD	MG	A/A2/G2	FRESH											fresh dolerite - Pyroxene about 30%, some coarse grained	
KUTh	SEL26/2005	Elizabeth	172.8	172.9	JDI - Jurassic Dolerite	JDD	MG	A2/A/W	FRESH					B				CY/SD	V/F	very white and pale green carbonate rich crumbly vein/fracture infill. Siderite clay. finer grained dolerite proximally.	
KUTh	SEL26/2005	Elizabeth	172.9	178	JDI - Jurassic Dolerite	JDD	MG	G2/A	FRESH											fresh dolerite. Towards the end of the interval some interesting 2cm-ish bands of dark, pyx depleted dolerite.	
KUTh	SEL26/2005	Elizabeth	178	180.3	JDI - Jurassic Dolerite	JDD	MG	A2/A	FRESH					B						many veinlets. pyx present in the same quantity, but not euhedral, blending into the plag groundmass	
KUTh	SEL26/2005	Elizabeth	180.3	185.3	JDI - Jurassic Dolerite	JDD	IN/MG	A2/A	FRESH											Interesting changes in the dolerite; coarse grained with pyroxene making up >50%, often euhedral. Some about 2cm 'dyke' of fine grained dark dolerite intersecting.	
KUTh	SEL26/2005	Elizabeth	185.3	190.8	JDI - Jurassic Dolerite	JDD	IN/MG	A2	FRESH											Distinct boundary on either end of the interval, between standard medium to coarse grained dolerite, and fine grained pyx crystal free dolerite. The interval often includes lenses/'dykes' of the medium grained dolerite... layering within the dolerite?	
KUTh	SEL26/2005	Elizabeth	190.8	213.7	JDI - Jurassic Dolerite	JDD	MG	A2/A/G2	FRESH					B				CY/SR	V	Very minor amount of veining. Interval dominated by medium grained dolerite. Does include some lenses of the fine grained interval described above, and varies in colour between dark grey and dark green.	
KUTh	SEL26/2005	Elizabeth	213.7	218.4	JDI - Jurassic Dolerite	JDD	MG	A2/A/W	FRESH					B				CY/SR/EP/FE	V	Interval has a sub-vertical clay-rich carbonate vein up to 1cm thick showing distinct selvage - with an increase in grain size 1cm either side of vein. Chlorite found on the contact between carbonate vein and host rock. Very soft/clay rich.	
KUTh	SEL26/2005	Elizabeth	218.4	223.1	JDI - Jurassic Dolerite	JDD		B/W/O/P	FRESH					B		T		CY/FE/EP/CH	V	Strongly altered interval due to a network of sub-vertical clay rich carbonate veins. Strong Fe-staining throughout. Clay white to light pink. Stockwork texture present, leaving no unaltered dolerite. Photo	
KUTh	SEL26/2005	Elizabeth	223.1	225.4	JDI - Jurassic Dolerite	JDD	MG	A2/A	FRESH					B						Medium grained dolerite, very minor carbonate veining.	
KUTh	SEL26/2005	Elizabeth	225.4	230.8	JDI - Jurassic Dolerite	JDD	MG-CG	A2/A/G	FRESH					B				CH/CY/SR	V	Interval distinguished by 1 sub-vertical vein <5mm. Very soft and crumbly within, with a 4mm alteration aureole - coarser grained dolerite, slightly Fe-stained. Clay within vein white to pale green.	
KUTh	SEL26/2005	Elizabeth	230.8	231.3	JDI - Jurassic Dolerite	JDD	MG	A2/A	FRESH											Fresh dolerite	
KUTh	SEL26/2005	Elizabeth	231.3	233.6	JDI - Jurassic Dolerite	JDD	MG	A2/W/P	FRESH					B				CY/CH	V	Dolerite with sub vertical carbonate vein - very pastel pink, many smaller carbonate veins sub-horizontal fed from this vein. Fe-rich selvage	
KUTh	SEL26/2005	Elizabeth	233.6	235.7	JDI - Jurassic Dolerite	JDD	BX/MG	A1/B1/W	FRESH		Y			B				CY/FE/CH	V/S	Shear zone - brecciated, very clay rich - Fe stained at first half of the interval to green/chlorite stained at end of carbonate veining towards end of interval also.	
KUTh	SEL26/2005	Elizabeth	235.7	238.2	JDI - Jurassic Dolerite	JDD	MG	A2/A	FRESH					B						medium grained, minor carbonate veining	
KUTh	SEL26/2005	Elizabeth	238.2	239	JDI - Jurassic Dolerite	JDD	FG	A2	FRESH											Interval of pyroxene xl free, fine grained dolerite. Distinct boundary either end.	

KUTh	SEL26/2005	Elizabeth	239	240	JDl - Jurassic Dolerite	JDD	MG	A2/A	FRESH											fresh medium grained dolerite	
KUTh	SEL26/2005	Elizabeth	240	241	JDl - Jurassic Dolerite	JDD	MG	A2/A/G	FRESH					B				CY/FE/CH	V	dolerite with very unconsolidated clay rich vein. Fe-rich selvage. Chlorite throughout vein.	
KUTh	SEL26/2005	Elizabeth	241	247.4	JDl - Jurassic Dolerite	JDD	MG	A2/A/W	FRESH					B				CY/CH	V	Medium grained dolerite with several soft chlorite lenses along edge of carbonate veins. Minor Fe-stained selvage.	
KUTh	SEL26/2005	Elizabeth	247.4	248	JDl - Jurassic Dolerite	JDD	BX/MG	A2/B/W	FRESH		Y			B		B		FE/CY/CH	V	Strong Fe and Clay alteration proximal and within 1.5cm wide sub vertical vein. width of the selvage is greater than the vein itself, with increased grain size of dolerite, and pyx xls replaced with Fe-oxides. Mildly brecciated... shear zone?	
KUTh	SEL26/2005	Elizabeth	248	268.2	JDl - Jurassic Dolerite	JDD	MG	A2/A/W	FRESH					B				CH/CY	V	Dolerite with a few (average 1 per 2m of core) carbonate veinlets. Veinlets with associated chlorite and clay alteration.	
KUTh	SEL26/2005	Elizabeth	268.2	276.2	JDl - Jurassic Dolerite	JDD	MG	A2/A/W/G	FRESH		Y			B				CH/CY/FE	V	Interval of heavily veined, and possibly a couple of very small shear zones. Veins are sub vertical, very clay rich. Always with selvage: fine-grained lt green clay rich hosting coarser than surrounding dolerite. Pyroxene xls replaced with soft Fe-oxides.	
KUTh	SEL26/2005	Elizabeth	276.2	297.7	JDl - Jurassic Dolerite	JDD	MG	A2/A	FRESH					B						medium grained dolerite, very minor carbonate veinlets. (none for last 8m -before that only average 1 per 2-3m). At start of interval includes same 'dykes' of the fine grained darer dolerite described before.	

Hole ID: Epping

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Epping	GDA94	533,251	5,382,606	215	Vertical	No

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	138	02/01/2008	07/01/2008	Gerald Spalding Drilling
HQ core	138	288	25/01/2008	04/02/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	m From	mTo	Formation	Rock1	Rock1_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+Or e_Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Epping	RC	0	3	JDI - Jurassic dolerite	JDD		A2/O/W	SAPRK	F										Dominantly fresh dark grey dolerite, with an abundance of orange to brown fe & clay rich material. The interval also contains a notable amount of white sericitic (?) clay
KUTh	SEL 26/2005	Epping	RC	3	6	JDI - Jurassic dolerite	JDD		A2/B2	SAPRK	F										As above, with the absence of clay
KUTh	SEL 26/2005	Epping	RC	6	21	JDI - Jurassic dolerite	JDD		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	21	27	JDI - Jurassic dolerite	JDD		A2/W	FRESH					B	2%		1%	CL	VP	6m interval with Cb vein. Minor chlorite alteration associated with vein. Interval otherwise fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	27	33	JDI - Jurassic dolerite	JDD		A2/B2	FRESH					B	<1%					Dominantly fresh dark grey dolerite, with very minor Cb veining. Interval also consists of dark brown Fe-rich fragments.
KUTh	SEL 26/2005	Epping	RC	33	39	JDI - Jurassic dolerite	JDD		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	39	42	JDI - Jurassic dolerite	JDD		A2/W	FRESH					B	1%					Fresh unaltered dolerite, with minor CB veining
KUTh	SEL 26/2005	Epping	RC	42	48	JDI - Jurassic dolerite	JDD		A2/B2	FRESH											Dolerite becoming slightly lighter in colour, and many fragments have brown Fe-staining
KUTh	SEL 26/2005	Epping	RC	48	51	JDI - Jurassic dolerite	JDD		A2/W	FRESH								2%	SR		Minor sericite (?) alteration. The white mineral may also be the silicate prehnite.
KUTh	SEL 26/2005	Epping	RC	51	54	JDI - Jurassic dolerite	JDD		A2/B2	FRESH									CL	U	Dolerite interval contains many fe-stained fragments
KUTh	SEL 26/2005	Epping	RC	54	57	JDI - Jurassic dolerite	JDD		A2/D	FRESH											Very dark interval of dolerite, unaltered
KUTh	SEL 26/2005	Epping	RC	57	60	JDI - Jurassic dolerite	JDD		A2/G2/W	FRESH					talc	<1%		###	CY/EP		Aggregates of white clay present. Overall the interval has lighter coloured dolerite, an epidote is present.
KUTh	SEL 26/2005	Epping	RC	60	63	JDI - Jurassic dolerite	JDD		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	63	66	JDI - Jurassic dolerite	JDD		A2/B2	FRESH	F				B/EP	3%				V	Small amount of cb present in veinlets, qz also present (as well as epidote). Interval contains many brown fragments due to fe-staining (ferruginised?)
KUTh	SEL 26/2005	Epping	RC	66	72	JDI - Jurassic dolerite	JDD		A2	FRESH					Q	<1%				V	dolerite with few fragments of quartz
KUTh	SEL 26/2005	Epping	RC	72	75	JDI - Jurassic dolerite	JDD		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	75	78	JDI - Jurassic dolerite	JDD		A2/A	FRESH									EP		As above, with a very minor amount of EP, and lighter in clour
KUTh	SEL 26/2005	Epping	RC	78	96	JDI - Jurassic dolerite	JDD		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	96	99	JDI - Jurassic dolerite	JDD		A2/B2	FRESH									CY		Very minor, mottley clay (SR?) found as infill, sub 1mm. Many of the fragments dark brown rather than grey.
KUTh	SEL 26/2005	Epping	RC	99	102	JDI - Jurassic dolerite	JDD		D/W	FRESH					B	1%					Very dark interval, with minor CB. Prehniti & epidote also associated with CB veining
KUTh	SEL 26/2005	Epping	RC	102	108	JDI - Jurassic dolerite	JDD		A2/B2	FRESH											Unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	108	111	JDI - Jurassic dolerite	JDD		A2/B/W	FRESH								5%	SR/EP	V	Many sand sized aggregates present: mottle orange/green/white, very soft and crumble, CB absent.
KUTh	SEL 26/2005	Epping	RC	111	120	JDI - Jurassic dolerite	JDD		A2/D	FRESH								2	SR/EP	V	As above, with increased proportion of dolerite.
KUTh	SEL 26/2005	Epping	RC	120	123	JDI - Jurassic dolerite	JDD		A2/G2	FRESH											Unaltered dolerite
KUTh	SEL 26/2005	Epping	RC	123	129	JDI - Jurassic dolerite	JDD		D/W	FRESH					Prehnite	2%		1%	CL		Very dark coloured dolerite/black. Prehnite 'bright white', with cl found in association with the prehnite
KUTh	SEL 26/2005	Epping	RC	129	132	JDI - Jurassic dolerite	JDD		D/W	FRESH											As above, with the absence of prehnite/chlorite
KUTh	SEL 26/2005	Epping	RC	132	135	JDI - Jurassic dolerite	JDD		D/G/W	FRESH					Prehnite				CL		Many sand sized aggregates present: mottle green/white, very soft and crumbly, CB absent.
KUTh	SEL 26/2005	Epping	RC	135	138	JDI - Jurassic dolerite	JDD		D/B	FRESH					Q	1%					Dominantly unaltered dolerite, with minor fe-stained qz veinlets.
KUTh	SEL 26/2005	Epping	DD-HC	138	142	JDI - Jurassic dolerite	JDD	MA/IN/MG	B/A2	FRESH					Q/H						Very dark coloured dolerite, largely composed of black, or dark green pyroxenes. Interval includes many small (1-3mm) veins. Often Quartz lined, with Fe/Hematite. Also very soft/'muddy' within veins.
KUTh	SEL 26/2005	Epping	DD-HC	141.7	145	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2/A1	FRESH					Q - 1 only						Generally lighter in colour than previous interval, with a bluish hue. Very fine grained, with up to 1cm long phenocrysts of tabular pyroxenes. Vz vein present has 2 episodes of precipitation; about 5mm thick: 1 milky white qz, and the other translusent/grey/H 5. Unfractured interval, even with vein.
KUTh	SEL 26/2005	Epping	DD-HC	144.7	146	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2/A	FRESH											Still medium grained JDD with anhedral pyroxene crystals. No blue hue as before. Very granular texture.
KUTh	SEL 26/2005	Epping	DD-HC	146	148	JDI - Jurassic dolerite	JDD	MA/IN/CG	A2/L2	FRESH											Interval of coarse grained dolerite. Pyx xls brown/bronze in colour; both subhedral and euhedral. Very distinct increase in granisize from last (and next) interval, but lacks a distinct boundary. A gradual change rather than a distinct line. Coarse grained section is bordering on a porphry texture.
KUTh	SEL 26/2005	Epping	DD-HC	148	151	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2/L2	FRESH											Back to fairly non-descript medium grained dolerite. No large phenocrysts - relitively fine grained.
KUTh	SEL 26/2005	Epping	DD-HC	151	153	JDI - Jurassic dolerite	JDD	MA/IN/CG	A2/L2	FRESH											Same as 146-148m. But this time lower boundary has a distinct change in grainsize to next interval. Pyroexene xls not euhedral. Anhedral within the plagioclase groundmass

KUTh	SEL 26/2005	Epping	DD-HC	153.2	168	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2/A/L2	FRESH												14 meters of much the same described above; dolerite alternating between medium grained to coarse grained. Unaltered, small amount of fracturing, very minor quartz+zeolite veining.
KUTh	SEL 26/2005	Epping	DD-HC	167.5	169	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2/A/L2	FRESH					Q/H							Interval with mulit-veining, Fe-rich. One vein with a pegmetitic(?) texture; gravely/unconsolidated in parts, with tabular feldspars up to 3cm long. Interval fine to medium grained, with many small fractures containing 'muddy' Fe-rich infill. No evidence of calcerious precipitation within veins. Veins are often x-cutting, and create minor (sub-cm) displacement. Dolerite is itherwise unaltered, medium grained with brown subhedral feldspars. Veins have Fe-stained 'wash' aureoul around them.
KUTh	SEL 26/2005	Epping	DD-HC	168.7	172	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH					Q/H/CH							As above, but with fewer veins and no coarse grained infill in the veins - all small. Less fe
KUTh	SEL 26/2005	Epping	DD-HC	171.6	178	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH					Q/H							Very minor veining. Small amount of siderite within uniformly medium grained, unaltered/fracture free dolerite.
KUTh	SEL 26/2005	Epping	DD-HC	178	179	JDI - Jurassic dolerite	JDD	MA/IN/BX	A2	FRESH					Q			10	CH	F		Dark, medium-grained dolerite, with a minor brecciated zone. Breccia includes only minor infill, of quartz and chlorite
KUTh	SEL 26/2005	Epping	DD-HC	179.2	181	JDI - Jurassic dolerite	JDD	MA/IN/FG	A2/D	FRESH												Very dark dolerite, black when wet. Fine grained.
KUTh	SEL 26/2005	Epping	DD-HC	180.5	181	JDI - Jurassic dolerite	JDD	MA/IN/MG	A2	FRESH					H/Q			10	CH/H	F		Medium grained dolerite with 1 subvertical vein. Infilled with FE-oxides, chlorite is also present. Unconsolidated in parts.
KUTh	SEL 26/2005	Epping	DD-HC	181.2	203	JDI - Jurassic dolerite	JDD	MA/IN/CG	A2	FRESH					Q-minor							Generally non-descript medium grained dolerite. Pyroxene xls growing intertwined with often 'porus' black chlorite (very soft). Very minor qz veinlets throughout.
KUTh	SEL 26/2005	Epping	DD-HC	203	222	JDI - Jurassic dolerite	JDD	MA/IN/CG	A	FRESH					Q-minor							As above, but coarse grained. Commonly equigranular texture, and lighter in colour.
KUTh	SEL 26/2005	Epping	DD-HC	222	223	JDI - Jurassic dolerite	JDD	MA/IN/CG	A	FRESH					Q							Coarse grained as before, but interval includes 1 milky white to light pink quartz + zeolite vein. the zeolites have a sugary/granular texture, with solid/opaque quartz on the contact with the dolerite. Proximal to the vein, the dolerite is much lighter in colour, ie f-spar dominated, but grainsize stays the same.
KUTh	SEL 26/2005	Epping	DD-HC	223	225	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												same as 203-222
KUTh	SEL 26/2005	Epping	DD-HC	225	233	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												medium grained dolerite
KUTh	SEL 26/2005	Epping	DD-HC	233	233	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												Very distinct contact between a quartz-dolerite medium grained, fe-altered minerals. To a fine-grained quartz-free dolerite. Could this be a layer in the sill? The contact between the top of one sill and the bottom of another. See photos.
KUTh	SEL 26/2005	Epping	DD-HC	233.2	234	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH					Q-minor							Transition to medium grained dolerite.
KUTh	SEL 26/2005	Epping	DD-HC	234.3		JDI - Jurassic dolerite																An interesting 2cm band of Qz/plah-rich intrusion. Sub-horizontal. Otherwise standard medium-grained dolerite. See photos.
KUTh	SEL 26/2005	Epping	DD-HC	234.3	263	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH					Q-minor			5	CH/SR	F		Fairly non-descript medium grained dolerite. Very minor qz veining (also includes a very small amount of sericite/chlorite). Meters 248-251 have a distinctly blotchy texture. Becoming lighter towards the end of the interval.
KUTh	SEL 26/2005	Epping	DD-HC	263	264	JDI - Jurassic dolerite	JDD	MA/IN/MG	A/O	FRESH					Q							Interesting interval, has a dominant quartz vein with a granular texture (up to 3mm diameter grainsize). The interval has an odd orange 'groundmass' supporting the plag crystals. See photos. Looks like k-spar(?) Good euhedral plag xls.
KUTh	SEL 26/2005	Epping	DD-HC	264	267	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												Medium grained unaltered dolerite.
KUTh	SEL 26/2005	Epping	DD-HC	267	270	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												Interval characterised by a series of layers/intrusions of varying grainsizes. See photos of particularly coarse grained inclusions.
KUTh	SEL 26/2005	Epping	DD-HC	270.2	271	JDI - Jurassic dolerite	JDD	MA/IN/MG	A/B	FRESH					Q							Medium to coarse grained dolerite. Coarsest where proximal to the 4mm wide vein. Pink mineral described in earlier interval present. Very blotchy texture. Quartz vein has a sugary texture.
KUTh	SEL 26/2005	Epping	DD-HC	271	273	JDI - Jurassic dolerite	JDD	MA/IN/MG	A	FRESH												Medium grained dolerite.
KUTh	SEL 26/2005	Epping	DD-HC	273	288	JDI - Jurassic dolerite	JDD	MA/IN/CG	A/D	FRESH					Q-minor							standard coarse grained dolerite, blotchy rather than euhedral crystals.
					EOH																	

Hole ID: Fingal1

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Fingal	GDA94	590,084	5,380,114	563	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	36	12/11/2007	13/12/2007	Gerald Spalding Drilling

Hole ID: Fingal2

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Fingal2	GDA94	589,312	5,380,292	577	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	66	13/12/2007	16/12/2007	Gerald Spalding Drilling

Hole ID: Fingal3

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Fingal3	GDA94	590,381	5,381,540	613	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
HQ core	0	249.79	06/02/2008	18/02/2008	Gerald Spalding Drilling

Data Set	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Sulph+Ore_%	Sulph+Ore_Type	Vn_Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL 26/2005	Fingal 3	DD-HQ	0	2.4	JDI - Jurassic dolerite	JDD		FR/MG		A/B1	SAPRK						Fe-Goethite		F	0.0-0.7 very fractured, with brecciation of the dolerite, clay is a common infill in the fractures - due to weathering of the feldspar. Dolerite is fine to medium grained. Interesting weathering of the rock; not spherical as dolerite tyrically is - here very angular.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	2.4	4.97	JDI - Jurassic dolerite	JDD		FR/MG		A1/D	FRESH			Q						Fresh unaltered dolerite with a series of sub-horizontal fractures. Fractures infilled with quartz rich veinlets. Generally light coloured dolerite, with many black mafic xls.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	4.97	27	JDI - Jurassic dolerite	JDD		MG		A/D	FRESH			Q						Fresh unaltered dolerite with subhorizontal veinlets at: 8.05, 8.1, 10.6, 10.7, 12.25, 12.6, 13.8, 13.9, 14.15, 14.2, 14.9, 15.65, 16.5, 18.07, 18.52, 20.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	27	30	JDI - Jurassic dolerite	JDD		FR/MG-CG		A/D	FRESH									Coarser grained than previous interval, although still predominantly medium grained. Many more fractures than previous interval also.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	30	33	JDI - Jurassic dolerite	JDD		MG		A/D	FRESH			See description						Medium grained dominantly, with small 'layers'/inclusions of both coarser and finer crystal size. Includes a couple of soft pink, vitreous veinlets - minor reaction with HCL. Some sort of carbonate, steeply dipping.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	33	34.7	JDI - Jurassic dolerite	JDD		FG		A2	FRESH									Interval dominantly fine grained, with some minor medium grained inclusions.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	34.7	43	JDI - Jurassic dolerite	JDD		MG		A/D	FRESH			A						Interval includes many dark/black veinlets, could be hornblende(?). Veinlets are very small and often discontinuous. Usually in sets, where all parallel, and many present, eg spaced at about 1cm. Sometimes fracturing at veinlet. Surface shows matt black infilled surface. Very minor reaction with HCL on fractred surface. At 42.4m horizontal band (1cm thick) aphinitic inclusion. 41.15-41.5 soft white vein. No Carbonate present, about 3mm wide fe rich selvage.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	43	45.44	JDI - Jurassic dolerite	JDD		MG		A1/D	FRESH			A						Very plag rich interval, sometimes bordering on Coarse grained. Very fine black veinlets throughout.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	45.44	55.4	JDI - Jurassic dolerite	JDD		MG		A/D	FRESH			A						Fresh, unaltered, black veinlets becoming a denser network. 2 minor pink veins present - soft, vitreous.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	55.4	57	JDI - Jurassic dolerite	JDD		MG		A1/D	FRESH			A/Q-B						Standard interval of dolerite with subvertical 8mm wide vuggy quartz + carbonate vein. Obvious selvage, which includes rhodochrosite.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	57	73	JDI - Jurassic dolerite	JDD		MG		A/D	FRESH			A						Lighter in colour. Intense black veinlets at generally a steep angle. Becoming darker towards the end of the interval.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	73	81	JDI - Jurassic dolerite	JDD		MG		A2/D	FRESH			A/Q-B			CH		V	Nearing the bottom of the dolerite sill. Black hornblende veinlets less intense, but more qz and cb veins present. Very dark in colour, ie plag depleted. Chlorite present within the veins. From 80-81m dolerite is very fine grained, very dark. See photos.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	81	81.85	JDI - Jurassic dolerite	JDD		FG/VFG		A2/D-G	FRESH			B/L			See description			Very bottom of the sill at the contact. All but black minerals in the dolerite are replaced/recrystallised. Very disturbed area, chlorite abundant. Interval starts very dark black, goes to light grey/green in colour.. Chilled margin/hornfels. Most veining within the interval is subvertical, but the contact itself is subhorizontal. See photos
KUTh	SEL 26/2005	Fingal 3	DD-HQ	81.85	82.3	Ru - Upper Parmeener Supergroup	SS		MG		D/W	FRESH									Black carbonaceous sandstone. Medium grained, soft matrix - black, minor reaction with HCL.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	82.3	83.8	Ru - Upper Parmeener Supergroup	SS		MG		A2/W	FRESH									Less organic than previous interval. Dropstones/xenoliths present. At the beginnin of the interval, 1 well rounded cobble about 6cm diameter present. At the end (last 10cm) of interval many smaller, subrounded , horizontally flattened xenoliths; black, soft. Throughout interval many horizontal bands of interval described next.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	83.8	84.7	Ru - Upper Parmeener Supergroup	SS		FG-MG		D/A	FRESH									Interbedded fine-grained black carbonaceous sandstone with medium grained grey sandstone. Bands of black fine-grained sandstone vary in thickness from 3mm → 2.5cm. See photos
KUTh	SEL 26/2005	Fingal 3	DD-HQ	84.7	92.2	Ru - Upper Parmeener Supergroup	SS		MG		A	FRESH									Mudstone at 87.5-87.7 (see photo). Medium grained grey sandstone. The small section of mudstone has a band of flattened dropstones directly beneath. 86.5-86.7m minor bands (2mm) of black organic sediments and again, a little bit thicker leading up to the mudstone band 91.73 to end of interval, amny 1cm diameter black xenoliths. Very soft, well rounded. See photos
KUTh	SEL 26/2005	Fingal 3	DD-HQ	92.2	92.8	Ru - Upper Parmeener Supergroup	SS		MG		A	FRESH									Many subhorizontal black bands
KUTh	SEL 26/2005	Fingal 3	DD-HQ	92.8	93.1	Ru - Upper Parmeener Supergroup	SS	ST	FG		A2/D	FRESH									Interval of fine-grained sandstone interbedded with black organic siltstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	93.1	94.85	Ru - Upper Parmeener Supergroup	SS	SB	MG		A2/B	FRESH									Many small bands of coal throughout. Intensifying towards end of interval
KUTh	SEL 26/2005	Fingal 3	DD-HQ	94.85	95.45	Ru - Upper Parmeener Supergroup	SS	SB	FG		A2/B	FRESH									Fine-grained sandstone with quite intense lenses of coal throughout. Horizontal orientation, but generally quite ductile manner, wavy. Interval also includes dropstones; mainly black/well rounded etc, but also very well rounded light coloured silicious dropstone (where from??). See photos

KUTh	SEL 26/2005	Fingal 3	DD-HQ	95.45	97.3	Ru - Upper Parmeener Supergroup	SS	SU/SB	MG/minor CG		A/B	FRESH										Dominantly medium grained, with some small layers of course grained sandstone. Many black bands throughout. Area between 96.3-96.6 interesting, with layer of mudstone, with some layers of conglomerate directly underneath. Pebbles made from soft mudstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	97.3	97.8	Ru - Upper Parmeener Supergroup	SB		MA		D	FRESH			See description							Black coal, moderate softness (about 4). Low specific gravity. Very minor soft white veinlets.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	97.8	99.8	Ru - Upper Parmeener Supergroup	ST	SU	BD/GR/XB		A1/A2	FRESH										Interbedded siltstone and mudstone. See photos 127-128. Obvoius small scale x-bedding. Graded beds show RWU. See photos.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	99.8	106.95	Ru - Upper Parmeener Supergroup	SS		MG		A1	FRESH										Massive, no beds/bands
KUTh	SEL 26/2005	Fingal 3	DD-HQ	106.95	107.3	Ru - Upper Parmeener Supergroup	SS	SB	CG		A1/D	FRESH										Fairly coarse grained sandstone, with many randomly orientated elongate lenses of coal, and equally random rounded siltstone cobbles and pebbles. See photos
KUTh	SEL 26/2005	Fingal 3	DD-HQ	107.3	108	Ru - Upper Parmeener Supergroup	SU	ST	BD		A2/A	FRESH										Chunky interbedded mudstone and siltstone. Mudstone is dark grey, organic. Siltstone is grey. Last 20cm of interval mixed with med grained sandstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	108	109.7	Ru - Upper Parmeener Supergroup	SS		MA		A1	FRESH										Massive medium grained sandstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	109.7	109.98	Ru - Upper Parmeener Supergroup	SB		MA		D	FRESH										Subhorizontal boundary. Black coal. Mildly vitreous lustre.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	109.98	110.02	Ru - Upper Parmeener Supergroup	SS(?)				K	FRESH										Layer of clay matrix loosley supported sandstone. Fine grained conglomerate(?)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	110.02	110.2	Ru - Upper Parmeener Supergroup	SB		MA		D	FRESH										Massive, black coal
KUTh	SEL 26/2005	Fingal 3	DD-HQ	110.2	110.85	Ru - Upper Parmeener Supergroup	SS(?)				K	FRESH										Same clay-matrix supported sandtone described above. See photos
KUTh	SEL 26/2005	Fingal 3	DD-HQ	110.85	111.55	Ru - Upper Parmeener Supergroup	SB		MA		D	FRESH										Massive, black coal
KUTh	SEL 26/2005	Fingal 3	DD-HQ	111.55	113	Ru - Upper Parmeener Supergroup	SS		BD/GR		A	FRESH										Graded beds show RWU. Looks like turbidite sequence. Mudstone → Siltstone → Sandstone usually within 5cm. Many layers like this.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	113	113.95	Ru - Upper Parmeener Supergroup	SS		MG		A1	FRESH										Massive, medium grained sandstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	113.95	114.7	Ru - Upper Parmeener Supergroup	SU/SB		VFG		D/A2	FRESH										Dark seam of carbonaceous mudstone (matted black-grey) fine seams (~0.5mm) approximately 10cm apart of vitreous black matter. (interp: low grade coal with fine seams of higher grade coal?)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	114.7	115.67	Ru - Upper Parmeener Supergroup	ST/SU?		FG		A2	FRESH										Very fine grained silty mudstone with several fractures/breaks lengthwise along the core, dividing the core into 2-5 uneven pieces. 10-15cm of core at upper and basal regions of the unit are crumbled into 1-5 cm pieces
KUTh	SEL 26/2005	Fingal 3	DD-HQ	115.67	117.6	Ru - Upper Parmeener Supergroup	ST	SU	VFG, LA, XB	VFG	A1/A2/W	FRESH										Very finely laminated silty-mudstone; not cohesive in parts (crumbling, swelling?) with interspersed grey-white clay portions (2 x 10cm) (swollen and crumbled severely) crossbeds evident.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	117.6	118	Ru - Upper Parmeener Supergroup	SF/SU		VFG, Y,		W-A1, G	FRESH								CH?	U	Greenish white-grey mudstone with very fine lithic (predominantly mica) fragments, coarsening to siltstone briefly (3cm) at the base of the unit. Surface has deteriorated (water?) but centre of core is cohesive.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	118	119.2	Ru - Upper Parmeener Supergroup	SU/SB		VFG		A2	FRESH				<1						Dark grey mudstone with very fine (~0.1mm) 'wispy seams' of darker sub-vitreous material (5%) (no specific orientation) core is mostly of moderate cohesion with 2 x 15cm sections completey crumbled into 0.5-1.5cm fragments.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	119.2	120.17	Ru - Upper Parmeener Supergroup	ST-SS		MG, LA, GR		B-A2 / A	FRESH										Fine laminations and minor grading sequences within a graded medium siltstone - medium sandstone unit. Laminations are dark and fluting can be seen within beds. Minor black and grey silt-sandstone seam inclusions present (Carbonaceous?); 2-7.5mm thick, discontinuous, 1.5-6cm long (within lower 10cm)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	120.17	121.7	Ru - Upper Parmeener Supergroup	SS		MG, XB,		W/A1	FRESH										Finely laminated medium grained sandstone, laminations 1-10mm apart, regular cross-bedding; 1-2cm intervals.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	121.7	122.35	Ru - Upper Parmeener Supergroup	ST-SS		GR, FG-MG		D/A1/A2	FRESH										An interval of graded fine siltstone to medium sandstone with minor intervals of conglomerate coarse sandstone (not cohesive) heavily laminated at top of the unit. Laminations are dark black and mudstone sized (seams?); often discontinuous and associated with lithic fragment inclusions.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	122.35	122.52	Ru - Upper Parmeener Supergroup	SU/SB		VFG		D	FRESH										Very fine grained (carbonaceous?) mudstone. At base; 5mm lamination; vitreous black matter, breaking in square/rectangular blocks.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	122.52	122.9	Ru - Upper Parmeener Supergroup	SS		VCG, SF		D/A2/W	FRESH										Very coarse grained sandstone with 20% seams/laminations (0.2mm-5mm wide) sub-vitreous black mudstone (Carbonaceous?) and one 7.5mm vitreous black mudstone (fs) angular clasts.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	122.9	125.7	Ru - Upper Parmeener Supergroup	SF, SS		CG, MA		A	FRESH										Massive coarse-grained feldspathic sandstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	125.7	127	Ru - Upper Parmeener Supergroup	SF		MG, MA		A	FRESH										Medium grained felspathic sandstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	127	128.38	Ru - Upper Parmeener Supergroup	SF		MG-CG		A/D	FRESH										Massive sandstone with a 15cm cluster of coal (?) seams and/or dark carbonaceous lithic fragments and lithic mudstone clasts 0.5mm-0.75mm, sub-rounded.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	128.38	128.8	Ru - Upper Parmeener Supergroup	SF		MG-CG		A2	FRESH										Inequigranular feldspathic sandstone and minor fine coal seams at the base
KUTh	SEL 26/2005	Fingal 3	DD-HQ	128.8	129.15	Ru - Upper Parmeener Supergroup	ST		MG, LA		A1/A2/W	FRESH										Medium siltstone with dense cluster of lithic clay fragments (15% matrix) and coal seam laminations; some sub-vitreous, some dull, (0.5-1mm thick), not well bedded (uncertain if soft-sed deforation or mass-flow-style: strange lamination style and/or clasts)

KUTh	SEL 26/2005	Fingal 3	DD-HQ	129.15	129.45	Ru - Upper Parmeener Supergroup	SF		GR, MG-CG		A	FRESH										Graded MG-CG feldspathic sandstone with minor carbonaceous wisps and subvitreous seams in the lower 5cm
KUTh	SEL 26/2005	Fingal 3	DD-HQ	129.45	130.8	Ru - Upper Parmeener Supergroup	ST-SU		LA, XB		A2/A1/D/G	FRESH										Finely laminated and crossbedded siltstone with minor (<1%) carbonaceous wisps - as in above unit
KUTh	SEL 26/2005	Fingal 3	DD-HQ	130.8	131.1	Ru - Upper Parmeener Supergroup	ST-SU		LA		W	FRESH										Laminated clay mudstone, swollen and cracked along planes.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	131.1	131.6	Ru - Upper Parmeener Supergroup	SU/ST/SF		GR, BD		A1/A2	FRESH										Several successions of graded, bedded (uneven beds) (looks like relatively turbid environment); minor, non-continuous coal? Inclusions? ~3mm wide, 2-6cm long. Core split in half in places (potentially water weakening?)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	131.6	131.78	Ru - Upper Parmeener Supergroup	SU		VFG		D/B-A1	FRESH										Dull-sub-resinous, moderately lightweight black-grey mudstone, brittle (cracking under finger-pressure) with 2cm grey-brown mudstone intervals (semi-vitreous)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	131.78	132.4	Ru - Upper Parmeener Supergroup	SU-ST		VFG-FG		A1/A2/D	FRESH										Very poorly bedded mud-siltstone with fine, discontinuous black veinlets: up to 4cm long and 1-2mm wide - pervasive with no distinct orientation
KUTh	SEL 26/2005	Fingal 3	DD-HQ	132.4	132.58	Ru - Upper Parmeener Supergroup	SU		LA, Y		W/A1	FRESH	<1	Py								Swollen and cracked laminated clay-mudstone with ~10-15% fine dull resinous black veinlets - pervasive with no distinct orientation.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	132.58	135.5	Ru - Upper Parmeener Supergroup	SU		VFG-FG		B/W-A1-B/	FRESH	<1	Py								Successions in interbedded black mudstone (med. Lightweight, carbonaceous, matted, sub-resinous) 5-20cm brown mudstone intervals, 5-10cm intervals of white-grey mudstone (swollen) 2-30cm apart. Core poorly preserved (50% degredation; cracking, swelling, crumbled)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	135.5	136.2	Ru - Upper Parmeener Supergroup	SU		VFG		W/A1	FRESH										Swollen and cracked laminated clay-mudstone with ~10-15% fine dull resinous black veinlets - pervasive with no distinct orientation.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	136.2	137.17	Ru - Upper Parmeener Supergroup	SU		VFG, MA		D	FRESH										Very fine grained, dull - sub-resinous carbonaceous mudstone, broken into 1-15cm blocks along the core
KUTh	SEL 26/2005	Fingal 3	DD-HQ	137.17	137.42	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										Fine grained white mudstone-siltstone, grading into slightly coarser brown mud/siltstone with minor, discontinuous black carbonaceous inclusions and a 3cm bed of black carbonaceous mudstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	137.42	137.44	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										As above but more consolidated
KUTh	SEL 26/2005	Fingal 3	DD-HQ	137.44	137.77	Ru - Upper Parmeener Supergroup	SU		VFG		D	FRESH										Black carbonaceous mudstone, minor inconsistent bands of indurated, minor coal bands
KUTh	SEL 26/2005	Fingal 3	DD-HQ	137.77	138.37	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										Black carbonaceous inlusions within a light-coloured muddy-siltstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	138.37	138.43	Ru - Upper Parmeener Supergroup	SU		VFG		D	FRESH										Black carbonaceous mudstone, minor inconsistent bands of indurated, minor coal bands
KUTh	SEL 26/2005	Fingal 3	DD-HQ	138.43	138.52	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										Black carbonaceous inlusions within a light-coloured muddy-siltstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	138.52	139.16	Ru - Upper Parmeener Supergroup	SU-ST		VFG		D/A2	FRESH										Black carbonaceous mudstone (continuation?) with minor consolidated coal lenses (138.85) minor void 1cm x 3mm x 3mm); dark grey interbed.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	139.16	139.31	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										Black carbonaceous inlusions within a light-coloured muddy-siltstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	139.31	140.17	Ru - Upper Parmeener Supergroup	SU-ST		VFG		D/A2	FRESH										Black carbonaceous mudstone (continuation?) with minor consolidated coal lenses (138.85) minor void 1cm x 3mm x 3mm); dark grey interbed.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	140.17	140.47	Ru - Upper Parmeener Supergroup	SU-ST		GR		W-A1/B	FRESH										Black carbonaceous inlusions within a light-coloured muddy-siltstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	140.47	140.78	Ru - Upper Parmeener Supergroup	SU		VFG		D	FRESH										Black fissile-shaley coal (carbonaceous mudstone) core completely broken into 2-5mm sized fragments.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	140.78	140.86	Ru - Upper Parmeener Supergroup	SU		VFG, GR		A2-A1	FRESH										Grading into lighter grey mudstone with similar breaking pattern to above unit
KUTh	SEL 26/2005	Fingal 3	DD-HQ	140.86	141.5	Ru - Upper Parmeener Supergroup	SU		GR		D-A2	FRESH										grading back into black carbonaceous mudstone with minor coal traces (mini-seams?)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	141.5	141.54	Ru - Upper Parmeener Supergroup	SU		VFG - Y		A1-AY1	FRESH										Pale-grey - plae yellow - grey mudstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	141.54	141.98	Ru - Upper Parmeener Supergroup	SU				A	FRESH										Core completely crumbled and unconsolidated. Grey fissile, shaley mudstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	141.98	142	Ru - Upper Parmeener Supergroup	SU		GR		A	FRESH										grading into a more coherent lense
KUTh	SEL 26/2005	Fingal 3	DD-HQ	142	142.19	Ru - Upper Parmeener Supergroup	SU				A	FRESH										fissile, shaley-grey carbonaceous mudstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	142.19	142.3	Ru - Upper Parmeener Supergroup	SU				A - D	FRESH										As above but more coherent
KUTh	SEL 26/2005	Fingal 3	DD-HQ	142.3	142.43	Ru - Upper Parmeener Supergroup	SU				A2	FRESH										Fissile, shaley, carbonaceous mudstone
KUTh	SEL 26/2005	Fingal 3	DD-HQ	142.43	142.99	Ru - Upper Parmeener Supergroup	SU-ST				A	FRESH										Coherent, grey, carbonaceous silty mudstone)
KUTh	SEL 26/2005	Fingal 3	DD-HQ	142.99	143.89	Ru - Upper Parmeener Supergroup	SU				A2	FRESH										Dark grey carbonaceous mudstone, crumbled at upper end, fractured at lower .
KUTh	SEL 26/2005	Fingal 3	DD-HQ	143.89	144.11	Ru - Upper Parmeener Supergroup	SU				D	FRESH										grading into more coherent, black, carbonaceous shaley mudstone.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	144.11	144.7	Ru - Upper Parmeener Supergroup	SU-ST				A2-A1	FRESH										Light grey mudstone grading into slightly darker grey mudstone; crumbly texture: expansion of sediments.
KUTh	SEL 26/2005	Fingal 3	DD-HQ	144.7	146.48	Ru - Upper Parmeener Supergroup	ST-SU				A2	FRESH										Dark grey silty-mudstone, crumbling between 146.07-146.3
KUTh	SEL 26/2005	Fingal 3	DD-HQ	146.48	151.64	Ru - Upper Parmeener Supergroup	SU-SS		GR		A	FRESH										grading into a coarse lithic sandstone
KUTh	SEL 26/2005	Fingal3	DD-HQ	151.64	152.38	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-		Grey medium grained calcareous coherent sandstone with minor intraclasts of coal with possible very minor bioclasts. Variably grain supported to matrix supported subrounded calcareous clasts within a matrix of white calcareous clay. Bedding approximately horizontal and grading upwards (normal).
KUTh	SEL 26/2005	Fingal3	DD-HQ	152.38	152.4	Ru - Upper Parmeener Supergroup	SB	-	-	-	D	FRESH	-	-	-	-	-	-	-	-		Vitreous coal with massive texture

KUTh	SEL 26/2005	Fingal3	DD-HQ	152.4	152.73	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous coherent sandstone with minor intraclasts of coal with possible very minor bioclasts. Variably grain supported to matrix supported subrounded calcareous clasts within a matrix of white calcareous clay. Bedding approximately horizontal and grading upwards (normal).
KUTh	SEL 26/2005	Fingal3	DD-HQ	152.73	152.74	Ru - Upper Parmeener Supergroup	SU	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Grey silty lutite. Bedding normal.
KUTh	SEL 26/2005	Fingal3	DD-HQ	152.74	152.99	Ru - Upper Parmeener Supergroup	LSD	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous coherent sandstone with minor intraclasts of coal with possible very minor bioclasts. Variably grain supported to matrix supported subrounded calcareous clasts within a matrix of white calcareous clay. Bedding approximately horizontal and grading upwards (normal).
KUTh	SEL 26/2005	Fingal3	DD-HQ	152.99	153.18	Ru - Upper Parmeener Supergroup	ST/SS	-	-	-	AD	FRESH	-	-	-	-	-	-	-	-	Finely laminated beds of grey siltstone grading into medium grained sandstone.
KUTh	SEL 26/2005	Fingal3	DD-HQ	153.18	154.51	Ru - Upper Parmeener Supergroup	SS	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous sandstone (as above).
KUTh	SEL 26/2005	Fingal3	DD-HQ	154.51	154.6	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Fine grained calcareous sandstone. Laminated beds becoming more pronounced with depth.
KUTh	SEL 26/2005	Fingal3	DD-HQ	154.6	155.57	Ru - Upper Parmeener Supergroup	LSD	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous sandstone (as above).
KUTh	SEL 26/2005	Fingal3	DD-HQ	155.57	155.97	Ru - Upper Parmeener Supergroup	SS/ST	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Grey sandstone grading to lutite
KUTh	SEL 26/2005	Fingal3	DD-HQ	155.97	156.52	Ru - Upper Parmeener Supergroup	SS/ST	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Fine grained grey sandstone grading into lutite.
KUTh	SEL 26/2005	Fingal3	DD-HQ	156.52	157.13	Ru - Upper Parmeener Supergroup	ST/SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Grey indurated mudstone - moderately consolidated with very minor coal intraclasts. Laminations becoming increasingly defined with increasing grainsize becoming medium grained sandstone at and below 157.13m.
KUTh	SEL 26/2005	Fingal3	DD-HQ	157.13	157.7	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Coal traces increasing b/w 157.13 and 157.33. Bedding dipping gently to sub-horizontal. 157.41 to 157.53 luticeous
KUTh	SEL 26/2005	Fingal3	DD-HQ	157.7	162.13	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Massive grey medium grained sandstone with minor coal traces. Larger coal traces <3cm thick with scattered minor mudstone traces and minor mudstone calsts and lenses.
KUTh	SEL 26/2005	Fingal3	DD-HQ	162.13	162.34	Ru - Upper Parmeener Supergroup	SU	-	-	-	D	FRESH	-	-	-	-	-	-	-	-	Black mudstone - weakly graphitic with minor medium grained sandstone lense <3cm thick b/w 162.25 & 162.28m.
KUTh	SEL 26/2005	Fingal3	DD-HQ	162.34	166.08	Ru - Upper Parmeener Supergroup	SS	-	-	-	AWD	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous sandstone (as above).
KUTh	SEL 26/2005	Fingal3	DD-HQ	166.08	166.54	Ru - Upper Parmeener Supergroup	SU	-	-	-	D	FRESH	-	-	-	-	-	-	-	-	Black mudstone - weakly graphitic (as above) with minor <1cm lenses of light grey calcilutite.
KUTh	SEL 26/2005	Fingal3	DD-HQ	166.54	166.61	Ru - Upper Parmeener Supergroup	SU	-	-	-	WAD	FRESH	-	-	-	-	-	-	-	-	Light grey calcareous mud grading into black mudstone.
KUTh	SEL 26/2005	Fingal3	DD-HQ	166.61	166.78	Ru - Upper Parmeener Supergroup	SU	-	-	-	WA	FRESH	-	-	-	-	-	-	-	-	Possible worm burrows within a lighter grey mudstone and lithic fragments.
KUTh	SEL 26/2005	Fingal3	DD-HQ	166.78	166.86	Ru - Upper Parmeener Supergroup	SU	-	-	-	AW	FRESH	-	-	-	-	-	-	-	-	Light grey fissile calcareous poorly consoilidated lutite.
KUTh	SEL 26/2005	Fingal3	DD-HQ	166.86	173.71	Ru - Upper Parmeener Supergroup	SU	-	-	-	DAW	FRESH	-	-	-	-	-	-	-	-	Alternating bands of black mudstone with light grey to white calcilutite. 168.44 to 168.59
KUTh	SEL 26/2005	Fingal3	DD-HQ	173.71	185.64	Ru - Upper Parmeener Supergroup	SS	-	-	-	AD	FRESH	-	-	-	-	-	-	-	-	Massive coherent grey medium grained sandstone (as above) with very minor coal traces. Variably calcareous.
KUTh	SEL 26/2005	Fingal3	DD-HQ	185.64	190.1	Ru - Upper Parmeener Supergroup	SS	-	-	-	AD	FRESH	-	-	-	-	-	-	-	-	As above with increasing coal traces which are laminar and mostly mm thickness.
KUTh	SEL 26/2005	Fingal3	DD-HQ	190.1	194.34	Ru - Upper Parmeener Supergroup	SS	-	-	-	AD	FRESH	-	-	-	-	-	-	-	-	As above with decreasing proportion of coal traces.
KUTh	SEL 26/2005	Fingal3	DD-HQ	194.34	196.32	Ru - Upper Parmeener Supergroup	SU	-	-	-	BDA	FRESH	-	-	-	-	-	-	-	-	Alternating bands of very dark brown to black mudstone interbedded with grey mudstone facies becoming variably fissile with minor (<10cm) lenses of calcilutite. Black mudstone lenses contain variable but minor traces of vitreous coal. Bedding horizontal to sub-horizontal.
KUTh	SEL 26/2005	Fingal3	DD-HQ	196.32	198.7	Ru - Upper Parmeener Supergroup	SU	-	-	-	AW	FRESH	-	-	-	-	-	-	-	-	Pale grey to grey massive mudstone. Predominantly fissile to very fissile, increasing at 197.56 to 198.5m.
KUTh	SEL 26/2005	Fingal3	DD-HQ	198.7	203.86	Ru - Upper Parmeener Supergroup	SU	SS	-	-	A	FRESH	-	-	-	-	-	-	-	-	Grey mudstone grading into fine grained sandstone. Moderately to finely laminated. Mudstone facies generally <40cm thick. Sandstone facies generally <50cm thick.
KUTh	SEL 26/2005	Fingal3	DD-HQ	203.86	206.1	Ru - Upper Parmeener Supergroup	SU	-	-	-	AD	FRESH	-	-	-	-	-	-	-	-	Grey massive mudstone ranging from coherent to highly fissile. Fissile facies <10cm grading into black massive mudstone with minor coal traces.
KUTh	SEL 26/2005	Fingal3	DD-HQ	206.1	221.83	Ru - Upper Parmeener Supergroup	SS	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Grey medium grained calcareous sandstone (as above).
KUTh	SEL 26/2005	Fingal3	DD-HQ	221.83	222.08	Ru - Upper Parmeener Supergroup	SC	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Conglomerate - matrix supported grey medium grained sandstone with well rounded and moderately spherical luticeous calsts. Clasts possibly imbricated.
KUTh	SEL 26/2005	Fingal3	DD-HQ	222.08	225.37	Ru - Upper Parmeener Supergroup	SU/ST	SS	-	-	AD	FRESH	-	-	-	-	-	-	-	-	Grey to black mudstone/siltstone - sub horizontally bedded. Finely to coarsely laminated grading into fine grained grey sandstone at 224.72 becoming coarser at 225.37m.
KUTh	SEL 26/2005	Fingal3	DD-HQ	225.37	249.79	Ru - Upper Parmeener Supergroup	SS	-	-	-	A	FRESH	-	-	-	-	-	-	-	-	Predominantly grey medium to coarse grained sandstone with minor rounded clasts (?conglomerate) of grey lutite. Scattered very minor coal traces.
					EOH																

Hole ID: Frankford

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Frankford	GDA94	490,171	5,416,602	289	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	02/05/2008	03/05/2008	Gerald Spalding Drilling
HQ core	102	251.6	06/05/2008	11/05/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+Ore_%	Sulph+Ore_Type	Vn_Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL 26/2005	Frankford	0	3	JDI - Jurassic Dolerite	JDD		Y/OP		O/B/A2	LSAP	F	-	-	-	-	-	-	-	-	-	Lower saprolite. Weathered insitu dolerite. Predominantly ferruginous weathered dolerite chips intermixed with dark grey fresher dolerite coarse sand sized fragments. Clay proportion <30%.
KUTh	SEL 26/2005	Frankford	3	6	JDI - Jurassic Dolerite	JDD		OP/Y		A2/O/B	SAPRK	F	-	-	-	-	-	-	-	-	-	Fresh grey/black ophitic dolerite gravel with Fe stained clay and minor weathered plagioclase + clay. Clay proportion 5 - 10%.
KUTh	SEL 26/2005	Frankford	6	9	JDI - Jurassic Dolerite	JDD		OP/Y		A2/O/B	SAPRK	F	-	-	-	-	-	-	-	-	-	Fresh grey/black ophitic doleritic coarse sandy gravel intermixed with weathered Fe stained coarse sandy gravelly dolerite sized grains with weathered plagioclase + clay. Clay proportion 30 - 40%.
KUTh	SEL 26/2005	Frankford	9	12	JDI - Jurassic Dolerite	JDD		OP/Y		A2/O/B	SAPRK	F	-	-	-	-	-	-	-	-	-	As above with grain size increasing.
KUTh	SEL 26/2005	Frankford	12	15	JDI - Jurassic Dolerite	JDD		OP/Y		A/A2/O/B	SAPRK	F	-	-	-	-	-	-	-	-	-	As above becoming increasingly weathered.
KUTh	SEL 26/2005	Frankford	15	18	JDI - Jurassic Dolerite	JDD		OP/Y		A/A2/O/B	SAPRK	F	-	-	-	B/Q	-	-	-	-	-	Predominance of weathered dolerite. Minor carbonate present. Fe stained clay approx <5%.
KUTh	SEL 26/2005	Frankford	18	21	JDI - Jurassic Dolerite	JDD		OP		A2/O/B	FRESH	F	-	-	-	B/Q	-	-	-	-	-	Fresh grey/black coherent ophitic dolerite. Dolerite gravel particle size increasing, with VERY minor weathered plagioclase and minor carbonate. Clay proportion <2%
KUTh	SEL 26/2005	Frankford	21	24	JDI - Jurassic Dolerite	JDD		OP		A2/O/B	FRESH	F	-	-	-	-	-	-	-	-	-	Fresh grey/black ophitic dolerite, gravel sized particles and minor clay (proportion: 1-5%)
KUTh	SEL 26/2005	Frankford	24	27	JDI - Jurassic Dolerite	JDD		OP		A2/O/B	FRESH	F	-	-	-	-	-	-	-	-	-	Fresh grey/black ophitic dolerite. Coarse doleritic sand - gravel sized particles, minor clay (proportion <1%). Very minor weathered joints/fractures present.
KUTh	SEL 26/2005	Frankford	27	30	JDI - Jurassic Dolerite	JDD		OP		A2/O/B/W	FRESH	F	-	-	-	B/Q	<1	-	-	-	-	As above with slight increase in proportion of weathered dolerite gravelly particles.
KUTh	SEL 26/2005	Frankford	30	33	JDI - Jurassic Dolerite	JDD		OP		A2/A/B1	FRESH	F	-	-	-	-	-	-	-	-	-	As above with an increase in gravel proportion. Weathered joints/fractures still persistent within the dolerite. Seen as individual weathered Fe stained gravelly dolerite fragments.
KUTh	SEL 26/2005	Frankford	33	36	JDI - Jurassic Dolerite	JDD		OP		A2/A/B1	FRESH	F	-	-	-	-	-	-	-	-	-	As above.
KUTh	SEL 26/2005	Frankford	36	39	JDI - Jurassic Dolerite	JDD		OP		A2/A/B1	FRESH	F	-	-	-	-	-	-	-	-	-	As above.
KUTh	SEL 26/2005	Frankford	39	42	JDI - Jurassic Dolerite	JDD		OP		A2/O/B/W	FRESH	F	-	-	-	B/Q	<1	-	-	-	-	As above with minor quartz/carbonate vein fragments within dolerite gravel.
KUTh	SEL 26/2005	Frankford	42	45	JDI - Jurassic Dolerite	JDD		OP		A2/A1/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Fresh dark grey ophitic dolerite gravel fragments mixed with quartz carbonate and possible serricite. Interpreted to have come from mm scale veins which are weakly chlorite altered.
KUTh	SEL 26/2005	Frankford	45	57	JDI - Jurassic Dolerite	JDD		OP		A2/A/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	As above
KUTh	SEL 26/2005	Frankford	57	60	JDI - Jurassic Dolerite	JDD		OP		A2/A/B/R	FRESH	F	-	-	-	-	-	-	-	-	-	Predominantly fresh ophitic coarse sandy to gravelly sized dolerite grains mixed with Fe stained (weathered - weathering not weak or strong) gravelly dolerite fragments.
KUTh	SEL 26/2005	Frankford	60	63	JDI - Jurassic Dolerite	JDD		OP		A2/A	FRESH	F	-	-	-	-	-	-	-	-	-	Fresh ophitic gravelly dolerite.
KUTh	SEL 26/2005	Frankford	63	66	JDI - Jurassic Dolerite	JDD		OP		A2/A	FRESH	F	-	-	-	-	-	-	-	-	-	As above.
KUTh	SEL 26/2005	Frankford	66	75	JDI - Jurassic Dolerite	JDD		OP		A/A2/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Predominantly fresh gravelly dolerite fragments intermixed with minor (5 - 15%) brown Fe stained dolerite grains and lesser (<5%) grey doleritic clay adhering to some gravel surfaces. Interpreted to be a small fault/clay filled fracture.
KUTh	SEL 26/2005	Frankford	75	78	JDI - Jurassic Dolerite	JDD		OP		A/A2/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	As above with decreasing proportion of grey clay (<1%)
KUTh	SEL 26/2005	Frankford	78	81	JDI - Jurassic Dolerite	JDD		OP		A/A2/A1/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Predominantly fresh gravelly dolerite fragments intermixed with minor (5 - 15%) brown Fe stained dolerite grains and lesser (<5%) grey doleritic clay adhering to some gravel surfaces. Interpreted to be a small fault/clay filled fracture. Same as 66 - 75m.
KUTh	SEL 26/2005	Frankford	81	84	JDI - Jurassic Dolerite	JDD		OP		A/A2/A1	FRESH	F	-	-	-	-	-	-	-	-	-	As above with decreasing proportion of grey clay (<1%)
KUTh	SEL 26/2005	Frankford	84	87	JDI - Jurassic Dolerite	JDD		OP		A/A2/A1/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Predominantly fresh gravelly dolerite fragments intermixed with minor (2 - 5%) brown Fe stained dolerite grains and lesser (<1%) grey doleritic clay adhering to some gravel surfaces. Interpreted to be a small fault/clay filled fracture.
KUTh	SEL 26/2005	Frankford	87	90	JDI - Jurassic Dolerite	JDD		OP		A2/A/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Predominantly fresh gravelly dolerite fragments intermixed with minor (2 - 5%) brown Fe stained dolerite grains and lesser (<1%) grey doleritic clay adhering to some gravel surfaces. Interpreted to be a small fault/clay filled fracture. Same as 66 - 75m.
KUTh	SEL 26/2005	Frankford	90	101	JDI - Jurassic Dolerite	JDD		OP		A/A2/A1/B/W	FRESH	F	-	-	-	B/Q	<1	-	20	CH	VP	Predominantly fresh gravelly dolerite fragments intermixed with minor (<2%) brown Fe stained dolerite grains and slightly increasing (>2%) grey doleritic clay adhering to some gravel surfaces. Interpreted to be a small fault/clay filled fracture.
				EOH																		
KUTh	SEL 26/2005	Frankford	101.9	104.24	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	<0.5	Py	-	-	-	-	-	-	Fine to medium grained competent dolerite - very weakly magnetic.
KUTh	SEL 26/2005	Frankford	104.24			R/Zeolite		-		W/G			<10	<0.5	Py	Zeolite	<1	S	20	CH	VP	Zeolite carbonate vein x-cutting dolerite. Dip approx 30degrees <1mm wide with patchy chlorite alteration and disseminated pyrite (much less than 0.5%)
KUTh	SEL 26/2005	Frankford	104.24	104.61	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	<0.5	Py	-	-	-	-	-	-	Fine to medium grained competent dolerite - very weakly magnetic.
KUTh	SEL 26/2005	Frankford	104.61			R/Zeolite		-		W/G			<10	-	-	Zeolite/B	<1	S	20	CH	VP	Zeolite vein with very minor carbonate. Chlorite ~5%. Dip 40 degrees. <0.5mm thick.
KUTh	SEL 26/2005	Frankford	104.61	105.6	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Dolerite as above.
KUTh	SEL 26/2005	Frankford	105.6	105.78		R/Talc		-		W			<10	<0.5	Py	Talc/B	~1	S	<10	CH	VP	3 parallel talc carbonate veins with very minor pyrite and chlorite (<10%). Dip 50degrees. All 3 veins are around 5mm thick.
KUTh	SEL 26/2005	Frankford	105.78	116.52	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Dolerite as above.
KUTh	SEL 26/2005	Frankford	116.52			R/Talc		-		W			<10	<0.5	Py	Talc/B	~1	S	~5	CH	VP	Minor talc and calcite with possible zeolite vein. Dip ~34degrees. ¦1mm thick. Chlorite ~5%.

KUTh	SEL 26/2005	Frankford	116.52	123.6	JDI - Jurassic Dolerite	JDD		OP		A/W	FRESH	F	30	-	-	Zeolite	<5	S	-	-		Zeolite vein - a possible minor fault with movement likely to be cm scale or less - sense of movement undetectable in hand specimen. Vein approx 1cm thick dipping irregularly but generally around 72degrees.
KUTh	SEL 26/2005	Frankford	123.6	124.9	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite with very fine black hairlike vein. Vein is soft ~2. Likely to be biotite.
KUTh	SEL 26/2005	Frankford	124.9							W			-			Talc/B	~1	S	~5	CH	VP	Talc calcite vein with minor chlorite. Vein ~ 1cm thick. Dip ~65degrees.
KUTh	SEL 26/2005	Frankford	124.9	125.4	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite with very fine black hairlike vein. Vein is soft ~2. Likely to be biotite.
KUTh	SEL 26/2005	Frankford	125.4	125.6	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	10	-	-	Zeolite/B	>5	S	10	CH	VP	Fractured dolerite 1-2mm zeolite veins with minor carbonate. 3 vein sets -1 dipping 35degrees containing zeolite & chlorite. 2 comprised of zeolite and chlorite (90degrees to 1 - in the horizontal plain) dipping approx 50degrees. 3 - steeply dipping irregularly around 70degrees. Contains carbonate (likely to be calcite) and no chlorite.
KUTh	SEL 26/2005	Frankford	125.6	129.3	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite.
KUTh	SEL 26/2005	Frankford	129.3										30	-	-	Zeolite	<5	S	10	CH	VP	Steeply dipping ~ 80degrees zeolite with minor carbonate vein/minor fault. Chloritic.
KUTh	SEL 26/2005	Frankford	129.3	154	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite.
KUTh	SEL 26/2005	Frankford	154	155.44						W			-	-	-	C	~1	S	0	-	-	Vuggy calcite vein ~5mm thick dipping ~86degrees - no sense of movement
KUTh	SEL 26/2005	Frankford	155.44	187.5	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite.
KUTh	SEL 26/2005	Frankford	187.5	188.06						W			30			Zeolite	<5	S	-	-	-	Small fault along sub mm thick zeolite filled vein - very straight - dipping steply around 86 degrees.. Core broken into blocks.
KUTh	SEL 26/2005	Frankford	188.06	189.74	JDI - Jurassic Dolerite	JDD		OP		A	FRESH	F	-	-	-	-	-	-	-	-	-	Competent fine to medium grained dolerite.
KUTh	SEL 26/2005	Frankford	189.74	190.14	JDI - Jurassic Dolerite	JDD		VFG		D	FRESH	F	<10	-	-	-	-	-	80	Chilled margin	eration h	Chilled margin within the dolerite becoming darker with decreasing crystal size to aphanitic at contact and black at 194.19m.
KUTh	SEL 26/2005	Frankford	190.14	190.47	Ru - Upper Parmeener Supergroup	MSU		HF		O/B	FRESH	F	40	-	-	-	-	-	80	Chilled margin	eration h	Fe stained hornfelsic mudstone - bedding horizontal.
KUTh	SEL 26/2005	Frankford	190.47	191.9	Ru - Upper Parmeener Supergroup	MSU		HF		O/B	FRESH	F	40	-	-	-	-	-	-	-	-	Interbedded quartz sandstone and mudstones.
KUTh	SEL 26/2005	Frankford	191.9	193.9	Ru - Upper Parmeener Supergroup/Jdl - Jurassic Dolerite	JDD	MSS	VFG	HF	A/D/A2	FRESH	F	0	-	-	-	-	-	-	Chilled margin	eration h	Contact from grey hornfelsic medium grained grey quartz sandstone into black aphanitic chilled dolerite margin becoming more crystaline towards 192.6m. - Dolerite very magnetic.
KUTh	SEL 26/2005	Frankford	193.9	195	JDI - Jurassic Dolerite/Ru Upper Parmeener Supergroup	JDD	MSU	VFG	HF	A2/D/A	FRESH	F	0	-	-	-	-	-	-	-	-	Very fine grained dolerite becoming black and aphanitic at contact (194.2m) to hornfelsic aureole extending approx 10cm from contact. Fine grained cross-bedded grey silty sandstone grading into medium grained grey calcareous quartz sandstone. These units are interbedded. Some facies contain clay pellets which are typically well rounded and possibly imbricated. Bed thickness variable but typically around 30cm or less. Carbonate present within the matrix of the sandstone.
KUTh	SEL 26/2005	Frankford	195	204.67	Ru - Upper Parmeener Supergroup	MSS	MSU	MA	Y	O/B/A/A2	FRESH	F	0	-	-	-	-	-	80	MT	UP	Grey mudstone grading into dominantly light grey to orange brown medium grained sandstones with subordinate orange brown mudstone becoming almost absent between 196.02 to 204.68m. Magnetite rich zones @ 199.53m and very strongly magnetic @199.61m, 200.43 and 200.9m. Magnetite within clay pellets strataform. These zones are typically <1.5cm in thickness and bordered by aureoles of light grey medium grained quartz sandstone. Magnetite facies are typically black with discontinuous anastomosing mm to sub-mm scale dark bands and constitute <1% of this interval. Competence of core is moderately poor.
KUTh	SEL 26/2005	Frankford	204.67	204.97	Ru - Upper Parmeener Supergroup	MSU	MSS	MA	Interbedd	O/B/A/A2	FRESH	F	0	-	-	-	-	-	-	-	-	Interbedded pink to brown to dark brown clay intraclasts typically ~2cm thick up to 7cm thick. Irregularly spaced within grey to light grey medium grained sandstone. Doesn't fizz, beds sub-horizontal.
KUTh	SEL 26/2005	Frankford	204.97	208.2	Ru - Upper Parmeener Supergroup	MSS	-	MA		A1	FRESH	F	0	-	-	-	-	-	-	-	-	Light grey massive medium greined quartz sandstone. Doesn't fizz. Becoming wealky magnetic around 208m and "spotted". Spots are disseminated, black and generally mm scale. Likely to be magnetite.
KUTh	SEL 26/2005	Frankford	208.2	230.9	Ru - Upper Parmeener Supergroup	MSS	MSU	MA	-	-	-	F	0	-	-	-	-	-	-	-	-	Magnetite altered medium grained light grey/grey/black sandstone with dark brown to black clay pellets and mudstone intraclasts. Mudstones are significantly more magnetic than the sandstones. Magnetite alteration starts as disseminated @207m becoming pervasive within the mudstones @208.9m. Mudstone intraclasts are laminated with zones of cross bedding. The sandstone is clast supported quartz sandstone with minor to absent carbonate cement/matrix. 211.76m anastomosing magnetite staining within the quartz sandstone dipping >40degrees. Sandstone bedding is generally sub-horizontal compared to the staining. Pervasive alteration between 217.99 to 219.05m within medium grained sandstone. Core competence moderate to poor with breaks typically every 33cm or less. 219.2m sandstone grading from pervasive magnetite alteration to disseminated alteration becoming weaker to no alteration @ 229.3m. Biotite common.
KUTh	SEL 26/2005	Frankford	230.9	238.67	Ru - Upper Parmeener Supergroup	MSS	-	LA/MA	-	A/A2/D	-	F	0	-	-	-	-	-	-	-	-	Finely laminated to massive medium grained grey quartz with subordinate dark grey to black interbeds. Bedding sub-horizontal with very minor carbonate within the matrix.
KUTh	SEL 26/2005	Frankford	238.67	242.52	Ru - Upper Parmeener Supergroup	MSS	-	LA/MA	-	O/B/O1/B1	-	F	0	-	-	-	-	-	-	-	-	Dominantly orange brown to very pale orange brown medium grained quartz sandstone with subordinate to minor orange yellow brown lutite. Disseminated pyrolusite/manganese within orange sandstone sequences.

KUTh	SEL 26/2005	Frankford	242.52	243.22	Ru - Upper Parmeener Supergroup	MSS	-	LA	-	A/O/Y/B	-	F	0	-	-	-	-	-	-	-	-	Interbedded subordinate grey to orange/yellow/brown medium grained sub-horizontal sandstone with green grey to red brown subhorizontal mudstone. Units cm scale or less. Minor pyrolusite/manganese.
KUTh	SEL 26/2005	Frankford	243.22	251.9	Ru - Upper Parmeener Supergroup	MSS	-	LA/MA	-	O/Y/B	-	F	0	-	-	-	-	-	-	-	-	Orange yellow brown medium grained quartz sandstone - sub-horizontal with moderate competence. Common biotite "spots" ?disseminations typically cm scale throughout interval. Pyrolusite as above.
				EOH																		

Hole ID: Kingston

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Kingston	GDA94	547,791	5,383,093	287	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	90.5	18/01/2008	21/01/2008	Gerald Spalding Drilling
HQ core	90.5	235.4	05/03/2008	12/03/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+O re_Type	Vn_Type	Vn_ %	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Kingston	RC	0	3	JDI - Jurassic dolerite	JDD	-	LCY/LGR	-	G/B/O/R	SOIL/SAP	F	-	-	-	-	-	-	-	-	-	Moderately weathered Fe stained dolerite mixed with <20% doleritic clay
KUTh	SEL 26/2005	Kingston	RC	3	6	JDI - Jurassic dolerite	JDD	-	LGR	-	G/B/O/R	SAP	F	-	-	-	-	-	-	-	-	-	Moderately weathered Fe stained dolerite mixed very minor doleritic clay <2%.
KUTh	SEL 26/2005	Kingston	RC	6	18	JDI - Jurassic dolerite	JDD	-	G	-	G/B/O	SAPRK	F	-	-	-	-	-	-	-	-	-	As above with <1% clay. Interpreted as lightly weathered dolerite with minor Fe staining as an artefact of near surface jointing.
KUTh	SEL 26/2005	Kingston	RC	18	24	JDI - Jurassic dolerite	JDD	-	G	-	A2/B	FRESH	-	-	-	-	-	-	-	-	-	-	Very weak Fe stained (associated with jointing/minor fractures) ophitic dolerite
KUTh	SEL 26/2005	Kingston	RC	24	36	JDI - Jurassic dolerite	JDD	-	G	-	A2/B	FRESH	-	-	-	-	-	-	-	-	-	-	Grey fresh dolerite with very minor Fe staining associated with jointing/ small fractures.
KUTh	SEL 26/2005	Kingston	RC	36	39	JDI - Jurassic dolerite	JDD	-	G	-	A2	FRESH	-	-	-	-	Q/B	<2	-	-	-	-	Fresh medium grained ophitic dolerite with very minor quartz/carbonate veining.
KUTh	SEL 26/2005	Kingston	RC	39	42	JDI - Jurassic dolerite	JDD	-	G	-	A2	FRESH	-	-	-	-	-	-	-	-	-	-	Very minor (<1%) weathered gravel fragments within medium grained ophitic dolerite.
KUTh	SEL 26/2005	Kingston	RC	42	51	JDI - Jurassic dolerite	JDD	-	LGR/LCY	-	A2/B/O/R	FRESH	-	-	-	-	-	-	-	10	CH	SSD	Small amount of weathered dolerite clay (<5%) within fresh ophitic dolerite. Interpreted as a small fault.
KUTh	SEL 26/2005	Kingston	RC	51	66	JDI - Jurassic dolerite	JDD	-	G	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Grey medium grained dolerite with very minor Fe staining associated with minor joints.
KUTh	SEL 26/2005	Kingston	RC	66	90	JDI - Jurassic dolerite	JDD	-	G	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Grey/grey-brown medium grained ophitic dolerite with occasional weathered dolerite fragments associated with minor jointing/fractures. Chlorite alteration very minor.
					EOH																		
KUTh	SEL 26/2005	Kingston	DD-HQ	90.65	93.9	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Fracture running at 18degrees to horizontal at 93.9m. Dolerite medium to coarse grained.
KUTh	SEL 26/2005	Kingston	DD-HQ	93.9	94.16	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	94.16				-	-	-	W		-	-	-	-	B	100	W	-	-	-	Sub mm carbonate vein at 73 degrees - almost whispy.
KUTh	SEL 26/2005	Kingston	DD-HQ	94.16	99.75	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-				-	-	-	Jurassic dolerite - competent with no veins and unfractured. Medium to coarse grained and moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	99.75				-	-	-	W/G		-	-	-	-	Talc/L			-	-	-	talc vein with biotite selvage at ~ 1cm from centre of vein <0.5mm wide. Talc vein ~1mm wide (apparent thickness).
KUTh	SEL 26/2005	Kingston	DD-HQ	99.75	102.3	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-				-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	102.3				-	-	-	D		-	-	<2	Py	L	95	S	-	-	-	1.5mm (true thickness) biotite vein at an angle of 86 degrees with stratabound disseminated pyrite. Within this there is a tiny amount of ?talc (white and soft) at the biotite veins centre. Talc is patchy in distribution.
KUTh	SEL 26/2005	Kingston	DD-HQ	102.3	112.45	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	Talc/L	<1	D/S	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic with increasing proportion of very fine "hair-like" diffuse biotite/talc veins running along a common dip of sub vertical to ~86 degrees. Fe selvage staining of the dolerite associated with veins at 112m.
KUTh	SEL 26/2005	Kingston	DD-HQ	112.45	119.44	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-				-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	119.44				-	-	-			-	-	-	-	Talc/B	<5	S/A	10	CH	VP	Talc/carbonate vein with minor biotite. Fe stained selvage to 6mm either side of vein. Minor chlorite alteration on vein face. Dipping ~40 degrees to horizontal.
KUTh	SEL 26/2005	Kingston	DD-HQ	119.44	120.5	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-				-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	120.5				-	-	-			-	-	-	-	L/B	<0.5	S	-	-	-	mm scale biotite vein with very minor zeolite. Zeolite occuring as selvage. Dipping 64 degrees.
KUTh	SEL 26/2005	Kingston	DD-HQ	120.5	122.8	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	L	<0.5	A/S	-	-	-	Coherent medium coarse grained dolerite with very minor anastomosing sub 0.5mm scale biotite vein approximately sub-vertical.
KUTh	SEL 26/2005	Kingston	DD-HQ	122.8	127.34	JDI - Jurassic dolerite	JDD	-	FR/MG/CG	-	G/B/W	FRESH	-	30	-	-	B/Zeolite	~1	S	-	-	-	~5mm vertical/sub-vertical zeolite/talc/carbonate filled vein. Fe selvage out to approx 4cm either side of vein. ?minor fault
KUTh	SEL 26/2005	Kingston	DD-HQ	127.34	131	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	131	132.42			-	-	-			-	30	-	-	B/Talc	~1	S	-	-	-	Vein/fault as above at 122.8 to 127.34m. Vein up to 1.5cm thick and sub-vertical.
KUTh	SEL 26/2005	Kingston	DD-HQ	132.42	174.7	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.

KUTh	SEL 26/2005	Kingston	DD-HQ	174.7	181.1	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	<1	Py	Talc/B	~1	S	-	-	-	Vein as above at 122.8 to 127.34m with no sense of movement. Vein up to 0.5cm thick and sub-vertical. Stratabound pyrite disseminated within vein but concentrated along outer fringes of the vein. Vein within competent medium/coarse grained dolerite and moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	181.1	185.6	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-				-	-	-	Competent medium coarse grained dolerite with very minor sub-vertical anastomosing black <0.5mm veins (likely to be biotite).
KUTh	SEL 26/2005	Kingston	DD-HQ	185.6	187.9	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	L	100	S/A	-	-	-	Vein increasing in width to <4mm @ 187.99 white ascicular crystals - do nnot fizz. Interpreted to be zeolite.
KUTh	SEL 26/2005	Kingston	DD-HQ	187.9	191.17	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W	FRESH	-	-	-	-				-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	191.17	195	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W/R	FRESH	-	30	-	-	Talc/B	100	S/A	10	CH	VP	Fault - zeolites abundant with carbonate. Minor Fe as selvage, dipping ~ 83 degrees to horizontal. Core rubbley and broken.
KUTh	SEL 26/2005	Kingston	DD-HQ	195	195.3	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W	FRESH	-	-	-	-				-	-	-	Fault jogs infilled with zeolite. Dextral sense of movement. Displacement ~ 6cm.
KUTh	SEL 26/2005	Kingston	DD-HQ	195.3	217.22	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W	FRESH	-	-	-	-				-	-	-	Competent medium/coarse grained dolerite with occasional small scale (mm scale vertical to sub vertical) zeolite veins. Veins typically occurring singularly runnig along the axis of the core.
KUTh	SEL 26/2005	Kingston	DD-HQ	217.22	218.65	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W	FRESH	-	-	-	-	-	-	-	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Kingston	DD-HQ	218.65	226.15	JDI - Jurassic dolerite	JDD	-	VFG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Aphanitic dolerite. Contact dipping irregularly around 2 degrees. Prehnite vein dipping 72 degrees <1mm thick.
KUTh	SEL 26/2005	Kingston	DD-HQ	226.15	226.28	JDI - Jurassic dolerite	JDD	-	VFG/MG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Transition zone from aphanitic to porphyritic medium/coarse grained dolerite at 226.28m
KUTh	SEL 26/2005	Kingston	DD-HQ	226.28	228.97	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B/W	FRESH	-	-	-	-	Talc/B	100	S/A	10	CH	VP	1mm wide carbonate/zeolite vein dipping 45 degrees. Stratabound chlorite irregular distribution within vein.
KUTh	SEL 26/2005	Kingston	DD-HQ	228.97	235.4	JDI - Jurassic dolerite	JDD	-	MG/CG	-	G/B	FRESH	-	-	-	-	-	-	-	-	-	-	Competent medium to coarse grained dolerite. Moderately magnetic.
					EOH																		

Hole ID: Leake

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Leake	GDA94	568,510	5,338,586	475	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	150	30/10/2007	01/11/2007	Gerald Spalding Drilling
HQ core	150	300.4	27/11/2007	04/12/2007	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock1_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_ %	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL 26/2005	Lake Leake	0	3	JDI - Jurassic dolerite	JDD	-	O	LSAP	F	0	0	-	-				MT	U	Lower saprolite. Weathered in-situ dolerite. Predominantly orange doleritic clay intermixed with dolerite gravel fragments.
KUTh	SEL 26/2005	Lake Leake	3	6	JDI - Jurassic dolerite	JDD	-	O	LSAP	F	0	0	-	-				MT	U	Lower saprolite. Weathered in-situ dolerite. Predominantly dolerite gravel fragments with lesser proportion of orange doleritic clay.
KUTh	SEL 26/2005	Lake Leake	6	9	JDI - Jurassic dolerite	JDD	-	O/A	LSAP	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	9	12	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	Weakly ferruginised doleritic saprock. Magnetite present - moderately magnetic
KUTh	SEL 26/2005	Lake Leake	12	15	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	15	18	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	Mostly fresh dolerite (>70%) with minor fragments of weakly ferruginised weathered dolerite - moderately magnetic
KUTh	SEL 26/2005	Lake Leake	18	21	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	21	24	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	24	27	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	27	30	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	30	33	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	33	36	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	36	39	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	39	42	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	42	45	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	45	48	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	48	51	JDI - Jurassic dolerite	JDD	-	A/O	SAPRK	F	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	51	54	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	54	57	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	57	60	JDI - Jurassic dolerite	JDD	-	A/A1	FRESH	-	0	0	-	-				MT	U	As above with very minor gypsum as infill in fractures.
KUTh	SEL 26/2005	Lake Leake	60	63	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	63	66	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	66	69	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	69	72	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	72	75	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	<1	Py	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	75	78	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	78	81	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	81	84	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	84	87	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	87	90	JDI - Jurassic dolerite	JDD	-	A/A1	FRESH	-	0	0	-	-				MT	U	As above with very minor vein/weathered dolerite joint. Includes gypsum/carbonate? infill.
KUTh	SEL 26/2005	Lake Leake	90	93	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	93	96	JDI - Jurassic dolerite	JDD	-	A/O	FRESH	-	0	0	-	-				MT	U	Minor weakly ferruginised dolerite fragments (<5%).
KUTh	SEL 26/2005	Lake Leake	96	99	JDI - Jurassic dolerite	JDD	-	A/O	FRESH	-	0	0	-	-				MT	U	Minor weakly ferruginised dolerite fragments (<10%).
KUTh	SEL 26/2005	Lake Leake	99	102	JDI - Jurassic dolerite	JDD	-	A/O	FRESH	-	0	0	-	-				MT	U	Minor weakly ferruginised dolerite fragments (<5%).
KUTh	SEL 26/2005	Lake Leake	102	105	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	105	108	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	108	111	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	111	114	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	114	117	JDI - Jurassic dolerite	JDD	-	A/A1	FRESH	-	0	0	-	-				MT	U	As above with very minor vein/weathered dolerite joint. Includes gypsum/carbonate? infill.
KUTh	SEL 26/2005	Lake Leake	117	120	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Lake Leake	120	123	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	123	126	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	126	129	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	129	132	JDI - Jurassic dolerite	JDD	-	A/A1	FRESH	-	0	0	-	-				MT	U	As above with very minor vein/weathered dolerite joint. Includes gypsum/carbonate? infill.
KUTh	SEL 26/2005	Lake Leake	132	135	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	135	138	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	138	141	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	141	144	JDI - Jurassic dolerite	-	-													
KUTh	SEL 26/2005	Lake Leake	144	147	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
KUTh	SEL 26/2005	Lake Leake	147	150	JDI - Jurassic dolerite	JDD	-	A	FRESH	-	0	0	-	-				MT	U	As above
				EOH		g and Beginning of														

KUTh	SEL 26/2005	Lake Leake	150	152	JDI - Jurassic dolerite	JDD	FG-MG	A/G2/A2	FRESH					Q/B						Interval begins as fine grained dolerite, becoming medium grained. Dominantly plagioclase, with about 30-40% pyroxene phenocrysts (often displaying twinning). Typical example of ophitic texture dolerite.
KUTh	SEL 26/2005	Lake Leake	152	155	JDI - Jurassic dolerite	JDD	MG	A/G2/D	FRESH			1%	PY	Q/B						Interval becoming less pyroxene rich towards end, medium grained. Disseminated PY throughout. 2 Q/B veins present - approx 5mm thick.
KUTh	SEL 26/2005	Lake Leake	155	158	JDI - Jurassic dolerite	JDD	MG	A1/D/G	FRESH			<1%	PY							Very light coloured interval of dolerite, dominated by light grey silicious groundmass. Pyroxene often black & anhedral. No euhedral xls present. Med grained interval with very minor disseminated Py.
KUTh	SEL 26/2005	Lake Leake	158	159.4	JDI - Jurassic dolerite	JDD	MG	A/D/G	FRESH			3%	PY	B						Disseminated PY common throughout, few sub 1mm veins, with one 1cm vein of talc. Pyroxene bronze in colour. Lt grey silicious component of intrusion decreasing
KUTh	SEL 26/2005	Lake Leake	159.4	161.7	JDI - Jurassic dolerite	JDD	MG	A/B/G/D	FRESH			1%	PY	B			CH		V	As above, less PY. includes 1cm carbonate vein with associated chlorite alteration.
KUTh	SEL 26/2005	Lake Leake	161.7	163	JDI - Jurassic dolerite	JDD	MG	A/A2/G	FRESH					B	<1%					As above, although about 50% of interval is composed of enclaves of very fine grained dolerite. Minor sub mm vnlets present.
KUTh	SEL 26/2005	Lake Leake	163	169.7	JDI - Jurassic dolerite	JDD	CG	A1/A2/D	FRESH											Very blotchy/mottled textured dolerite, with anhedral pyx xls coarse grained (up to 1cm long), bronzy brown in colour. Dark, fine-grained mafics present. plag groundmass component significant. Photo
KUTh	SEL 26/2005	Lake Leake	169.7	171.5	JDI - Jurassic dolerite	JDD	MG-CG	A2/D/A	FRESH					B	<1%					Pyroxene crystals anhedral, more so than previous intervals. Medium to coarse grained pyx xls in light grey plagioclase groundmass. Minor veining. No obvious PY present. Photo
KUTh	SEL 26/2005	Lake Leake	171.5	176	JDI - Jurassic dolerite	JDD	MG	A2/B	FRESH					B	<1%					Standard medium grained dolerite, with very minor CB vein lets. At approx. 172.5m coarse grained pyroxene phenocrysts often euhedral, in an otherwise very fine grained groundmass of plagioclase.
KUTh	SEL 26/2005	Lake Leake	176	179.3	JDI - Jurassic dolerite	JDD	MG	A2/B	FRESH					B	2		CH		V	As above, with an increase in the number of CB vnlets
KUTh	SEL 26/2005	Lake Leake	179.3	182.5	JDI - Jurassic dolerite	JDD	MG	A2/B	FRESH			<1	PY	B	<1					Medium grained JDD with the odd bit of disseminated PY. Very little CB. Interesting at around 182cm. Coarse grained euhedral pyx xls, with concentric mafic rings forming around xls. Photos
KUTh	SEL 26/2005	Lake Leake	182.5	183.4	JDI - Jurassic dolerite	JDD	MG	A/A2/W	FRESH			2	PY	B	8%		CH/FE		V	Starting @ 182.7, heavily carbonate veined with one 1-2cm thick vein running sub vertical. Otherwise med-grained dolerite, with pyx forming nice euhedral phenocrysts. The CB veins have very obvious selvage, with up to 1-2cm thick zone either side of vein
KUTh	SEL 26/2005	Lake Leake	183.4	191.9	JDI - Jurassic dolerite	JDD	MG	A/A2/B	FRESH			1	PY	B	<1		CH		V	Long interval of almost non-interrupted JDD, except for a couple of small vein lets. Pyx xls euhedral and brownie-grey in colour. Disseminated py throughout.
KUTh	SEL 26/2005	Lake Leake	191.9	193.6	JDI - Jurassic dolerite	JDD	MG	A/W/R	FRESH			3	PY	B/Q	15		CH/FE/EP		V	Heavily disturbed interval of dolerite by quartz/carbonate veins with stockwork like texture. Dominantly orientated sub vertical. Strong Fe oxide selvage proximal to veins. Photo
KUTh	SEL 26/2005	Lake Leake	193.6	195.4	JDI - Jurassic dolerite	JDD	MG	A/W/R	FRESH			1	PY	B/Q	5		CH/FE/EP			2 CB veins with very obvious FE selvage. EP common, and CL. Otherwise standard med-grained dolerite
KUTh	SEL 26/2005	Lake Leake	195.4	199	JDI - Jurassic dolerite	JDD		A/D/G	FRESH			3	PY	B						Very pyx rich interval, with some sections composed almost entirely of euhedral up to 1cm long phenocrysts. Many enclaves of very fine grained green intrusions. Same texture as described in 179.3-182.5m. Only very minor CB
KUTh	SEL 26/2005	Lake Leake	199	200	JDI - Jurassic dolerite	JDD	MG	A2/G2/D	FRESH			<1%	PY							Interval dominated by very fine grained dk green to black mafics. Pyx xls still euhedral, generally finer grained. No CB vns present.
KUTh	SEL 26/2005	Lake Leake	200	202	JDI - Jurassic dolerite	JDD	CG	A2/G2/D	FRESH			<1	PY							As above, but coarser grained
KUTh	SEL 26/2005	Lake Leake	202	203	JDI - Jurassic dolerite	JDD	CG	A2/D2/G	FRESH					B			CH		V	Large pyroxene xls present (up to 2cm long) euhedral.
KUTh	SEL 26/2005	Lake Leake	203	210	JDI - Jurassic dolerite	JDD	MG	A2/G2/D/B	FRESH					B			CH/SR		V	Interval dominated by med to coarse grained pyx xls, with enclaves of fine-grained black/dark grey mafic minerals, these enclaves generally exclude pyx xls. Minor CB veining

KUTh	SEL 26/2005	Lake Leake	210	211.5	JDI - Jurassic dolerite	JDD	MG-CG	A2/A/B	FRESH			2	PY	B/Q					Interval dominated by very fine grained green groundmass, with asicular xls of pyx, and some black acicular biotite xls. PY disseminated. Minor sub-horizontal CB veining. Minor qz xls present
KUTh	SEL 26/2005	Lake Leake	211.5	213	JDI - Jurassic dolerite	JDD	MG-CG	A2/A/D	FRESH			2	PY						As above, with xls more tabular than asicular.
KUTh	SEL 26/2005	Lake Leake	213	214.3	JDI - Jurassic dolerite	JDD	MG	A2/D/W	FRESH			1	PY	Q			CH		V	Back to dolerite dominated by anhedral pyx xls giving the core a mottley texture, with 1cm wide qz vein.
KUTh	SEL 26/2005	Lake Leake	214.3	216	JDI - Jurassic dolerite	JDD	MG	A2/D	FRESH			1	PY	Q/B						Generally lighter grey than other intervals, finer grained, with less pyx becoming coarser towards end of interval.
KUTh	SEL 26/2005	Lake Leake	216	219.15	JDI - Jurassic dolerite	JDD	MG	A/A2/D	FRESH			1	PY	Q/B			CH/FE/EP		V	Standard JDD, with one 3mm wide Qz vein and some lenses of the above interval
KUTh	SEL 26/2005	Lake Leake	219.15	226.4	JDI - Jurassic dolerite	JDD	MG	A/A2/W	FRESH					Q/B						Interval of standard JDD with intense selvage proximal to some small vns. FE/EP alteration, with Chlorite associated with vns. Very bright red FE alteration. 2cm wide CB/QZ vein running sub-vertical approx. 1m. Very soft and very CB rich. CL present on all
KUTh	SEL 26/2005	Lake Leake	226.4	230.5	JDI - Jurassic dolerite	JDD	MG	A2/W/B/G	FRESH					B/Q			CY/CH/FE		V	Heavily disturbed interval, with many Qz/CB vns, and one section (between 227-228) that looks like a sheer zone. The interval is relatively clay rich, with cy high in carbonates. Within some of the vns are voids, which are lined with small zeolites.
KUTh	SEL 26/2005	Lake Leake	230.5	231.4	JDI - Jurassic dolerite	JDD	MG	A2/B/A/D	FRESH					B			CY/FE/CH		V	Small (1mm CB vns with distinct FE selvage (over 30cm) hosted in med-grained pyx/plag JDD
KUTh	SEL 26/2005	Lake Leake	231.4	237.4	JDI - Jurassic dolerite	JDD	MG	A2/B/W	FRESH			1	PY	B/Q			CH/FE		V	A number of small CB Vns (sub 3mm) - about 12 present throughout interval at no particular orientation. Very small amount of disseminated PY present. At start of interval 50/50 Pyx/plag, with increasing % pyx towards end of interval.
KUTh	SEL 26/2005	Lake Leake	237.4	240	JDI - Jurassic dolerite	JDD	MG	A2/B/W	FRESH			1	PY	B/Q			FE/CH		V	Interval distinguished by 1cm wide CB vein running sub-vertical. FE oxides making pervasive print proximal to vein for as much as 2cm either side. PY found in clusters, but not cubic.
KUTh	SEL 26/2005	Lake Leake	240	241	JDI - Jurassic dolerite	JDD	MG	A/G2/D	FRESH					B			CH		V	Predominantly fresh, unaltered JDD with a vein at the last 10cm. Vein is weakly reactive with HCL, light pink-white in colour, has acicular/bladed zeolite xls
KUTh	SEL 26/2005	Lake Leake	241	242.8	JDI - Jurassic dolerite	JDD	MG	A/G2	FRESH					B			CH		V	AS above, with plag>pyx. Only about 30% pyx. Small 1mm CB vnlets throughout.
KUTh	SEL 26/2005	Lake Leake	242.8	247	JDI - Jurassic dolerite	JDD	MG	A/G2/D	FRESH					B/Q						Pyx increasingly dominant, up to 60%, forming medium grained sub-hedral xls. Several veins present, often forking, usually <3mm wide, dominantly Qz, with minor CL selvage. JDD xls often coarser when proximal to the vein.
KUTh	SEL 26/2005	Lake Leake	247	249.4	JDI - Jurassic dolerite	JDD	MG	G2/A/D	FRESH					Q			CH/EP		V	Plag decreasing, with interval dominated by very fine grained green plag groundmass. Several vns present, dominantly Qz. Vns tend to fork away from each other, but generally follow the same orientation. Veins have selvage and associated alteration inclu
KUTh	SEL 26/2005	Lake Leake	249.4	261.5	JDI - Jurassic dolerite	JDD	MG	G2/A/D	FRESH			<1	PY	Q/B			CH/EP/FE		V	Dolerite with increased pyx. Xls often euhedral. Interval contains small, often less than 5mm Qz dominated veins. sometimes vns have minor reaction with HCL. Some veins have no selvage, others with. . One of the larger veins (at approx. 255) displa
KUTh	SEL 26/2005	Lake Leake	261.5	270	JDI - Jurassic dolerite	JDD	MG	G2/W/A	FRESH			1	PY	B			CH/CY/FE		V	JDD as above, with a network of sub vertical CB and clay rich vns. Since extraction from hole, clays have swelled about 2X. Usually chalky white, to pale pink or green. Strong reaction with HCL. FE oxides and Chlorite found as alteration proximal to vein
KUTh	SEL 26/2005	Lake Leake	270	275	JDI - Jurassic dolerite	JDD	MG	A2/D/A	FRESH					Q/B			CH/FE		V	Standard med grained JDD, with several sub mm Qz/CB vns. Only 1 substantial vein at 272.1m - 1.5cm thick. Chlorite and Fe-oxide staining associated with veining, with a pervasive Fe oxide overprint extending up to 2cm either side of the vnlets. Chlorite
KUTh	SEL 26/2005	Lake Leake	275	276	JDI - Jurassic dolerite	JDD	MG	A2/D/A	FRESH			<1%	PY	Q/B						2 generations of veining i) occurs at 275.6 (photo) Dominantly very fine grained dark grey mudstone looking (some sort of mafic intrusion?) 1-3cm wide. Qz selvage. Contains disseminated Py; very minor. Second generation veining sub vertical qz/carbona

KUTh	SEL 26/2005	Lake Leake	276	279	JDI - Jurassic dolerite	JDD	MG	A2/A/G	FRESH					Q/B			CH		V	Several sub vertical vns, with 3 larger qz/carbonate vns. Display interesting dendritic like fracturing. Chl associated with vns, and soft Fe-rich mineral: looks rose pink, very soft like clay
KUTh	SEL 26/2005	Lake Leake	279	281	JDI - Jurassic dolerite	JDD	MG	A2/D/A1	FRESH			<1	PY	Q/B			CH/SD/CY		V	Darker JDD, with many fine grained black mafic xls. 2 thick vns of soft, cy rich carbonate. Vns also include zeolites, and are very apricot/pink in colour.
KUTh	SEL 26/2005	Lake Leake	281	284	JDI - Jurassic dolerite	JDD	MG	A2/A/G2	FRESH					Q/B			SD/CY		V	50/50 plag/pyx JDD. Includes very white Qz/CB vns up to 2-3mm thick. (only 3 vns present)Proximal to vns is rusty brown alteration mineral - siderite? Perhaps ankerite?
KUTh	SEL 26/2005	Lake Leake	284	287	JDI - Jurassic dolerite	JDD	MG	A/A2/G	FRESH					Q/B			CH		V	med. grained dolerite, with the inclusion of 5 qz/carbonate/prehnite dominated veins. The veins show a minor reaction with hcl; have a chlorite association, and pink (pervasive) Fe-staining. The thicker (up to 5mm) vns often have a coarse sand like text
KUTh	SEL 26/2005	Lake Leake	287	290	JDI - Jurassic dolerite	JDD	MG	A2/D/G2	FRESH											Med. grained dolerite, with enclaves of dark pyx phenocryst free
KUTh	SEL 26/2005	Lake Leake	290	293.7	JDI - Jurassic dolerite	JDD	MG	A2/D/G2	FRESH											Medium grained dolerite with no veining. Pyroxene forming euhedral xls. Spotty appearance 50/50 plag/pyx.
KUTh	SEL 26/2005	Lake Leake	293.7	295	JDI - Jurassic dolerite	JDD	MG	A2/G2	FRESH					B			CH		V	Dominantly fine grained dolerite, CB vns contain very white talc, regularly occurring. Dirty brown mineral found as a pervasive print; looks like oxidation of dolerite. Minor chlorite found in association with veining.
KUTh	SEL 26/2005	Lake Leake	295	298	JDI - Jurassic dolerite	JDD	MG	A/A2/G2	FRESH					B						Veins have a very soft white talk. Veins up to 4mm thick, in no particular orientation. very fine grained Pyx rich enclaves present
KUTh	SEL 26/2005	Lake Leake	298	304	JDI - Jurassic dolerite	JDD	MG	A/D/G2	FRESH			1	PY	Q						Medium grained dolerite with very little disseminated pyrite, and minor 1mm qz veining. Pyx forms euhedral xls.
				EOH																

Hole ID: Lemont

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Lemont	GDA94	547,437	5,322,898	333	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	96	19/12/2007	18/01/2008	Gerald Spalding Drilling
HQ core	96	246.2	05/03/2008	17/032008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Lemont	RC	0	3	JDI - Jurassic dolerite	JDD	-			Y/B	Clay soil	F,W	-	-	-	-	-	-	-	-	-	Yellow brown doleritic clay with minor weathered dolerite
KUTh	SEL 26/2005	Lemont	RC	3	6	JDI - Jurassic dolerite	JDD	-			L/A/O/B	USAP	F,W	-	-	-	-	-	-	-	-	-	Orangey brown and dark blue brown coarse angular sandy dolerite. Mottled and heavily weathered.
KUTh	SEL 26/2005	Lemont	RC	6	9	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above with fragment range increasing ie coarse sand to gravelly clayey doleritic fragments.
KUTh	SEL 26/2005	Lemont	RC	9	12	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	12	15	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	15	18	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	18	21	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above with increase in proportion of weathered fragments and increase in coarse sandy fragments.
KUTh	SEL 26/2005	Lemont	RC	21	24	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											Predominantly ferruginous dolerite.
KUTh	SEL 26/2005	Lemont	RC	24	27	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	27	30	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	30	33	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	33	36	JDI - Jurassic dolerite	JDD	-			L/A/O/B	SAP											As above.
KUTh	SEL 26/2005	Lemont	RC	36	39	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											Dolerite with a lower proportion of ferruginisation - becoming increasingly fresh and less oxidised.
KUTh	SEL 26/2005	Lemont	RC	39	42	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	42	45	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											Fresh fine grained dolerite coarse sandy fragments with very minor ferruginisation.
KUTh	SEL 26/2005	Lemont	RC	45	48	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above with increasing proportion of ferruginisation - possible fracture.
KUTh	SEL 26/2005	Lemont	RC	48	51	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above with increasing proportion of coarser fragments.
KUTh	SEL 26/2005	Lemont	RC	51	54	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											Fresh dolerite
KUTh	SEL 26/2005	Lemont	RC	54	57	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	57	60	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	60	63	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	63	66	JDI - Jurassic dolerite	JDD	SST			G/Y/B/L	FRESH		-	-	-	-	-	-				Contact zone b/w dolerite and quartz sandstone hornfels. Possible minor quartz carbonate veining.
KUTh	SEL 26/2005	Lemont	RC	66	69	Ru - Upper Parmeener Super Group	SST	-			Y/O/A	FRESH											Grey sandstone hornfels.
KUTh	SEL 26/2005	Lemont	RC	69	72	Ru - Upper Parmeener Super Group	SST	-			Y/O/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	72	75	Ru - Upper Parmeener Super Group	SST	-			Y/O/A	FRESH											As above.
KUTh	SEL 26/2005	Lemont	RC	75	78	Ru - Upper Parmeener Super Group	SST	-			Y/O/A	FRESH											sandstone with minor chlorite and serricite.
KUTh	SEL 26/2005	Lemont	RC	78	81	Ru - Upper Parmeener Super Group	SST	-			A/O/B	FRESH											Sandstone with increasing fragments of hornfelsic sandstone
KUTh	SEL 26/2005	Lemont	RC	81	84	Ru - Upper Parmeener Super Group	SST	JDD			L/D	FRESH											Contact zone b/w dolerite and quartz sandstone hornfels.
KUTh	SEL 26/2005	Lemont	RC	84	87	JDI - Jurassic dolerite	JDD	SST			L/D	FRESH											Minor hornfelsic sandstone fragments amongst fine grained dolerite
KUTh	SEL 26/2005	Lemont	RC	87	90	JDI - Jurassic dolerite	JDD	-			L/D	FRESH											Angular fine grained dolerite
KUTh	SEL 26/2005	Lemont	RC	90	93	JDI - Jurassic dolerite	-				-	FRESH											Missing Sample
KUTh	SEL 26/2005	Lemont	RC	93	96	JDI - Jurassic dolerite	JDD	-			L/A	FRESH											Fresh fine grained dolerite
				EOH																			
KUTh	SEL 26/2005	Lemont	DD-HQ	96.2	98.69	JDI - Jurassic dolerite	JDD		FG		A2	FRESH					B	2	A		CH		Fresh, fine grained dark grey dolerite with sub-parallel anastomising carbonate veining; viens between 3-15cm long. Veins are less than 0.5cm wide and have a light green tinge (most likely chlorite)
KUTh	SEL 26/2005	Lemont	DD-HQ	98.69	98.79	JDI - Jurassic dolerite	JDD		FG	Ineq.	W/G/I/B	FRESH											Whitish, greenish, pink brown carbonate (infill?) / (Vein?) / (clast?) with inequigranular crystals (grains?) between 0.5mm - 1cm; vuggy? Calcite? Biotite in patches/around edges, surrounded by 2-4cm cg, 50/50 black and white diorite-looking alteration with minor calcite clasts ~0.5cm in outer 10cm periphery.
KUTh	SEL 26/2005	Lemont	DD-HQ	98.79	99.07	JDI - Jurassic dolerite	JDD		FG			FRESH					C	1					Fine grained dolerite with 1% sub-horizontal calcite veins (<0.5mm wide)
KUTh	SEL 26/2005	Lemont	DD-HQ	99.07	99.4	JDI - Jurassic dolerite	JDD					FRESH											Whiteish-greenish-pinkish brown carbonate vein(?) vug / infill (similar to unit 98.69-98.79) but only in top 3cm in one side of the core. Core broken sub-horizontally 4 times. Alteration halo between 2-6cm. (given large crystal size in halo, looks like a heat phenomenon/or vuggy.)
KUTh	SEL 26/2005	Lemont	DD-HQ	99.4	101	JDI - Jurassic dolerite	JDD		FG		D	FRESH					C	1					Fine grained dolerite with 1% carbonate veins (~1mm wide) with no preferred orientation. 6 sub-horizontal fractures are present between 6 and 30cm apart
KUTh	SEL 26/2005	Lemont	DD-HQ	101	101.54	JDI - Jurassic dolerite	JDD		VFG		AY	FRESH											Large very fine-grained inclusion surrounded by 1-5cm biotite-speckled (50%) rim, diagonal to bedding. (inclusion; dolerite? Siltstone?-softer than surrounding JDD) Yellowish-grey in colour
KUTh	SEL 26/2005	Lemont	DD-HQ	101.54	110.1	JDI - Jurassic dolerite	JDD		FG/MG		A2	FRESH					B/C	<5					FG increasing to MG JDD, 10% fractured with less than 5% carbonate veins between 2mm - 1cm wide.
KUTh	SEL 26/2005	Lemont	DD-HQ	110.1	123.5	JDI - Jurassic dolerite	JDD		MG/CG		A2	FRESH					C	<1					MG - mildly-coarsening dolerite with <1% fracturing, minor veining (<1%), 1 calcite vein 1cm wide
KUTh	SEL 26/2005	Lemont	DD-HQ	123.5	124	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C						Fractured (20%) MG dolerite (30% Fs Xstals), veins <1mm width (% not recorded)
KUTh	SEL 26/2005	Lemont	DD-HQ	124	134	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C/B	<1					MG dolerite, 10% fracturing, <1% carbonate veins between 2mm-1cm wide
KUTh	SEL 26/2005	Lemont	DD-HQ	134	136	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C/B	<2					MG dolerite, 30% fractured, signs of surface weathering, <2% veining (carbonate)
KUTh	SEL 26/2005	Lemont	DD-HQ	136	148.3	JDI - Jurassic dolerite	JDD		MG		A2/G	FRESH									CH?/EF	F	Relatively cohesive MG dolerite (5% fracturing) with 1% carbonate veins, 1-5mm wide, some chlorite/epidote alteration (1 cleavage within green crystals)
KUTh	SEL 26/2005	Lemont	DD-HQ	148.3	165	JDI - Jurassic dolerite	JDD		MG		A2/G	FRESH					C/B						Highly fractured and weathered (30-40%) MG dolerite. Fractures commonly occur along mostly-deteriorating, 1-2cm wide, sub-parallel, carbonate veins which display some chlorite alteration
KUTh	SEL 26/2005	Lemont	DD-HQ	165	178.6	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C/B	<1					MG dolerite, 10% fracturing with fractures occurring between 3-20cm apart and mostly at 45^a; <1% carbonate veining

KUTh	SEL 26/2005	Lemont	DD-HQ	178.6	180.8	JDI - Jurassic dolerite	JDD		MG		A2/Y/G	FRESH					C/B	10%			CH		MG dolerite; highly fractured (70%) generally at 45^a, weathered and veined (10%, sub-parallel), veins 1-5mm wide; core structure is almost entirely lost and lies in 1-10cm blocks. Yellow-green weathering within carbonate veins
KUTh	SEL 26/2005	Lemont	DD-HQ	180.8	184.4	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C/B	1					Relatively coherent MG dolerite with 10% fracturing 10-30cm apart and at approximately 55^a. Mostly carbonate veining, 1mm-1cm wide with chlorite alteration.
KUTh	SEL 26/2005	Lemont	DD-HQ	184.4	191.2	JDI - Jurassic dolerite	JDD		MG		A2	FRESH					C/B	25-30			CH	U	Highly fractured (30-40%) dolerite, 25-30% carbonate veining with abundant chlorite alteration, veins 1-5mm wide and mostly at about 45^a. Within the rock, <1% disseminated chlorite crystals <0.5mm, sub-hedral, black, soft (H2-3)
KUTh	SEL 26/2005	Lemont	DD-HQ	191.2	204	JDI - Jurassic dolerite	JDD		FG/MG/GR		A2	FRESH					C/B				CH		FG grading to MG dolerite, 5-10% fracturing at many orientations. Carbonate veins are 1-3mm wide (%age not recorded), <1% chlorite crystals disseminated within the rock.
KUTh	SEL 26/2005	Lemont	DD-HQ	204	208.5	JDI - Jurassic dolerite	JDD		FG		A2	FRESH					C				CH		Fine-grained JDD with 15% veins (1-3mm wide) parallel to core (calcite), large (chloritised 1.5cm) clay clasts 1% assoc. with veins.
KUTh	SEL 26/2005	Lemont	DD-HQ	208.5	211.6	JDI - Jurassic dolerite	JDD		CG/VFG		A2	FRESH					C	<1					Coarse grained JDD within aphanitic VFG JDD (chlorite crystals<1%): possible chilled margin; however contact is sharp and no variation in grain size exists on CG side. <1% veins (1mm wide), 1% fractured - sub-parallel. 2cm clast/intrusion?
KUTh	SEL 26/2005	Lemont	DD-HQ	211.6	217.65	JDI - Jurassic dolerite	JDD		VFG		A2	FRESH					C/B	5%			CH		Very fine grained dolerite with 1% chlorite sub-hedral xstals, 10% fractured (closed) 5% carbonate veins (0.1mm wide)
KUTh	SEL 26/2005	Lemont	DD-HQ	217.65	229.49	JDI - Jurassic dolerite	JDD		CG/VFG		A2	FRESH			10	Py	C	30-40	T		CH		Coarse grained JDD, weakly magnetic with small patches of dense stockwork veining 1-2mm; 10% fractured; ~30-40% white carbonate veins with opaque-green (chloritic) crystals; A few VFG aphanitic inclusions/veins 6cm thick, 30cm long; 10% disseminated pyrite at the base and near the top of the unit; clay-like coarse-grained, highly altered and crumbled to 0.5-3cm blocks:-some sort of margin?
KUTh	SEL 26/2005	Lemont	DD-HQ	229.49	244.3	JDI - Jurassic dolerite	JDD		FG-MG/GR		A2	FRESH					C	20			CH		Fine grained grading to coarse grained JDD, highly fractured (25-30%) mild-highly weathered, 20% carbonate veining - 1-3mm width.
KUTh	SEL 26/2005	Lemont	DD-HQ	244.3	245.15	JDI - Jurassic dolerite	JDD				A2/G/B	FRESH					C				CH	U	Densely veined JDD, pervasively altered and 20-25% fractured with slickensides on fracture sufaces.
KUTh	SEL 26/2005	Lemont	DD-HQ	245.15	246.2	JDI - Jurassic dolerite	JDD		FG-CG			FRESH					C	30-40?	T		CH/FE		JDD, 90% deteriorated, weathered, fractured with mostly fine-coarse grained clasts, remnant calcite stockwork veining with a reddish-yellow-green alteration appearance.
					EOH																		

Geologist:

Hole ID: Macquarie

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Macquarie	GDA94	526,048	5,359,621	295	Vertical	No

#GDA

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102.5	01/04/2008	02/04/2008	Gerald Spalding Drilling
HQ core	102.5	223.7	14/04/2008	21/04/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+Ore_%	Sulph+ Ore_Type	Vn_Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Macquarie	102	109.6	Ru - Upper Parmeener Supergroup	SQ	SFE	CG, WQ	MG-CG, W(	Y-O-B / G2			0	0		C	1-2%	L? S?		BI? CY?		Weathered, coarse grained, sandy yellow-orange, equigranular quartz sandstone with minor patches of dark grey lithic (?) ferruginous(?) sandstone (patches: 2-6cm wide and 30-50cm apart). Coarse-grain (1-3mm) disseminated flecks of soft, brown-black, altered (?) inclusions(?) (biotite?); regular bands of biotite occurring 0.5-2mm apart (bedding?) Cross bedding seems apparent although a little difficult to tell with coarse grains; within first 60 cm, large (5cm diam) sub-rounded iron stained, brown-black-red inclusion. Core is severely fractured ~80%, remnants of carbonate veining along fracture planes (1-2%) occassional patches of water staining.
KUTh	SEL 26/2005	Macquarie	109.6	110.23	Ru - Upper Parmeener Supergroup	SQ		FG-MG		D/B/C-Y			0	0		CLAY	<1			CY?		Deeply weathered and strongly stock-work fractured (~40%) FG-MG feldspathic? sandstone with 1 mm red-brown clay fracture-fill; Coarse-grain (1-3mm) disseminated flecks of soft, brown-black, altered (?) inclusions(?) (biotite?) (as above); Fine laminated layers of (muscovite ? - silvery opaque sheen)
KUTh	SEL 26/2005	Macquarie	110.23	112	Ru - Upper Parmeener Supergroup	SQ/SL		MG-VCG		W-B1-O1	F		0									Inequigranular MG-VCG quartz sandstone with 5-10% xenolithic inclusions: sub-rounded - elongated, 0.5cm-3.5cm diameter / width, mainly light brown and dark brown, soft clay. Inclusions appear to be oriented ~30degrees to bedding; 10-15% fracturing (accross core), well lithified 30-40% core intact.
KUTh	SEL 26/2005	Macquarie	112	12.35	Ru - Upper Parmeener Supergroup	SQ	SFE	CG, WQ	MG-CG, W(	Y-O-B / G2			0	0		C	1-2%	L? S?		BI? CY?		Weathered, coarse grained, sandy yellow-orange, equigranular quartz sandstone with minor patches of dark grey lithic (?) ferruginous(?) sandstone (patches: 2-6cm wide and 30-50cm apart). Coarse-grain (1-3mm) disseminated flecks of soft, brown-black, altered (?) inclusions(?) (biotite?); regular bands of biotite occurring 0.5-2mm apart (bedding?) Cross bedding seems apparent although a little difficult to tell with coarse grains; Core is severely fractured ~20% coherent core, remnants of carbonate veining along fracture planes (1-2%) occassional patches of slight water staining. (Similar to unit at 102 - 109.6M)
KUTh	SEL 26/2005	Macquarie	12.35	113.6	Ru - Upper Parmeener Supergroup																	"SAND CORE LOSS"
KUTh	SEL 26/2005	Macquarie	113.6	118.7	Ru - Upper Parmeener Supergroup	SQ		CG		Y-O-B / G2	?	?	0									Weathered / oxidised yellow-orange light brown quartz sandstone with 10% coarse, disseminated, dark-brown, possibly altered mineral (Hardness 4 - maybe biotite?); patches of fine lamination (0.5-1mm wide) and 1-10mm apart (2 patches ~10-15 cm thick), dark brown and soft (clay?); <1% iron-rich clay blebbs (oxidised) sub-rounded-subangular 1-4cm; <1% muscovite flecks (<1mm); 10-20% of core intact.
KUTh	SEL 26/2005	Macquarie	118.7	120.27	Ru - Upper Parmeener Supergroup	SQ/SF	SQ/SF	FG / WQ	VFG (mud)	Y-B2	?	?	0	0		?	Type ur	W, soft, no reaction				Fine grained sandstone (quartz? feldspathic?) with 2 coarse mud inclusions (~5cm thick). Core 75% intact; dark brown-black speckled texture (seen on cross-section but not on core surface) comprising varying percentages - 10-60% of core, speckles are soft and sub-rounded (uncertain if inclusions or alterations
KUTh	SEL 26/2005	Macquarie	120.27	121.9	Ru - Upper Parmeener Supergroup	SQ		WQ, MG-FG		Y-B-O/D			0	<1	Py							Weathered, MG-FG quartz sandstone with bands of brown-black speckled (clay? Biotite?) texure as in above units; core 35-40% intact, very crumbly/muddy.
KUTh	SEL 26/2005	Macquarie	121.9	122.8	Ru - Upper Parmeener Supergroup	SQ		WQ, CG, MA		B-O						C		A				Darkish brown- orange weathered, well lithified, CG sandstone with 1-2% anastomising calcite vieing: viens 0.5mm-0.75mm wide and angular, core 40% intact
KUTh	SEL 26/2005	Macquarie	122.8	123.7	Ru - Upper Parmeener Supergroup																	"1M CORE LOSS"
KUTh	SEL 26/2005	Macquarie	123.7	123.9	Ru - Upper Parmeener Supergroup	SQ		WQ,CG,MA		W,G,B1												Well lithified, whitish brown-grey equigranular sandstone, 30% core intact.
KUTh	SEL 26/2005	Macquarie	123.9	125.4	Ru - Upper Parmeener Supergroup	SF		WQ,FG,MG		Y-B												Well lithified, F-MG weathered sandstone with minor Fe-stained clasts (<1%) 1 cm wide, core 95% intact
KUTh	SEL 26/2005	Macquarie	125.4	126.5	Ru - Upper Parmeener Supergroup	SQ/SF		CG		Y-O-B/D												Coarse-grained weathered sandstone with large (2-6cm) clasts (clay, SQ) elongated, horizontal to core (2%) and minor beds of varying grainsize, core 90% intact.
KUTh	SEL 26/2005	Macquarie	126.5	126	Ru - Upper Parmeener Supergroup	SQ/SF		WQ, CG, MA		YOB												Well-lithified, coarse-grained and weathered equigranular sandstone with sub-horizontal bedding and 90% core intact.
KUTh	SEL 26/2005	Macquarie	126	126.7	Ru - Upper Parmeener Supergroup																	"0.7 SAND CORE LOSS"
KUTh	SEL 26/2005	Macquarie	126.7	130.7	Ru - Upper Parmeener Supergroup	SQ/SF		CG-MG		Y-O-B/A2												Well lithified, weathered sandstone with patches of VCG, grey-white sandstone sub-horizontal bedding; large Fe-stained blebbs (3-4cm) present at 130.3, core 70% intact, breaks are perpendicular to core
KUTh	SEL 26/2005	Macquarie	130.7	136.6	Ru - Upper Parmeener Supergroup	SF	SQ	VFG	CG	W-WP/Y-O/GW												Contact 30^a. Very fine grained feldspathic sedimentary unit, poorly consolidated with intersperses (10cm - ~1m apart) of well lithified sandstone. 50% core intact.
KUTh	SEL 26/2005	Macquarie	136.6	138.8	Ru - Upper Parmeener Supergroup	Clay		VFG		PB/YG/WAY/D2												Similar lithology to above with monomict, sub-angular, ferruginised clay clast inclusions. Lithology transitions into yellow-green clay bx and then into a yellow--grey-white clay and then a dark black-grey clay.
KUTh	SEL 26/2005	Macquarie	138.8	142.2	Ru - Upper Parmeener Supergroup	SU	ST	VFG,MA	VFG,MA	D/A2				<1	Py							Pyritic shale mudstone, 40% fractured in patches
KUTh	SEL 26/2005	Macquarie	142.2	147.7	Ru - Upper Parmeener Supergroup	ST		FG		D/A2				<2	Py	C	<1	S				Moderately fractured (~50%) pyritic shale featuring soft-sediment deformation on mm-cm scale, 5mm wide, sub-horizontal calcite veins (20cm) with large associated blebbs of pyrite, 2-5% cm-sized clay xenoliths.
KUTh	SEL 26/2005	Macquarie	147.7	151.1	Ru - Upper Parmeener Supergroup	ST	ST	VFG		D/A1-W				5	Py	C	2	S				Dark pyritic shale interspersed with 2 x 0.5m-1m beds of lighter grey, soft sediment deformed conglomerates, pyrite clasts throughout both lithologies ranging from 1mm-4cm anhedral clusters; viens are sub parallel to bedding ~5mm wide, core relatively intact, ~10% fracturing, generally split along the core.
KUTh	SEL 26/2005	Macquarie	151.1	164.5	Ru - Upper Parmeener Supergroup	ST		VFG		D2-A2				2	Py	C	1	S				Coherent dark pyritic shale with mm-cm scale soft sediment deformation and <1% calcite viens (5mm wide); pyrite clusters/blebbs also associated with veins
KUTh	SEL 26/2005	Macquarie	164.5	166.5	Ru - Upper Parmeener Supergroup	ST		VFG		D2-A2				1	Py	C	<1	S				50-60% fracture zone in dark cohesive pyritic shale. Calcite viens 0.5mm-1cm wide - pyrite associated with viens, soft sediment deformation, <1% intra-clasts, fractures in varying orientations.
KUTh	SEL 26/2005	Macquarie	166.5	174.7	Ru - Upper Parmeener Supergroup	ST		VFG		D2,A2,W-A				2-3	Py	C	<1	S				Dark soft sediment deformation shale with 10-15% clasts: angular - sub-rounded 0.5cm-2.5cm. Composed of medium and coarse-grained clasts, fine-grained clasts and pyrite clasts. <0.5cm calcite viens - pyrite associated. Relatively competant core 2-5% fractured. lighter grey-white towards end of unit.
KUTh	SEL 26/2005	Macquarie	174.7	176.2	Ru - Upper Parmeener Supergroup	ST		VFG		D2/A2				1	Py	C	20	S				Dark soft sediment deformed pyritic shale, highly fractured (40%) large 2-3cm wide calcite viens (associated pyrite) calcite xstals - cm scale. (appears to be wateredzone - alittle muddy in fractures)

KUTh	SEL 26/2005	Macquarie	176.2	178.55	Ru - Upper Parmeener Supergroup	ST		VFG		D/A2				1	Py							Dark pyritic shale soft sed deformation, 2% cm-sized inclusions (pyrite and CG, MG SS) core 95% intact.
KUTh	SEL 26/2005	Macquarie	178.55	182.5	Ru - Upper Parmeener Supergroup	ST		VFG		A/A2				1	Py	C	3-5	S/A?				Grey shale w minor pyrite, soft sediment deformation on cm scale, series of sheeted clacite veins with pyrite around perimeter (2mm either side)
KUTh	SEL 26/2005	Macquarie	182.5	223.8	Ru - Upper Parmeener Supergroup	ST		VFG		A/A2				1	Py	C	1	S				Grey shale, minor pyrite, fine sheeted calcite veins with associated pyrite (0.5-1mm) with occassional sub-angular 1-2cm dropstones (2%) and soft sediment deformation, 50cm patch of elongated pyrite grains 1 cm apart and 1 cm long/ core 95% coherent and intact.
			EOH																			

Lithology Summary:

Geologist:

Entirely sedimentary.

103.2 - 137.91 Weathered and occassionaly oxidised and fractured sandstone, grading from CG - FG - VFG. Light yellow-oranges brownish with patches of disseminated CG biotite, clay inclusions, darker blackish patches, sulphide patches (pyrite), speckled black banding,

137.91 - 223.8 (EOH) Dark Black-grey mudstone with occassional patches of carbonate veining: pyritisation and possibly some chalcopyrite associated with the veins.

Hole ID: Marion

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Marion	GDA94	568,645	5,260,030	81	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	09/06/2008	12/06/2008	Gerald Spalding Drilling
HQ core	102	251.6	02/07/2008		Gerald Spalding Drilling

Hole ID: Murdunna

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Murdunna	GDA94	573,413	5,242,021	139	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102.4	17/06/2008	19/06/2008	Gerald Spalding Drilling

Hole ID: Native Hut

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Native Hut	GDA94	530,061	5,284,634	378	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	25/06/2008	26/06/2008	Gerald Spalding Drilling

Hole ID: Nicholas

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Nicholas	AGD66	587,849	5,401,256	398	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
HQ core	0	249.7	22/04/2008	05/05/2008	Gerald Spalding Drilling

Hole ID: Nunamara

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Nunamara	GDA94	528,262	5,415,737	727	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	60	16/05/2008	21/05/2008	Gerald Spalding Drilling
HQ core	60	249.7	26/05/2008	02/06/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+Ore_%	Sulph+Ore_Type	Vn_Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	TCZ- 26/2005	Nunamura	RC	0	3	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/O	LSAP	-	-	-	-	-	-	-	-	-	-	Predominantly strongly Fe rich orange doleritic clay with minor serricite and sparse strongly weathered dolerite fragments.
KUTh	TCZ- 26/2005	Nunamura	RC	3	6	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above.
KUTh	TCZ- 26/2005	Nunamura	RC	6	9	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above.
KUTh	TCZ- 26/2005	Nunamura	RC	9	12	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above.
KUTh	TCZ- 26/2005	Nunamura	RC	12	15	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above with fresh broken dolerite fragments subordinate to doleritic clay.
KUTh	TCZ- 26/2005	Nunamura	RC	15	18	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/Y/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above.
KUTh	TCZ- 26/2005	Nunamura	RC	18	21	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/Y/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	Mottled doleritic clay and strongly weathered dolerite. Probably redox front.
KUTh	TCZ- 26/2005	Nunamura	RC	21	27	Jdl - Jurassic Dolerite	JDD	-	LCY	-	B/Y/O	LSAP/SAPRK	-	-	-	-	-	-	-	-	-	-	As above with paler less Fe staining and possible increase(?) in serricite.
KUTh	TCZ- 26/2005	Nunamura	RC	27	30	Jdl - Jurassic Dolerite	JDD	-	LCY/LGR	-	A/B/O	FRESH	-	-	-	-	-	-	-	-	-	-	Predominantly small dolerite fragments within weathered dolerite clay.
KUTh	TCZ- 26/2005	Nunamura	RC	30	42	Jdl - Jurassic Dolerite	JDD	-	LGR	-	A/B/W	FRESH	-	-	-	-	-	-	-	-	-	-	Medium grained dolerite with very minor biotite phenocrysts and serricite. Minor quartz/carbonate veins also present (<2%).
KUTh	TCZ- 26/2005	Nunamura	RC	42	51	Jdl - Jurassic Dolerite	JDD	-	FRESH	-	A1/A/W	FRESH	-	-	-	-	-	-	-	10	CH	SP	As above with a significant increase in quartz/carbonate/zeolite associated with veining/faulting (15 - 30%).
KUTh	TCZ- 26/2005	Nunamura	RC	51	54	Jdl - Jurassic Dolerite	JDD	?R/SQT	FRESH	LA	A1/A/B1/O	FRESH	-	-	-	-	-	-	-	-	-	-	Predominantly medium grained ophitic dolerite intermixed with weathered Fe stained dolerite fragements associated with faulting/fractures. Serricite common. Anomalous quartz lithic fine grained sandstone clast within chip sample - of Parmeener origin.
					EOH																		

Geologist:

Hole ID: Oatlands

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Oatlands	GDA94	530,498	5,320,450	559	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	84	01/07/2008	03/07/2008	Gerald Spalding Drilling

Hole ID: Perth

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Perth	GDA94	513,500	5,399,080	200	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	14/05/2008	15/05/2008	Gerald Spalding Drilling
HQ core	102	252.7	20/05/2008	26/05/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock1_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+Or e _Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Perth	RC	0	3	Jdl - Jurassic Dolerite	JDD	MG	A2/A/B	SAP		-	-	-	-	-	-	15	CY	U	Lightly weathered, medium grained ophitic dolerite. Very minor (<2%) brown doleritic clay most likley asociated with weathered jointing or minor faulting. Dolerite occurring as small gravelly fragments.
KUTh	SEL 26/2005	Perth	RC	3	6	Jdl - Jurassic Dolerite	JDD	MG	A2/A/B	SAP	-	-	-	-	-	-	-	10	CY	U	As above with a slight decrease in weathering.
KUTh	SEL 26/2005	Perth	RC	6	9	Jdl - Jurassic Dolerite	JDD	MG	A2/A/B/O	SAP	-	-	-	-	-	-	-	5	CY	U	As above.
KUTh	SEL 26/2005	Perth	RC	9	12	Jdl - Jurassic Dolerite	JDD	MG	A2/A/B/O	FRESH	-	-	-	-	-	-	-	-	-	-	As above but the chips have decreased to large sand size dolerite fragments. Suggestive of an increase in fractured dolerite in this zone. Clay content <1%.
KUTh	SEL 26/2005	Perth	RC	12	69	Jdl - Jurassic Dolerite	JDD	MG	A2/D	FRESH	-	-	-	-	-	-	-	-	-	-	Fresh unweathered medium grained ophitic dolerite.
KUTh	SEL 26/2005	Perth	RC	69	75	Jdl - Jurassic Dolerite	JDD	MG	A2/D	FRESH	-	-	-	-	Q/B	<2%?	?D	-	-	-	As above with minor quartz carbonate vein debris present within chips.
KUTh	SEL 26/2005	Perth	RC	75	93	Jdl - Jurassic Dolerite	JDD	MG	A2/D	FRESH	-	-	-	-	-	-	-	-	-	-	Fresh unweathered medium grained ophitic dolerite.
KUTh	SEL 26/2005	Perth	RC	93	96	Jdl - Jurassic Dolerite	JDD	MG	A2/D	FRESH	-	-	-	-	Q/B	<2%?	?D	-	-	-	As above with minor quartz carbonate vein debris present within chips.
KUTh	SEL 26/2005	Perth	RC	96	102	Jdl - Jurassic Dolerite	JDD	MG	A2/D	FRESH	-	-	-	-	-	-	-	-	-	-	Fresh unweathered medium grained ophitic dolerite.
					EOH																

Hole ID: Rheban

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Rheban	GDA94	572,790	5,279,433	79	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	101.8	03/06/2008	05/06/2008	Gerald Spalding Drilling
HQ core	101.8	247	18/06/2008	01/07/2008	Gerald Spalding Drilling

Hole ID: Runnymede

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Runnymede	GDA94	546,175	5,280,238	247	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	85.3	06/06/2008	09/06/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	RIG	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_Qu al	Description
KUTh	SEL 26/2005	Runnymede	RC	0	3	Ru - Upper Parmeener Supergroup	RSS		S/MG		B	SOIL	F	0		-	-				-	-	Weathered and ferruginised medium grained quartz sandstone
KUTh	SEL 26/2005	Runnymede	RC	3	6	Ru - Upper Parmeener Supergroup	RSS		MA/MG		A1	SAP		0		-	-				-	-	Weakly weathered, with low clay content. Light grey quartz sandstone with minor black lithic constituent
KUTh	SEL 26/2005	Runnymede	RC	6	9	Ru - Upper Parmeener Supergroup	RSS		MA/MG		A1	SAP		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	9	12	Ru - Upper Parmeener Supergroup	RSS		MA/MG		A1	SAP		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	12	15	Ru - Upper Parmeener Supergroup	RSS		MA/MG		A1	FRESH		0		-	-				-	-	As above, becoming fresh
KUTh	SEL 26/2005	Runnymede	RC	15	18	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	Fine grained fresh unaltered dolerite
KUTh	SEL 26/2005	Runnymede	RC	18	21	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	21	24	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	24	27	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	27	30	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	30	33	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	33	36	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	36	39	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	39	42	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	42	45	JDI - Jurassic Dolerite	JDD		FG		A2	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	45	48	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	Q				-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	48	51	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	-				-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	51	54	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	-				-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	54	57	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	Q				-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	57	60	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	Q				-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	60	63	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH		0		-	B	5			-	-	Quartz % increases dramatically, partly due to veining (?) and partly due to composition of the dolerite.
KUTh	SEL 26/2005	Runnymede	RC	63	66	JDI - Jurassic Dolerite	JDQ		MG		A2	FRESH	F	3-5		-	B	<5			-	-	Minor carbonate veining, with associated fe-alteration. Possible minor shear.
KUTh	SEL 26/2005	Runnymede	RC	66	69	JDI - Jurassic Dolerite	JDQ		MG		A2/W	FRESH		0		-					-	-	Quartz % increasing more. Approaching composition of a dacite.
KUTh	SEL 26/2005	Runnymede	RC	69	72	JDI - Jurassic Dolerite	JDQ		CG		A2/W	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	72	75	JDI - Jurassic Dolerite	JDQ		CG		A2/W	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	75	78	JDI - Jurassic Dolerite	JDQ		CG		A2/W	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	78	81	JDI - Jurassic Dolerite	JDQ		CG		A2/W	FRESH		0		-	-				-	-	As above
KUTh	SEL 26/2005	Runnymede	RC	81	84	JDI - Jurassic Dolerite	JDQ		CG		A2/W	FRESH		0		-	-				-	-	As above
					EOH											-	-				-	-	

Geologist:

Hole ID: Sloping

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Sloping	GDA94	552,365	5,236,613	156	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	12/06/2008	16/06/2008	Gerald Spalding Drilling

Hole ID: Snow Hill

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Snow Hill	GDA94	572,873	5,358,389	749	Vertical	Yes

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	126	01/11/2007	07/11/2007	Gerald Spalding Drilling
HQ core	126	279.3	04/12/2007	07/12/2007	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_Qual	Description
KUTh	SEL 26/2005	Snow Hill	RC	0	3	Jdl - Jurassic Dolerite	JDD	-		-	A/O	SAPRK	F	0	0	-	-						Weakly ferruginised doleritic saprock. Magnetite present - moderately magnetic
KUTh	SEL 26/2005	Snow Hill	RC	3	6	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Snow Hill	RC	6	9	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	9	12	Jdl - Jurassic Dolerite	JDD	-		-	A/O	Fresh	-	0	0	-	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	12	15	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	15	18	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	18	21	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	21	24	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	24	27	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						Coherent fresh unweathered dolerite. Moderately magnetic.
KUTh	SEL 26/2005	Snow Hill	RC	27	30	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Dolerite chips fining
KUTh	SEL 26/2005	Snow Hill	RC	30	33	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	33	36	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Chips coarsing
KUTh	SEL 26/2005	Snow Hill	RC	36	39	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	39	42	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	42	45	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	45	48	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	48	51	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - with minor weathered dolerite ?fault, <2mm wide. No sense of movement or direction
KUTh	SEL 26/2005	Snow Hill	RC	51	54	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - minor ?biotite
KUTh	SEL 26/2005	Snow Hill	RC	54	57	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	57	60	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	60	63	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	63	66	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	66	69	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	<1	Py	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	69	72	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above - Dolerite chips fining with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	72	75	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	75	78	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	<1	Py	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	78	81	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	81	84	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	<1	Py	-						As above - Dolerite chips with very minor weathered orange dolerite chip fragments (<2%)
KUTh	SEL 26/2005	Snow Hill	RC	84	87	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	87	90	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	90	93	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	93	96	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	96	99	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	99	102	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	102	105	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	105	108	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	108	111	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	111	114	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	114	117	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	117	120	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	<1	Py	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	120	123	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	0	-	-						As above
KUTh	SEL 26/2005	Snow Hill	RC	123	126	Jdl - Jurassic Dolerite	JDD	-		-	A	Fresh	-	0	<1	Py	-						As above
					EOH	**C Drilling and Beginning of Diamon**																	
KUTh	SEL 26/2005	Snow Hill	DD	126	127.3	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					Q/B						Med-grained fresh dolerite, with a Qz dominated, minor carbonate 5mm vein intersecting sub-vertical.
KUTh	seL 26/2005	Snow Hill	DD	127.3	145.3	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											
KUTh	SEL 26/2005	Snow Hill	DD	145.3	151	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											As above, but plag xls (still med-grained) but smaller than previous interval.
KUTh	SEL 26/2005	Snow Hill	DD	151	152	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					Q/B						dolerite as above, but includes sub vertical qz/carbonate 5mm vein.
KUTh	SEL 26/2005	Snow Hill	DD	152	155.5	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											dolerite as above
KUTh	SEL 26/2005	Snow Hill	DD	155.5	156.8	Jdl - Jurassic Dolerite	JDD		FG		A2	Fresh											dolerite very fine grained, no phenocrysts of plag
KUTh	SEL 26/2005	Snow Hill	DD	156.8	187.2	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											dolerite has a bit of a green tinge, about 50% med-grained (up to 6mm long) plag xls. No veins/fractures.

KUTh	SEL 26/2005	Snow Hill	DD	187.2	188.6	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					B						Dolerite as above, with the inclusion of a 5mm carbonate vein. Very minor chlorite associated with the vein. The carbonate mineral is very white, bladed, with blades shiny and up to a few centimeters long wollastonite(?)
KUTh	SEL 26/2005	Snow Hill	DD	188.6	201.9	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											Dolerite with about 30% med-grained plag phenocrysts.
KUTh	SEL 26/2005	Snow Hill	DD	201.9	202.9	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					B						Dolerite as above, with a 7mm carbonate vein filled with radiating bladed masses of wollastonite.
KUTh	SEL 26/2005	Snow Hill	DD	202.9	218.3	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											50% plag med-grained dolerite
KUTh	SEL 26/2005	Snow Hill	DD	218.3	219.8	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					B/Q						dolerite as above with 5mm carbonate/qz sub-vertical vein.
KUTh	SEL 26/2005	Snow Hill	DD	219.8	225	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											50% plag med-grained dolerite
KUTh	SEL 26/2005	Snow Hill	DD	225	228	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											up to 60% plag
KUTh	SEL 26/2005	Snow Hill	DD	228	236	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											standard med-grained 40-50% plag dolerite
KUTh	SEL 26/2005	Snow Hill	DD	236	236.4	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					B/Q						as above, with 2 minor (3mm) carbonate/qz veins.
KUTh	SEL 26/2005	Snow Hill	DD	236.4	263	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											40-50% plag med-grained dolerite
KUTh	SEL 26/2005	Snow Hill	DD	263	268	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											finer grained dolerite, with 30-40% plag.
KUTh	SEL 26/2005	Snow Hill	DD	268	275.4	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											Fresh dolerite and vein. Alteration free. No fractures. 7mm wide with an aureole of coarser grained, plag rich, about 1cm wide either side. This vein is dominantly qz with minor carbonate.
KUTh	SEL 26/2005	Snow Hill	DD	275.4	276.8	Jdl - Jurassic Dolerite	JDD		MG		A2/A/W	Fresh					B/Q						40-50% med-grained dolerite.
KUTh	SEL 26/2005	Snow Hill	DD	276.8	279.3	Jdl - Jurassic Dolerite	JDD		MG		A2/A	Fresh											dolerite with 30-40% plag. Many enclaves of very fine grained dolerite with no phenocrysts.
					EOH																		

Hole ID: Sorell

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Sorell	GDA94	550,181	5,,260,122	50	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	23/06/2008	24/06/2008	Gerald Spalding Drilling

Hole ID: Swan1

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Swan1	GDA94	586,856	5,362,471	444	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	15	07/11/2007	08/11/2007	Gerald Spalding Drilling

Hole ID: Swan2

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Swan2	GDA94	588,108	5,359,271	126	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	150	09/11/2007	14/11/2007	Gerald Spalding Drilling
HQ core	150	300	13/12/2007	18/12/2007	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_ %	Vn_Q ual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Swan3	0	3	Jdl - Jurassic Dolerite	JDD	-	-	-	A1/O1	USAP	F	0	0	-	-				-	-	Upper saprolite. Weathered insitu dolerite. Predominantly Light grey/pale orange doleritic clay intermixed with dolerite gravel fragments.
KUTh	SEL 26/2005	Swan3	3	6	Jdl - Jurassic Dolerite	JDD	-	-	-	O	LSAP	F	0	0	-	-				-	-	Lower saprolite. Weathered insitu dolerite. Predominantly dolerite gravel fragments with lower proportion of orange doleritic clay.
KUTh	SEL 26/2005	Swan3	6	9	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	SAPRK	F	0	0	-	-				-	-	Fresh dolerite comprising ~50%. The remaining 50% FeO weathered dolerite chips
KUTh	SEL 26/2005	Swan3	9	12	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	SAPRK	F	0	0	-	-				-	-	Weakly ferruginised doleritic saprock. Magnetite present - moderately magnetic
KUTh	SEL 26/2005	Swan3	12	15	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	SAPRK		0	0	-	-				-	-	As above with increasing proportion of fresh dolerite
KUTh	SEL 26/2005	Swan3	15	18	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	Fresh coherent dolerite containing moderate amount of magnetite.
KUTh	SEL 26/2005	Swan3	18	21	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	21	24	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	FRESH		0	0	-	-				-	-	Weathered coherent dolerite ~50% intermixed with fresh unweathered dolerite
KUTh	SEL 26/2005	Swan3	24	27	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	Fresh coherent dolerite containing moderate amount of magnetite.
KUTh	SEL 26/2005	Swan3	27	30	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	30	33	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	FRESH		0	0	-	-				-	-	Fresh coherent dolerite containing moderate amount of magnetite and minor amount of yellow/green sandy clay. Presumably micro fault.
KUTh	SEL 26/2005	Swan3	33	36	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	36	39	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	39	42	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	42	45	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	FRESH		0	0	-	-				-	-	As above - chips fining.
KUTh	SEL 26/2005	Swan3	45	48	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	48	51	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	Fresh dolerite with minor FeO chips < 2%
KUTh	SEL 26/2005	Swan3	51	54	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	Fresh dolerite with minor FeO chips < 2%
KUTh	SEL 26/2005	Swan3	54	57	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	Fresh coherent dolerite containing moderate amount of magnetite.
KUTh	SEL 26/2005	Swan3	57	60	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	60	63	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	63	66	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	66	69	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	69	72	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	72	75	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	75	78	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	78	81	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	81	84	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	84	87	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	87	90	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	90	93	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	93	96	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	96	99	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	99	102	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	102	105	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	105	108	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	108	111	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	111	114	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	114	117	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	117	120	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	120	123	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	123	126	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	126	129	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	129	132	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	132	135	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	135	138	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	138	141	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	141	144	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	144	147	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
KUTh	SEL 26/2005	Swan3	147	150	Jdl - Jurassic Dolerite	JDD	-	-	-	A	FRESH		0	0	-	-				-	-	As above
				EOH																		
KUTh	SEL 26/2005	Swan3	149.9	162	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH					Q						fresh dolerite with 4 minor 1-3mm qz veins. about 30% pyroxene phenocrysts up to 1.5cm long in the dolerite.
KUTh	SEL 26/2005	Swan3	162	163	Jdl - Jurassic Dolerite	JDD		CG		A/A2/D	FRESH											Pyx rich interval, at about 70-80%. Euhedral xls up to 1cm long. Light grey plagiocalse groundmass.
KUTh	SEL 26/2005	Swan3	163	165	Jdl - Jurassic Dolerite	JDD		CG		A2/A/D	FRESH					B/Q				CH/SD	V	Coarse grained dolerite, with pyroxene about 40%, xls up to 16mm long. 1 small (about 3mm wide) carbonate/qz vein with lenses of chlorite, and associated siderite. Vein creamy green in colour.

KUTh	SEL 26/2005	Swan3	165	165.3	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W/D	FRESH					Q/B				CH/EP/S	V	Interesting vein 4mm thick, composed of very crystalline fragments of qz and calcite, and unfilled with chlorite. Cutting this vein is a sub-horizontal carbonate vein with epidote and siderite alteration associated. Photo
KUTh	SEL 26/2005	Swan3	165.3	189.6	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH					Q				CH	V/F	long interval of fresh dolerite with minor (5) qz veins. Veins have distinct formation of crystals, and in filled with soft black chlorite
KUTh	SEL 26/2005	Swan3	189.6	192.3	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W	FRESH					Q				CH	V	Relatively large number of qz veins (8) over a short interval, up to 7mm wide. The larger veins have an Fe 'halo', and the smaller veins are distinctly layered - from the centre out: qz; surrounded by chlorite; with qz perimeter.
KUTh	SEL 26/2005	Swan3	192.3	194.3	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH											fresh dolerite
KUTh	SEL 26/2005	Swan3	194.3	195	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W	FRESH					B/Q						small interval, with nice carbonate/qz veins with very euhedral calcite xls showing perfect rhombohedral cleavage (within fractured surface of the carbonate veins)
KUTh	SEL 26/2005	Swan3	195	203.4	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W	FRESH					Q/B				CH	V	fresh dolerite, with 2 qz dominated veins.
KUTh	SEL 26/2005	Swan3	203.4	203.5	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W	FRESH					B/Q				CH	V	Interesting vein, fractured surface displays very fine and fibrous xls - strongly acicular xls radiating outwards from a central pt. Vitreous sub mm length xls.... Zeolites
KUTh	SEL 26/2005	Swan3	203.5	206.4	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH											fresh dolerite
KUTh	SEL 26/2005	Swan3	206.4	209.2	Jdl - Jurassic Dolerite	JDD		CG		A2/A/G/W	FRESH					Q/B				CH/EP	V	Interval with 7 veins, most about 5mm. Qz dominated, with lenses of chlorite within. Some with distinct melting pattern/texture (see photos). Dolomite/dolostone present, proximal to vein. A couple of the veins show the Fe 'halo'. Photo
KUTh	SEL 26/2005	Swan3	209.2	213.5	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH											fresh dolerite
KUTh	SEL 26/2005	Swan3	213.5	219	Jdl - Jurassic Dolerite	JDD		CG		A2/A/W/G	FRESH		Y			B/Q				CH/SR/C	V	Interval rich in many small carbonate veins. Lenses of chlorite very common forming along edges of the vein. at 213.6 a sub-horizontal 3cm wide clay rich shear zone occurs. Many of the veins have a lighter green aureole with and without Fe-staining.
KUTh	SEL 26/2005	Swan3	219	220.5	Jdl - Jurassic Dolerite	JDD		CG		A2/A	FRESH											fresh dolerite.
KUTh	SEL 26/2005	Swan3	220.5	220.6	Jdl - Jurassic Dolerite	JDD		CG		A/G/W	FRESH		Y			B				CY/SD/C	V	3cm wide shear zone, rich in carbonate rich clays . Mildly brecciated , with carbonate veinlets on either side
KUTh	SEL 26/2005	Swan3	220.6	229.1	Jdl - Jurassic Dolerite	JDD		CG		A/A2	FRESH					Q/B				CH	V/S	fresh dolerite with minor qz dominated veining. One of the veins has a 5mm zone of dolostone full of lenses of chlorite, clay rich. Could possibly be a very small shear zone.
KUTh	SEL 26/2005	Swan3	229.1	229.6	Jdl - Jurassic Dolerite	JDD		FR		A/A2	FRESH					Q				CH	V	Strongly fractured zone, generally fracturing in line with very small veinlets of quartz. within vein -talc
KUTh	SEL 26/2005	Swan3	229.6	243	Jdl - Jurassic Dolerite	JDD		CG		A/A2	FRESH											fresh dolerite
KUTh	SEL 26/2005	Swan3	243	243.7	Jdl - Jurassic Dolerite	JDD		CG		A/A2/W	FRESH					Q				CH	V	fresh dolerite with an un-characteristically large number of qz veinlets with a small amount of green chlorite selvage.
KUTh	SEL 26/2005	Swan3	243.7	270.5	Jdl - Jurassic Dolerite	JDD		CG		A/A2	FRESH					Q/B				CH	V	long interval with few qz dominated veins (generally <1 per 2m of core) and usually 0.3-0.5cm thick. Often veins are cavernous with zeolites within.
KUTh	SEL 26/2005	Swan3	270.5	270.7	Jdl - Jurassic Dolerite	JDD		CG		A/W/G	FRESH					B/Q				CH/SR	V	1cm wide carbonate vein with euhedral calcite xls within. Also contains the acicular radiating zeolites described earlier in the hole. Has a distinct 1cm wide selvage either side, rich in chlorite and sericite.
KUTh	SEL 26/2005	Swan3	270.7	277.8	Jdl - Jurassic Dolerite	JDD		CG		A/A2	FRESH					B				CH/EP	V	largely vein free fresh dolerite
KUTh	SEL 26/2005	Swan3	277.8	282	Jdl - Jurassic Dolerite	JDD		CG		A/A2/W	FRESH					B/Q				CH/SR	V	several carbonate/qz veins (at least 2 per meter) some euhedral xls within, only 1 showing a cavernous texture. Selvage neither prevalent.
KUTh	SEL 26/2005	Swan3	282	293	Jdl - Jurassic Dolerite	JDD		CG		A/A2/D	FRESH					B/Q				CH		Few minor carbonate veins. Black xl (<2mm width). About 40% plag in the dolerite.
KUTh	SEL 26/2005	Swan3	293	293.1	Jdl - Jurassic Dolerite	JDD		CG		W/B1/G1	FRESH		Y							CH/CY	V/S	shear zone full of lenses of chlorite and quartz. Many cavities filled with brown clay. Shows a general sub-horizontal lineation rather than being a brecciated mess
KUTh	SEL 26/2005	Swan3	293.1	300.7	Jdl - Jurassic Dolerite	JDD		MG		A2/A/D	FRESH											fresh dolerite. 50% med-grained plag.
				EOH																		

Geologist: K Heynes

Hole ID: Swan3

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Swan3	GDA94	588,108	5,359,271	126	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	150	28/05/2008	29/05/2008	Gerald Spalding Drilling
HQ core	150	200	09/06/2008	12/06/2008	Gerald Spalding Drilling

Hole ID: Temple

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Temple	GDA94	530,426	5,403,592	353	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	150	19/12/2007	24/12/2007	Gerald Spalding Drilling
HQ core	150	299	18/01/2008	25/01/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+O re_Type	Vn_ Type	Vn_ %	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Temple Bar	0	3	Jdl - Jurassic Dolerite	JDD				A2/O	SAPRK	F										Mildly ferruginised and weathered dolerite. Sample is however dominated by fresh dolerite. Sample contains many fe-oxidised, highly magnetic fragents.
KUTh	SEL 26/2005	Temple Bar	3	6	Jdl - Jurassic Dolerite	JDD				A2/G2/O	SAPRK	F										As above, with the introduction of a pale to light green coloured soft clay like mineral (sericite?).
KUTh	SEL 26/2005	Temple Bar	6	9	Jdl - Jurassic Dolerite	JDD					FRESH											Sample becoming increasingly fresh, with little FE staining. White mineral (likely to be plag, but harness approx. 4-5?). Pale green mineral present - epidote? Coarse grained, with plag xls up to 0.7mm.
KUTh	SEL 26/2005	Temple Bar	9	15	Jdl - Jurassic Dolerite	JDD				A2/W/O	FRESH								7	CY	U	Increased abundance of clay mineral - white to pale green. Magnetic Fe-oxides not prevalent. Fe staining comon throughout interval.
KUTh	SEL 26/2005	Temple Bar	15	18	Jdl - Jurassic Dolerite	JDD				A1/W/A2	FRESH								12	CY	U	Interval dominated by clay-rich aggregates. Aggregates host fe-oxidised veinlets. Very low proportion on magnetic minerals.
KUTh	SEL 26/2005	Temple Bar	18	24	Jdl - Jurassic Dolerite	JDD				A2/G1	FRESH								2	CY	U	Relitilvely unaltered, fresh sample, the dominance of clay-rich white/green mineral decreasing. Increased proportion of magnetic fragments.
KUTh	SEL 26/2005	Temple Bar	24	30	Jdl - Jurassic Dolerite	JDD				G2/O/W	FRESH			<1%	PY							Dominantly fresh unaltered dolerite. Small number of chips displaying distinct bounary (with fe-oxide selvage)between the dolerite an clay-rich aggregates. Perhaps vein hosted? But neither Qz or Cb.
KUTh	SEL 26/2005	Temple Bar	30	42	Jdl - Jurassic Dolerite	JDD				A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Temple Bar	42	45	Jdl - Jurassic Dolerite	JDD				A2/W	FRESH											Fresh unaltered dolerite, with many fragments of white clay (very clean opaque white, an very waxy) sericite?, and aggregates of the pale/lt green clay rich aggregates. Aggregates possibly containing chlorite.
KUTh	SEL 26/2005	Temple Bar	45	51	Jdl - Jurassic Dolerite	JDD				A2	FRESH											fresh unaltered dolerite
KUTh	SEL 26/2005	Temple Bar	51	57	Jdl - Jurassic Dolerite	JDD				A2/W	FRESH											Increased abundance of soft white mineral (prehnite? Sericite?). White mineral making up approx. 5% of interval. Pyroxenes becoming dk. Green in colour.
KUTh	SEL 26/2005	Temple Bar	57	72	Jdl - Jurassic Dolerite	JDD				A2/G2	FRESH			<1%	PY							Dark green to dk grey unaltered dolerite. Interval contians fragments of brecciated material with an red clay matrix hosting small (about 2mm diameter xls of stongly magnetic fe-oxides).
KUTh	SEL 26/2005	Temple Bar	72	75	Jdl - Jurassic Dolerite	JDD				A2/G1	FRESH											interval composed of approx. 40% lt green to white aggregates. Fe staining throughout aggregates.
KUTh	SEL 26/2005	Temple Bar	75	78	Jdl - Jurassic Dolerite	JDD				G2/A2	FRESH											Dolerite dominated by green pyroxenes. Contains clusters of strongly magnetic fe-oxides displaying botreyiodal texture (?). Sheer/fault zone?
KUTh	SEL 26/2005	Temple Bar	78	87	Jdl - Jurassic Dolerite	JDD				G2/G/W	FRESH											interval often contains rounded strongly magnetic Fe oxides, up to 5mm diam. Dominated by dark green pyroxene-rich dolerite, with about 30% lt green and white fragments. Prehnite? Few clusters of fe-rich sand sized aggregates.
KUTh	SEL 26/2005	Temple Bar	87	90	Jdl - Jurassic Dolerite	JDD				G2/W	FRESH			<1%	PY							Incresing proportion of white and lt green minerals (prehnite/sericite/zeolites(?)). Trace PY present on some of the lt green soft aggregates. White mieral uniformly breaks in tabular form.
KUTh	SEL 26/2005	Temple Bar	90	96	Jdl - Jurassic Dolerite	JDD				G1/W	FRESH			3%	PY							Interval dominated by white and lt green minerals. PY commonly dotted throughout/on the surfaces of most fragments. Vein hosted alteration; displayed in the distinct boundaries btwn minerals, and minor selvage in these zones, and relitivily minor dolerite present (<50%).
KUTh	SEL 26/2005	Temple Bar	96	108	Jdl - Jurassic Dolerite	JDD				G1/W/G2	FRESH			3-4%	PY							As above, with an increase in the proportion of fresh unaltered dolerite. Small amount of matrix-hosted Fe-oxide aggregates.
KUTh	SEL 26/2005	Temple Bar	108	117	Jdl - Jurassic Dolerite	JDD				A2/G/W	FRESH			1%	PY							Interval dominated by vein alteration - evidenced by distinct linear boundary between dolerite and lt green rock (maybe this mystery green rock is epidote/chlorite?). Some Fe-enriched veinlets (sub 1mm) found throughout vein.
KUTh	SEL 26/2005	Temple Bar	117	126	Jdl - Jurassic Dolerite	JDD				A2	FRESH			<1%	PY							dominantly fresh unaltered dolerite with minor 'impurities' including sericite/prehnite.
KUTh	SEL 26/2005	Temple Bar	126	135	Jdl - Jurassic Dolerite	JDD				A2/G/W	FRESH			1%	PY							Interval composed dominantly of unaltered fresh dolerite, with the occasional white to light pink tabular vein fragments. Fragments display minor parallel selvage to the vein. Minor disseminated py found throughout interval
KUTh	SEL 26/2005	Temple Bar	135	138	Jdl - Jurassic Dolerite	JDD				A2	FRESH			2%	PY							Fresh unaltered dolerite, with minor disseminated py throughout.
KUTh	SEL 26/2005	Temple Bar	138	147	Jdl - Jurassic Dolerite	JDD				A2/G/W	FRESH			2-3%	PY							Dominantly unaltered dolerite, interval displays frequent veining, with an abundance of epidote, wth distinct buandaries to the dolerite and prehnite. Prehite in this interval is 'bright white', H.2, waxy. Epidote(?) is quite mottley with minor Fe staining.
KUTh	SEL 26/2005	Temple Bar	147	150	Jdl - Jurassic Dolerite	JDD				G/A2/W	FRESH			1%	PY							as above, with an increase in the proportion of veining.
KUTh	SEL 26/2005	Temple Bar	148.8	151.1	Jdl - Jurassic Dolerite	JDD		MG		A2	FRESH					B			80	CH/CY	V	Fresh unaltered dolerite, fine to medium grained. From approx. 149.1-151.1 there is a 1cm thick carbonate vein with intense alteration/selvage. The alteration is dominantly clay, epidote and chlorite. See photo. Vein+selvage up to 4cm wide. Dipping 80°. Bronze mica present throughout
KUTh	SEL 26/2005	Temple Bar	151.1	153.2	Jdl - Jurassic Dolerite	JDD		MG		A2	FRESH											Fresh unaltered dolerite. Becoming lighter in colour.
KUTh	SEL 26/2005	Temple Bar	153.2	153.8	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH					Q/B		M	50	MU/BI		Interval unique due to a multi-staged qz-carb vein with associated selvage. See photos. Unlike the vein in the previous interval, the selvage is much less obvious, and has a higher abundance of bronze micas, and less epidote/clays. Overall, the colour of the dolerite is lighter.

KUTh	SEL 26/2005	Temple Bar	153.8	155	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH											Fresh unaltered dolerite.
KUTh	SEL 26/2005	Temple Bar	155	155.6	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH					Q			50	EP	V	50cm long quartz vein with strong epidote elteration on bottom side. See photo
KUTh	SEL 26/2005	Temple Bar	155.6	157	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH											Fresh unaltered dolerite.
KUTh	SEL 26/2005	Temple Bar	157	165	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH					P/O/Q						Interval includes a series of small vertical, to subvertical epidote and fe-oxide rich qz veinlets. One particularly large (1cm) epidote vein occurs at 163.3-164.7m. See photos
KUTh	SEL 26/2005	Temple Bar	165	171.7	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH					Q						Fresh unaltered dolerite with several small, unfractured quartz veinlets.
KUTh	SEL 26/2005	Temple Bar	171.7	173.4	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH					Q/P				EP	V	Standard dolerite, with typically subvertically dipping qz veinlets with epidote rich alteration as selvage to the vein. Also containd micas and and fe-oxides.
KUTh	SEL 26/2005	Temple Bar	173.4	174.85	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH											Fresh unaltered dolerite.
KUTh	SEL 26/2005	Temple Bar	174.85	175.7	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH		Y			P/Q/B		B		EP	V	Series of vertical epidote veins, see photos. Obvious sheering within, with minor brecciation. Veins are dominantly epidote, but also include small stock-work like qz-carb in brecciated zone.
KUTh	SEL 26/2005	Temple Bar	175.7	176.7	Jdl - Jurassic Dolerite	JDD		MG/FR		A2	FRESH					Q				EP	F	Strongly fractured interval. No particular orientation, quartz and epidote common on the surfaces. Infill and alteration minor.
KUTh	SEL 26/2005	Temple Bar	176.7	177.6	Jdl - Jurassic Dolerite	JDD		MG		A2	FRESH					P/Q				EP	V	Interval includes several 3 ep-qz veins, generally fractures with the vein. All paralle and dipping about 60˚
KUTh	SEL 26/2005	Temple Bar	177.6	181.1	Jdl - Jurassic Dolerite	JDD		MG/FR		A2/A	FRESH					Q/P						Moderate fracturing. Often infilled with quartz and epidote. One large (1cm) epidote rich vein at start of interval. See photo.
KUTh	SEL 26/2005	Temple Bar	181.1	184.5	Jdl - Jurassic Dolerite	JDD		MG		A2/A	FRESH					Q/B				EP	V	Only very mildly fractured. Several quartz, and minor cb veins, generally dipping about 70˚. Epidote and minor Fe common as selvage minerals
KUTh	SEL 26/2005	Temple Bar	184.5	186.2	Jdl - Jurassic Dolerite	JDD		MG		A2	FRESH											Fresh unaltered dolerite
KUTh	SEL 26/2005	Temple Bar	186.2	188.7	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					Q/B				EP	V	At beginning of interval, small brecciated fault zone (see photo). From here 2 veins extend subvertically down the hole until 188.7m. The veins are generally qz, 0.5cm wide and taper to a sub mm veinlet.. Epidote selvage occuring proximal to the vein in its entirety.
KUTh	SEL 26/2005	Temple Bar	188.7	253	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					Q						Fresh unaltered dolerite. Evidence of some layering in the dolerite, with small sections/inclusions of both finer and coarser grained dolerite. Minor steep angled quartz vnlets throughout.
KUTh	SEL 26/2005	Temple Bar	253	257.5	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH								See Comments			2 large quartz dominated veins, with associated selvage. Rather than being an epidote selvage, it is a change in the mineralogy of the dolerite to be coarse-grained and plag-rich. Within the vein itself the dominant mineral may not be quartz, but doesn't react with HCL either. Sometimes with a green tinge, and a crystalline/sugary texture (zeolites?). Sometimes the vein will fork, and rejoin, and in this area mafics and dark micas are present. See photos
KUTh	SEL 26/2005	Temple Bar	257.5	263.7	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					Y(?)						Fresh unaltered dolerite with many small (<1mm) black vnlets, generally steeply dipping.
KUTh	SEL 26/2005	Temple Bar	263.7	265.1	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					Q						Fresh dolerite with a minor 3mm wide vein, steeply dipping
KUTh	SEL 26/2005	Temple Bar	265.1	291.3	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH											Fresh unaltered dolerite. Some sections leaning towards being fine-grained. Lacks the distinct 'layering' found in interval 188.7-253
KUTh	SEL 26/2005	Temple Bar	291.3	295	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH					Q						Interval invludes minor qz veining. Has selvage as described in interval 253-257.5 But only minor.
KUTh	SEL 26/2005	Temple Bar	295	298.69	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH											Fresh Unaltered dolerite.
				EOH																		

Geologist: K Heynes

Hole ID: Tiberias

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Tiberias	GDA94	531,690	5,301,300	437	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102.4	18/03/2008	18/03/2008	Gerald Spalding Drilling
HQ core	102.4	252.6	29/03/2008	03/04/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_Qual	Rock2_Qual	Colour	Regolith	Reg_Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Tiberias	RC	0	3	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	3	6	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	6	9	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	9	12	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	12	15	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	15	18	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	18	21	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	21	24	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	24	27	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	27	30	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	30	33	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	33	36	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	36	39	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	39	42	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	42	45	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	45	48	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	48	51	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	51	54	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	54	57	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	57	60	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	60	63	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	63	66	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	66	69	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	69	72	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	72	75	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	75	78	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	78	81	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	81	84	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	84	87	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	87	90	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	90	93	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	93	96	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	96	99	Ru - Upper Parmeener Supergroup										-	-				-	-	
KUTh	SEL 26/2005	Tiberias	RC	99	102	Ru - Upper Parmeener Supergroup										-	-				-	-	
				End of Pre-Collar												-	-				-	-	
KUTh	SEL 26/2005	Tiberias	DD	102.5	103.6	Ru - Upper Parmeener Supergroup	RST	RSS	BD		K/B	FRESH		0	<1	Py				5	BI/SR	UM	Subhorizontal bedding, dominantly siltstone, with beds of brown micaceous sericitic altered fine grained sandstone layers (up to 3cm thick). Khaki coloured, minor carbonaceous fine layers.
KUTh	SEL 26/2005	Tiberias	DD	103.7	107.7	Ru - Upper Parmeener Supergroup	RSS	-	BD/FG		B/A2	FRESH		5	5	Py	y	90		5	BI	UM	Fine grained feldspathic, mica rich sandstone with many fine beds of black carbonaceous material. Minor pyrite veining at beginning of interval (with veins composed of approx. 90% Py). Includes up to 4cm diameter clasts of dark grey carbonaceous material, with a high percentage of pyrite within, with distinct fe-halos. Light grey in colour.
KUTh	SEL 26/2005	Tiberias	DD	107.7	108.2	Ru - Upper Parmeener Supergroup	RSS	RSS	BD/FG	BD/VFG	B/D	FRESH		10	<1	Py	-			10	BI	UM	Fine grained sandstone and black VFG sandstone interval. Very porus, especially the black seds. Beginning of interval dominated by the porus black sandstone, through to interbedded brown sandstones. Very mild shearing, as evidenced by the minor slickenslides on fractured surfaces. Often interbedded with feldspathic,mica rich siltstones. Few quartz grains present.
KUTh	SEL 26/2005	Tiberias	DD	108.2	109.5	Ru - Upper Parmeener Supergroup	RSS	RST	BD		B/D	FRESH		10	<1	py	-			10	BI	UM	As above , But no longer porus. Interbedded VFG sandstones and brown sandstones , siltstones common in the interbedded sequences.
KUTh	SEL 26/2005	Tiberias	DD	109.5	111.2	Ru - Upper Parmeener Supergroup	RST	RSS	BD/JN		A/O	FRESH		0	<1	Py	O		A	5	FE	F	Dominantly grey siltstones with orange siltstones. Many small fractures present, which have been infilled to form fe oxide rich veinlets. Dominantly coherent in form. Often small beds of fine grained orange sansdstone throughout. Moderate in porosity.
KUTh	SEL 26/2005	Tiberias	DD	111.2	112	Ru - Upper Parmeener Supergroup	RST	RSS	LC/BD	VFG	B/D	FRESH		0	0	Py	-			10	BI	UM	Interval dominated by fine layers of interbedded black carbonaceous siltstones and brown very fine graines sandstones. Distinct soft sedinment deformation feautures. Very micaceous, fractures easily.
KUTh	SEL 26/2005	Tiberias	DD	112	117	Ru - Upper Parmeener Supergroup	RST	RSS	BD		A2/B	FRESH		0	<1	Py	SR/AK		A		-	-	Dominantly dark grey siltstones interbedded with verg fine grained brown sandstone. Many veinlets (steeply dipping) of soft white-orange carbonate veins ± sericite ± ankerite. Moderate porosity.
KUTh	SEL 26/2005	Tiberias	DD	117	131	Ru - Upper Parmeener Supergroup	RSS	-	BD		B	FRESH		0	<1	Py	Y			10	BI	UM	Medium grained quartz sandstone. Numerous 1cm diameter pyrite rich carbonaceous sub rounded clasts. Also many fine beds of barbonate rich seds. Minor steeply dipping pyrite veining. Light grey to khaki in colour. Becoming mottely towards end of interval. Core is in a coherent state.
KUTh	SEL 26/2005	Tiberias	DD	131	134	Ru - Upper Parmeener Supergroup	RST	RSS	BD/LC		G2/A1/B	FRESH		0	2	Py	B/C			10	BI	UM	Interbedded dark green siltstones with light grey siltstones, with minor small beds of light brown medium grained sandstone. Very distinct sole marks on boundary between the sandstone and siltstone. Many orange carbonate veinslets, with one sub-vertical calcite vein. Fe-halo as selvage to vein. Micaceous

KUTh	SEL 26/2005	Tiberias	DD	134	135	Ru - Upper Parmeener Supergroup	RSS	-	XB/FG		B1/G2	FRESH		0	<1	Py	-			15	BI	UM	FG Sandstones, beds very fine, with obvious cross bedding. Light brown and dark green layers. Biotite alteration common within.
KUTh	SEL 26/2005	Tiberias	DD	135	146	Ru - Upper Parmeener Supergroup	RSS	-	BD		D/B1/G	FRESH		0	3	Py	-			15	BI/CY	UM	Fine to medium grained quartz sandsone. Rich in pyrite, occuring within very fine beds of black carbonaceous material. Mica and clay rich in parts.
KUTh	SEL 26/2005	Tiberias	DD	146	148.5	Ru - Upper Parmeener Supergroup	RSS	-	BD		G2/B	FRESH	M	0	0	Py	-			20	BI	UM	Medium grained dark green and brown finely bedded sandstones. Mottley texture with a large number or subrounded brown clasts of feldspathic sandstone. Dark bands of biotite common. Coherent.
KUTh	SEL 26/2005	Tiberias	DD	148.5	187.8	Ru - Upper Parmeener Supergroup	RSS	-	BD	MG	A1	FRESH		0	2	Py	-			15	BI	UM	Fine to medium grained light grey quartz sandstone. Includes many squashed clay-rich drop stones. Very well consolidated. Many fine bands of dark grey mica rich seds, often including pyrite (more commonly at beginning of interval). Generally sub-horizontally dipping, sometimes dipping up to 5-8 deg. Zone from 183.5-185 very fractured, perhaps a small fualt zone.
KUTh	SEL 26/2005	Tiberias	DD	187.8	188.4	Ru - Upper Parmeener Supergroup	RSS	-	FG/LC		B1 /A1	FRESH		0	<1	Py	-			10	BI	UM	Fine grained feldspathic sandstone, brown and interbedded with grey siltstones. Soft sed defoemation common. Beds <5cm, fractures easily
KUTh	SEL 26/2005	Tiberias	DD	188.4	189	Ru - Upper Parmeener Supergroup	RSS	-	CG/PB		B/W	FRESH		0	<1	Py	-				-	-	Interval of coarse grained sandstone and large (up to 5cm) flattened dropstones. Clay-rich dropstones are flattened, and qtz dropstones well rounded. Uncharacteristic in that bottom boundary to next interval is dipping at about 40 deg.
KUTh	SEL 26/2005	Tiberias	DD	189	194.8	Ru - Upper Parmeener Supergroup	RSS	-	FG/BD		A1/A2	FRESH		0	5	Py				20	BI	UM	Fine to medium grained qtz sandstone, dominantly light grey. Sub horizontal beds. Many bands of dark grey to green biotite rich sediments. Includes many cubic pyrite crystals as individual clasts throughout, up to 5mm diameter. Coherent
KUTh	SEL 26/2005	Tiberias	DD	194.8	199.75	Ru - Upper Parmeener Supergroup	RSS	-	BD/S	-	Y/B	Fresh	F	0	<1	Py	-	-	-	10	BI	UM	Light yellow/brown fine to medium grained quartz sandstone.
KUTh	SEL 26/2005	Tiberias	DD	199.75	200.25	Ru - Upper Parmeener Supergroup	RSS	RSB/SU	BD/SGR	BD/GR/FU	Y/B/A/D	Fresh	F	0	<1	Py	-	-	-	10	BI	UM	Light yellow grey medium grained quartz sandstone with interbedded black shale within beds mm to cm scale. Bedding grading normally and horizontal.
KUTh	SEL 26/2005	Tiberias	DD	200.25	203	Ru - Upper Parmeener Supergroup	RST	RSS	BD	BD/FU	Y/B/A	Fresh	F	0	<1	Py	-	-	-	20	BI	UM	Muddy siltone units grading into medium grained quartz sandstone with variable horizontal bands of of dark grey carbonaceous material within the sandstone units. Biotite appearing as mm to sub mm scale dark bands which are commonly also pyritic.
KUTh	SEL 26/2005	Tiberias	DD	203	214	Ru - Upper Parmeener Supergroup	RST	RSS	BD	BD/FU	Y/B/A	Fresh	F	0	<1	Py	-	-	-	20	BI	UM	Sediments becoming increasingly darker and finer. Bands up to 1 metre thick still present but decreasing to 10cm thick bands @ 213.4m with an increase in abundance/dominance of pyritic black shales.
KUTh	SEL 26/2005	Tiberias	DD	214	224	Ru - Upper Parmeener Supergroup	RSU/ST	SS	BD/GR	BD	D/A/B	Fresh	F	0	<1	Py	-	-	-	10	BI	UM	Dominantly black shales with minor bands of clay pellets typically <12cm thick (@215.2m). Sandstone units 215 to 216.47m & 222.85 to 223.12. Sandstone is biotitic and calcareous and generally grey in colour with variable horizontal bands of lighter less carbonaceous/biotitic quartz rich layers - variable at the mm scale.
KUTh	SEL 26/2005	Tiberias	DD	224	225.9	Ru - Upper Parmeener Supergroup	RSS/SB	-	S/BD	-	A2	Fresh	F	0	1-2	Py	-	-	-	20	BI	UM	Dark grey medium grained carbonaceous and pyritic sandstone - coherent and competent
KUTh	SEL 26/2005	Tiberias	DD	225.9	231	Ru - Upper Parmeener Supergroup	RSS	-	S	-	A	Fresh	F	70	<5	Py	-	-	-	20	BI	UM	Sandstone core becoming very broken. Fault at 229.1m. Sandstone very pyritic @ 229.8m with individual Py porphyroblast xls up to 3mm in diameter
KUTh	SEL 26/2005	Tiberias	DD	232.7	233.14	Ru - Upper Parmeener Supergroup	RSS	-	S	-	A	Fresh	F	70	<2	Py	-	-	-	10	BI	UM	Small fault within quartz sandstone. ~50cm fault interval.
KUTh	SEL 26/2005	Tiberias	DD	233.14	239.6	Ru - Upper Parmeener Supergroup	RSS	-	S	-	A	Fresh	F	10	<2	Py	-	-	-	20	BI	UM	Medium grained grey sandstone. Bedding horizontal. Pyritic with dark mm scale horizontal carbonaceous biotitic bands
KUTh	SEL 26/2005	Tiberias	DD	239.6	240.6	Ru - Upper Parmeener Supergroup	RSS	-	S	-	A	Fresh	F	0	<5	Py	-	-	-	10	BI	UM	As above with disseminated pyrite "clots" typically around 3mm in diameter. Particularly concentrated around 239.6 to 240.00m
KUTh	SEL 26/2005	Tiberias	DD	240.6	248.78	Ru - Upper Parmeener Supergroup	RSS	RST	S	BD	D/A2	Fresh	F	0	<1	Py	-	-	-	10	BI	UM	Interbedded medium grained quartz sandstone with black shaley mudstone/siltstone sequences. Sandstone units include rare clay pellets up to 3cm in diameter.
KUTh	SEL 26/2005	Tiberias	DD	248.78	249	Ru - Upper Parmeener Supergroup	RSB/ST	-	MA	-	D/A/W	Fresh	F	0	<1	Py	-	-	-	0	-	-	Carbonate vein ~3mm thick dipping steeply to ~78degrees within black shales.
KUTh	SEL 26/2005	Tiberias	DD	249	253.6	Ru - Upper Parmeener Supergroup	RSB/ST	-	-	-	D/A	Fresh	F	0	<1	Py	-	-	-	10	BI	UM	Competent dark grey shaley siltstone with minor/rare clay pellets.
					EOH																		

Geologist: K Heynes

Hole ID: Tooms

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Tooms	GDA94	567,354	5,319,894	414	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	29/10/2007	30/10/2007	Gerald Spalding Drilling
HQ core	102	261.5	15/11/2007	27/11/2007	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+Ore _Type	Vn_ Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Tooms	RC	0	3	Jdl - Jurassic Dolerite	JDD	-	-	-	O	SAP	F		0	-	-						Upper saprolite. Weathered insitu dolerite. Predominantly orange doleritic clay intermixed with dolerite coarse sandy gravel fragments.
KUTh	SEL 26/2005	Tooms	RC	3	6	Jdl - Jurassic Dolerite	JDD	-	-	-	O/A	SAP			0	-	-						Lower saprolite. Weathered insitu dolerite. Predominantly dolerite gravel fragments intermixed with doleritic clay.
KUTh	SEL 26/2005	Tooms	RC	6	9	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	SAP			0	-	-						Mostly fresh coherent dolerite (>70%) with minor coarse sandy gravel fragments of weakly ferruginised weathered dolerite - moderately magnetic
KUTh	SEL 26/2005	Tooms	RC	9	12	Jdl - Jurassic Dolerite	JDD	-	-	-	A	SAP			0	-	-						As above with weathered FeO sandy gravel fragments <10%
KUTh	SEL 26/2005	Tooms	RC	12	15	Jdl - Jurassic Dolerite	JDD	-	-	-	A/O	SAP			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	15	18	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						Predominantly fresh unweathered dolerite - clay proportion <1%
KUTh	SEL 26/2005	Tooms	RC	18	21	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above - minor FeO staining on <1% chips
KUTh	SEL 26/2005	Tooms	RC	21	24	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	24	27	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	27	30	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above - chips size decreasing, magnetite content increasing
KUTh	SEL 26/2005	Tooms	RC	30	33	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	33	36	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	36	39	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above - moderately magnetic
KUTh	SEL 26/2005	Tooms	RC	39	42	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above with v. minor pale green dull vitreous mineral ?pyroxene
KUTh	SEL 26/2005	Tooms	RC	42	45	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	45	48	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	48	51	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	51	54	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	54	57	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	57	60	Jdl - Jurassic Dolerite	JDD	-	-	-	A/G1	Fresh			0	-	-						Predominantly fresh dolerite with minor fragments of weathered dolerite due to possible minor faulting
KUTh	SEL 26/2005	Tooms	RC	60	63	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above with v. minor FeO weathering on <5% chips
KUTh	SEL 26/2005	Tooms	RC	63	66	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						Coherent dolerite. Moderately magnetite rich
KUTh	SEL 26/2005	Tooms	RC	66	69	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	69	72	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above with minor fauling. White weathered dolerite on tiny fault plain <1mm.
KUTh	SEL 26/2005	Tooms	RC	72	75	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	75	78	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						Coherent dolerite. Moderately magnetite rich
KUTh	SEL 26/2005	Tooms	RC	78	81	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above - chips fining
KUTh	SEL 26/2005	Tooms	RC	81	84	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above - chips coarsing
KUTh	SEL 26/2005	Tooms	RC	84	87	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	87	90	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above with v. minor pale green dull vitreous mineral ?pyroxene + micro fault infilled with white weathered dolerite
KUTh	SEL 26/2005	Tooms	RC	90	93	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	93	96	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	96	99	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
KUTh	SEL 26/2005	Tooms	RC	99	102	Jdl - Jurassic Dolerite	JDD	-	-	-	A	Fresh			0	-	-						As above
					EOH																		
KUTh	SEL 26/2005	Tooms	DD - HQ	101.46	103	Jdl - Jurassic Dolerite	JDD				A1	Fresh											Grout
KUTh	SEL 26/2005	Tooms	DD - HQ	103	106	Jdl - Jurassic Dolerite	JDD		FG		A2/D/G2	Fresh					B				CH	V	Chlorite associated with minor carbonate veinlets. Zeolites present - up to 2cm diameter with acicular centrally radiating pattern. Strong reaction with HCL within vein. Fine grained dolerite, with plag xls difficult to determine.
KUTh	SEL 26/2005	Tooms	DD - HQ	106	110	Jdl - Jurassic Dolerite	JDD		FG		A2/D/G2	Fresh					B/Q				CH/EP	V	dolerite as described above, but identified as a separate interval given the increase in the number and thickness of CB/QZ vns. Vns display strong selvage, with alteration minerals ep/ch, and possibly sericite. One of the larger veins at 106.75m has a d
KUTh	SEL 26/2005	Tooms	DD - HQ	110	110.9	Jdl - Jurassic Dolerite	JDD		FG		A2/G/D	Fresh					B				CH/EP/SR	S/V	zone dominantly dolerite - fine grained, as described above. Has 3 small shear zones @ 110.3, 110.4 and 110.8. These zones are very clay rich and green, with lots of chlorite, and sr. Epidote is also present. The interval is very crumbly and looks lik
KUTh	SEL 26/2005	Tooms	DD - HQ	110.9	111	Jdl - Jurassic Dolerite	JDD		FG		A2/D	Fresh											Last interval of uninterrupted, unaltered dolerite before the chaos begins...
KUTh	SEL 26/2005	Tooms	DD - HQ	111	114	Jdl - Jurassic Dolerite	JDD		MG/FR		A2/D/W/G	Fresh					B/Q		B		SR/CH/EP	S/W	strongly altered, with a series of almost stock-work like CB veins, up to 3cm thick. Either side of the veins, the dolerite is coarser grained and plag rich. Micro-faulting causing displacement up to 7mm. Sericite and chlorite are very common within th
KUTh	SEL 26/2005	Tooms	DD - HQ	114	116.4	Jdl - Jurassic Dolerite	JDD				A2/D/G/W	Fresh					B/Q		B		SR/CH	V/S	Interesting interval distinguished by its light green to white veins. Photo. Veins not always following parallel (i.e. thickness varies). Very common to find lenses of chlorite within and generally following an orientation. Veins are very sericite - c
KUTh	SEL 26/2005	Tooms	DD - HQ	116.4	118.3	Jdl - Jurassic Dolerite	JDD		FG		A2/D/W	Fresh			1	PY	B					V	Fresh dolerite, with a small amount of 1-3mm CB veining (clay and chlorite rich). Veins have no particular orientation, regularly x-cutting. Dolerite fine grained, except where it becomes med. grained proximal to veins. FE also increases in selvage of
KUTh	SEL 26/2005	Tooms	DD - HQ	118.3	119.5	Jdl - Jurassic Dolerite	JDD		FG		A/D	Fresh					B				FE/CH	V	Very minor CB vnlets. Each veinlet has an interesting Fe 'halo'. Looks like z water mark. Doesn't start at the contact of the vain, rather 5mm out. Otherwise fresh unaltered dolerite
KUTh	SEL 26/2005	Tooms	DD - HQ	119.5	120.2	Jdl - Jurassic Dolerite	JDD				A2/D/W	Fresh					B/Q				SR/CH	V	Dolerite, as above, hosting CB vein with sericite alteration and chlorite dotted throughout. vein has 'halo' described above.
KUTh	SEL 26/2005	Tooms	DD - HQ	120.2	122.2	Jdl - Jurassic Dolerite	JDD		FG/FR		A2/D/R	Fresh		Y			B/Q		B		SR/EP/CH	V	standard dolerite with brecciated 10cm zone @120.8. Small number of CB/Qz veinlets creating fracturing. Fe 'halos' common throughout in association with the veins.
KUTh	SEL 26/2005	Tooms	DD - HQ	122.2	123.8	Jdl - Jurassic Dolerite	JDD		MG		A/D	Fresh											Unaltered, no veins, fresh dolerite, light in colour (for JDD) and fine to medium grained.

KUTh	SEL 26/2005	Tooms	DD - HQ	123.8	124.3	Jdl - Jurassic Dolerite	JDD		MG		A/D/G/W	Fresh					B				CH/EP/SR	V	outwards = soft carbonate, clay rich white vein; to lenses of chlorite, orientated parallel to the vein; more white carbonate; epidote rich on contact; followed by med-coarse grai
KUTh	SEL 26/2005	Tooms	DD - HQ	124.3	126.3	Jdl - Jurassic Dolerite	JDD		MG		A/D	Fresh					B						fresh dolerite with very minor CB veining
KUTh	SEL 26/2005	Tooms	DD - HQ	126.3	126.6	Jdl - Jurassic Dolerite	JDD		MG		A/D/W/G/R	Fresh					B		V		CH/SR/EP	V	about 1cm wide vein as described in interval 123.8-124.3. This vein however has more of a 'cavity' due to a higher proportion of sericite/chlorite/
KUTh	SEL 26/2005	Tooms	DD - HQ	126.6	127.7	Jdl - Jurassic Dolerite	JDD		FG		A2/D	Fresh											fresh dolerite, fine-grained
KUTh	SEL 26/2005	Tooms	DD - HQ	127.7	129.6	Jdl - Jurassic Dolerite	JDD		FG		A2/D/G/R	Fresh					B/Q				CY/CH/FE	V	rich in clay-white & powdery. All veins have the distinct coarser grained aureole running parallel to the vein. Surfaces fractured due to veining are often Fe-stained. Some
KUTh	SEL 26/2005	Tooms	DD - HQ	129.6	131.7	Jdl - Jurassic Dolerite	JDD		FG		A2	Fresh				2	PY	B			CH	V	very fine grained dolerite, with the inclusion of med-grained dolerite 'dykes' - very distinctive bands of different grain size. Pyrite is found within the dykes.
KUTh	SEL 26/2005	Tooms	DD - HQ	131.7	134.7	Jdl - Jurassic Dolerite	JDD		FG		A2/D	Fresh						B					Slightly coarser grained dolerite (although still classified as fine grained), with a few more carbonate veinlets. Veinlets are relatively un-altered, very small, but create a crack/fracture in the core. @133m another dolerite 'dyke' containing
KUTh	SEL 26/2005	Tooms	DD - HQ	134.7	137	Jdl - Jurassic Dolerite	JDD		MG		A2/D/B/P/W/G	Fresh											dolerite med-grained. some qz present
KUTh	SEL 26/2005	Tooms	DD - HQ	137	137.5	Jdl - Jurassic Dolerite	JDD		MG-CG		A/D	Fresh				2	PY	B			CY/FE/CH	V	photos. Very colourful and interesting vein. From one side to the other: i)1cm aureole med-coarse grained plag-rich dolerite; ii)2mm band soft Fe-oxide; iii)2mm band carbonates; iv)4mm band Fe-oxide hosted calcite blades; v)5mm band of both Fe-oxide ban
KUTh	SEL 26/2005	Tooms	DD - HQ	137.5	144.8	Jdl - Jurassic Dolerite	JDD		MG		A/D/W	Fresh						B					light coloured dolerite - more blue than green. Some small carbonate veinlets. Becoming medium grained
KUTh	SEL 26/2005	Tooms	DD - HQ	144.8	147	Jdl - Jurassic Dolerite	JDD		MG-CG		A/D/G	Fresh						B					dolerite med- sometimes coarse-grained. A number of dyke-like banks through the interval - not so much changing the grain size of the dolerite, but distinctly changing the colour - dominantly white and late brown in the bands. One 3mm wide carbonate vein
KUTh	SEL 26/2005	Tooms	DD - HQ	147	155	Jdl - Jurassic Dolerite	JDD		MG		A/D/G	Fresh						B					med-grained dolerite, relatively light in colour. Several carbonate veins, not exceeding 3mm width. xls very 'blotchy' rather than euhedral. Veins don't show an aureole
KUTh	SEL 26/2005	Tooms	DD - HQ	155	156	Jdl - Jurassic Dolerite	JDD		FG		A/D/W	Fresh			<1		PY	B			CY/FE	V	Fine-grained interval. Several CB vns over the meter, each showing selvage - with Fe-stained, coarser grained dolerite proximal. Veins are very clay rich
KUTh	SEL 26/2005	Tooms	DD - HQ	156	158.8	Jdl - Jurassic Dolerite	JDD		MG		A/D/G	Fresh											Med-grained, becoming more green than blue (as before). Vn free interval.
KUTh	SEL 26/2005	Tooms	DD - HQ	158.8	161.5	Jdl - Jurassic Dolerite	JDD		MG		A/D/G	Fresh				1	PY	B			CL	V	interval, not exceeding 3mm. No Fe-staining proximal to vein. Largely unaltered.
KUTh	SEL 26/2005	Tooms	DD - HQ	161.5	169.5	Jdl - Jurassic Dolerite	JDD		FG		A2/G/D	Fresh						B/Q			CH/CY/FE	V	Fine-grained dolerite, with many 3mm or less carbonate veins with associated alteration. Veins show coarser and increased plag proximal to vein.
KUTh	SEL 26/2005	Tooms	DD - HQ	169.5	173	Jdl - Jurassic Dolerite	JDD		BX		B/G/A	Fresh		90%				B		B	FE/SR/CH/	S/V	unconsolidated, with avg. length of blocks approx. 3-4cm. Epidote a significant constituent in the Fe rich zone of the shear zone. Next to about 172.8m slightly more clay rich than ab
KUTh	SEL 26/2005	Tooms	DD - HQ	173	175	Jdl - Jurassic Dolerite	JDD		FG		G/A/W	Fresh		70%				B			SR/CH/FE	V	At beginning (i.e. first 5cm) very fine grained lt grey stone like chert - mild reaction with hcl - dolomite(?). Zone similar to last interval, but slightly more unconsolidated, with more veining. Some veins show minor stockwork. Very distinct aureole
KUTh	SEL 26/2005	Tooms	DD - HQ	175	176.4	Jdl - Jurassic Dolerite	JDD		FG		A2/D	Fresh											fresh fine-grained dolerite
KUTh	SEL 26/2005	Tooms	DD - HQ	176.4	177.5	Jdl - Jurassic Dolerite	JDD				G1/G/W/A	Fresh						Q/B		T	CL/SR	V	strongly chlorite altered and veined zone. Fine stockwork throughout. FE-staining also present as a pervasive print on the dolerite.
KUTh	SEL 26/2005	Tooms	DD - HQ	177.5	183.5	Jdl - Jurassic Dolerite	JDD		BX		A/G/W	Fresh		10%				Q/B		B	CH/SR/FE	V	Several small intervals of crumbly brecciated chlorite altered mess (usually about 20cm long) between relatively unaltered and mildly veined dolerite. Very distinct Fe aureole proximal to veins. Glassy texture common on fractured
KUTh	SEL 26/2005	Tooms	DD - HQ	183.5	189	Jdl - Jurassic Dolerite	JDD		BX		A/W/G/B	Fresh		60%				Q/B		B	CY/SR/CH/	S/V	coarse grained. Very sericitic and lots of chlorite and Fe staining. Minor epidote present. Very altered with only a small amount of dolerite present/distinguishable.
KUTh	SEL 26/2005	Tooms	DD - HQ	189	191.5	Jdl - Jurassic Dolerite	JDD		MG		A/D	Fresh						B					Largely unaltered, fresh dolerite with minor carbonate veining.
KUTh	SEL 26/2005	Tooms	DD - HQ	191.5	195	Jdl - Jurassic Dolerite	JDD		MG		B1/W/P/A	Fresh		70%				Q/B		B	CY/SR/FE/	S/V	clay, Fe-stained clay sometimes pink. Minor epidote present, dolerite medium grained - heavily altered. Not so much veining in this interval, very soft and crumbly sgear z
KUTh	SEL 26/2005	Tooms	DD - HQ	195	196.5	Jdl - Jurassic Dolerite	JDD		MG		A2/D	Fresh						B			FE/CH	V	Largely unaltered fresh medium-grained dolerite with 3 carbonate veins and associated alteration. Veins still display increased grain size proximally.
KUTh	SEL 26/2005	Tooms	DD - HQ	196.5	197.5	Jdl - Jurassic Dolerite	JDD		MG		A2/B/D/P	Fresh						B			FE/EP/CH	V	Interval dominated by a sub-vertical carbonate vein through fine to med-grained dolerite. Within the vein are pastel pink and green clays. Dolerite becomes dominantly plag and coarse grained proximal to vein. Fe-oxides common. Minor chlorite present.
KUTh	SEL 26/2005	Tooms	DD - HQ	197.5	206	Jdl - Jurassic Dolerite	JDD		MG		A2/D/G2	Fresh						B/Q					Fresh unaltered dolerite; medium grained, becoming green in colour. Only one notable vein - 1cm thick. Forms hollows with euhedral xls within (zeolites?). As always, alteration proximal to vein - about same thickness as vein either side. Other minor s
KUTh	SEL 26/2005	Tooms	DD - HQ	206	206.3	Jdl - Jurassic Dolerite	JDD		MG		B1/A/P	Fresh						B/Q			CY/FE/EP	V	Strongly altered and veined interval. Fe-stained. Often soft pastel pink mineral present. Epidote also present within the vein.
KUTh	SEL 26/2005	Tooms	DD - HQ	206.3	215	Jdl - Jurassic Dolerite	JDD		MG		A/D	Fresh						Q/B			EP/SR/CH	V	Interval dominantly unaltered with a small amount of epidote rich veining. While the veins are not very large, they tend to have a large Fe 'halo' approx. 1cm from the contact. sericite and clay also found within veins.
KUTh	SEL 26/2005	Tooms	DD - HQ	215	220	Jdl - Jurassic Dolerite	JDD		MG		A2/D/A	Fresh						Q/B			EP/SR	V	Largely unaltered, moderately veined dolerite with many sub horizontal fractures. Sometimes related to veins, often not. Veins small - about 2mm. Strong epidote alteration within. Sericite is fibrous looking but feels waxy.
KUTh	SEL 26/2005	Tooms	DD - HQ	220	244.7	Jdl - Jurassic Dolerite	JDD		MG		A/D/A2	Fresh						B/Q			CH/EP/FE	V	Grain size no longer increasing proximal to vein. Alteration only associated with veins
KUTh	SEL 26/2005	Tooms	DD - HQ	244.7	245.8	Jdl - Jurassic Dolerite	JDD		MG			Fresh						Q/B		V/B	CY/CH/FE	V	in clay, and the vein (2cm wide) is porous and full of zeolites growing in the cavities. The xls in the cavities are fine - like fine grained sand. Clay is the dominant

KUTh	SEL 26/2005	Tooms	DD - HQ	245.8	261.5	Jdl - Jurassic Dolerite	JDD		MG		A2/D/W/G	Fresh					Q/B		V		CY/CH/EP	V	Fresh green grey med-grained dolerite. Includes moderate number of qz/carbonate veins with distinct Fe - halo. Sometimes - less often than not there is increased grain size proximal to the veins up to 1cm wide. Interesting in that they often have fine
					EOH																		

Geologist: K Heynes

Hole ID: Towers

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Towers	GDA94	573,964	5,399,699	584	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	147	10/12/2007	12/12/2007	Gerald Spalding Drilling
HQ core	147	253	02/01/2008	21/02/2008	Gerald Spalding Drilling

DataSet	Hole_ID	Prospect	Rig	mFrom	mTo	Formation	Rock1	Rock 2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_Type	Vn_%	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	Tower Hill	SEL 26/2005	RC	0	3	SDs - (Mathinna quartzwacke turbidite sequences)	OSQ	OST			B1/A1	SAPRK	F/S	Y									Weakly ferruginised med-fine grained quarzose sed; massive. The siltstone is also weakly ferruginised, and has minor foliation texture. Moderately weathered
KUTh	Tower Hill	SEL 26/2005	RC	3	6	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT		A1	SAPRK	F	Y									Only very mild ferrrufinised, almost fresh sample. Siltstone light in colour, shows a foliation. Very minor micaceous sheen.
KUTh	Tower Hill	SEL 26/2005	RC	6	24	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT		A1	FRESH		y									Foliated light coloured siltstone. Minor micaceous sheen. Fractures in a platey manner, into small fragments
KUTh	Tower Hill	SEL 26/2005	RC	24	30	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT		A	FRESH		y			Q	1					Siltstone as above with very minor qz veining present.
KUTh	Tower Hill	SEL 26/2005	RC	30	42	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT		A2	FRESH		y			Q	1					Siltstone as above with very minor qz veining present. Stronger foliation present; can see cleavage/slatey texture even on small small fragments. Sericitic sheen becoming stronger.
KUTh	Tower Hill	SEL 26/2005	RC	42	48	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT/PH		A2/G2	FRESH		y			Q	10					Siltstone with increased % of qz due to veining. The Qz is in small flat fragments also; suggesting the veins are thin. Very slatey texture/phyllitic, and becoming green in colour.
KUTh	Tower Hill	SEL 26/2005	RC	48	57	SDs - (Mathinna quartzwacke turbidite sequences)	OST	V	FT/PH		A2/G2	FRESH		y			Q	40					As above, with increased % qz
KUTh	Tower Hill	SEL 26/2005	RC	57	75	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT/PH		A	FRESH		Y			Q	5					strong slatey cleavage, and large amount of sericite giving the siltstone a micaseous sheen.
KUTh	Tower Hill	SEL 26/2005	RC	75	78	SDs - (Mathinna quartzwacke turbidite sequences)	OST	V	FT		A/W	FRESH		y			Q	55					
KUTh	Tower Hill	SEL 26/2005	RC	78	87	SDs - (Mathinna quartzwacke turbidite sequences)	OST	V	FT		A/A1	FRESH		y			Q	15					Becoming lighter in colour, foliation less intense.
KUTh	Tower Hill	SEL 26/2005	RC	87	90	SDs - (Mathinna quartzwacke turbidite sequences)	OST	V			A1	FRESH		Y			Q	20					Light coloured siltstone. Not foliated like previous intervals.
KUTh	Tower Hill	SEL 26/2005	RC	90	120	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT-mild		A	FRESH		y			Q	5-10					Long interval of fairly uniform grey only mildly foliated siltstone. Milky quartz dispersed in small amounts throughout.
KUTh	Tower Hill	SEL 26/2005	RC	120	132	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT/PH		A2/G2	FRESH		y			Q	3					Strongly cleaved interval of dk grey and dk green siltstone.
KUTh	Tower Hill	SEL 26/2005	RC	132	144.1	SDs - (Mathinna quartzwacke turbidite sequences)	OST		FT/PH		A2/G2	FRESH		y			Q	10					As above, with a greater % of quartz
					EOH																		
KUTh	Tower Hill	SEL 26/2005	DD-HQ	144.1	149	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	<1	Cpy/Py	Q/B	100	S	10	CH	UB	Steeply dipping serricitic Mathinna beds (84 degrees) with slaty cleavage (apparent dip ~80 degrees) almost concordant with bedding. Pervasively chloritic. Py/?Chalcopyrite very minor clots within quartz carbonate veins at 146.18m. Facies change from mudstone to siltstone to quartz sandstone at 147.31m. Core relatively coherent with intermittently broken blocks becoming more competent towards 149metres. Sheeted sub mm scale quartz carbonate veins dipping approx 50 degrees at 147.8 and 148.8metres. Bedding angle difficult to tell but most likely sub-vertical.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	149	168	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	-	-	Q/B	100	S	10	CH	UB	Interbedded sandstone siltstone - uniformly green grey. Becoming more competent and less fractured. Qtz carbonate veins following cleavage - one set at ~50degrees to core. The other is sub-vertical and very close to bedding. Pervasive chlorite alteration. Qtz carbonate veins typically <1cm in thickness and spaced >70cm or greater. Veins undeformed and typically 2 within each metre of core ~5mm wide. Quartzwacke subordinate to phyllite. En echelon qtz carbonate veins at 150.9m. Quartz carbonate vein dipping 70degrees at 152m. Bedding 87degrees at 155m
KUTh	Tower Hill	SEL 26/2005	DD-HQ	168	171.62	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	-	-	Q/B	100	S	10	CH	UB	As above but becoming increasingly fractured.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	171.62	178.35	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/B/W	FRESH		30	<1	Cpy/Py	Q/B	100	S	10	CH	UB	Mudstone sandstone boundary - irregularly shaped with quartz carbonate vein following boundary - dipping 71degrees. Patchy irregular Py and possible chalcopyrite within the mudstone facies. Minor fault on contact with sinistral movement around 3cm.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	178.35	186	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/B/W	FRESH		-	<1	Cpy/Py	Q/B	100	S	10	CH	UB	Bedding grading normally (upwards), dipping 76degrees (apparent dip). Facies change from light green quartz sandstone to darker green siltstone at 179.1metres. Minor disseminated Chalcopyrite and pyrite on cleavage plains at 181.5metres. Small reverse dip-slip fault at 184.37. Displacement ~ 1cm. Fault dipping 58degrees to core which x-cuts qtz carb vein with minor disseminated Py and Cpy at 88degrees to core.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	186	188.8	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		20	<1	Py	Q/B	100	S	10	CH	UB	Competence of core dereasing becoming more broken. Veining sparse with sheeted architecture. Minor to rare pyrite occuring mainly as sub cm clots.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	188.8	194.64	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	<1	Py	Q/B	100	S	10	CH	UB	Very competent core - unbroken with very sparse quartz carbonate veins. Rare pyrite clot ~5mm (183.9m) in diameter
KUTh	Tower Hill	SEL 26/2005	DD-HQ	194.64	202.9	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		70	<1	Py	Q/B	100	S	10	CH	UB	Core becoming very broken. Substantial fault at 197.2 to 202metres in quartzwacke unit. Fault gouge and fault breccia with clay matrix. Fault clast supported to matrix supported. Pyrite occuring as above.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	202.9	256	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	-	-	Q/B	100	S	10	CH	UB	Rock unit as above (phyllite/mudstone) - strongly serricitic. Bedding 78degrees at 211.6metres in siltstone unit. Almost no veins to here. If there are any they are generally sub mm scale and rare. 2cm thick quartz carbonate vein dipping around 80degrees becoming anastomosing to whispy at 223.8metres.
KUTh	Tower Hill	SEL 26/2005	DD-HQ	256	264.01	SDs - (Mathinna quartzwacke turbidite sequences)	OST/SG	-	GR/PH	-	A/G/W	FRESH		-	-	-	Q/B	100	S	10	CH	UB	Greywacke dominant. Quartz carbonate veins increasing within this unit towards EOH. Vein sets -the younger is dipping 27 degrees to the core axis and are generally ~8mm in thickness, the older is sub-vertical to 78 degrees.
					EOH																		

Geologist: K Heynes (RC chips), A Wakefield (DD core)

Hole ID: Tunbridge

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Tunbridge	GDA94	529,875	5,339,428	525	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102.3	28/03/2008	31/03/2008	Gerald Spalding Drilling
HQ core	102.3	252.6	07/04/2008	13/04/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_ %	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Tunbridge	DD-HQ	102.6	110.2	Ru - Upper Parmeener Supergroup	RSF	SB	FU	FU	A/A2/D	FRESH	-	10	-	-	B	100	S	-	-	-	Grey upward bedded medium grained feldspathic sandstone. Dark grey to black carbonaceous "spots" throughout. Carbonate vein at 102.6m dipping 76degrees. Spots typically 2 to 3mm in diameter.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	110.2	110.27	Ru - Upper Parmeener Supergroup	RSF	-	FU	-	A/B1	FRESH	-	10	-	-	-	-	-	10	CH	U	Finely laminated horizontal to sub-horizontal grey to grey brown sandstone beds. Intermittent lighter beds are calcitic. Steeply dipping fracture face at 110.2m dipping around 70 degrees.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	110.27	111.7	Ru - Upper Parmeener Supergroup	RSU	-	Broken	-	A	FRESH	-	10	-	-	-	-	-	-	-	-	Grey mudstone - poor competence. Very broken from 110.27 to 111metres.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	111.7	114.3	Ru - Upper Parmeener Supergroup	RSU	-	-	-	A	FRESH	-	10	-	-	-	-	-	-	-	-	Grey mudstone
KUTh	SEL 26/2005	Tunbridge	DD-HQ	114.3	114.57	Ru - Upper Parmeener Supergroup	RSF/SQ	-	-	-	-	-	-	-	-	-	B	100	S	-	-	-	Carbonate vein ~4mm thick dipping ~70degrees in fine grained grey sandstone.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	114.57	115.15	Ru - Upper Parmeener Supergroup	RSF/SQ	RSU	FU	FU	A	FRESH	-	10	-	-	-	-	-	-	-	-	Grey fine grained grey sandstone and siltstone.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	115.15	121.2	Ru - Upper Parmeener Supergroup	RSU	-	FU	-	A/B	FRESH	-	70	-	-	-	-	-	-	-	-	Fault within mudstone facies. Fault breccia @ 120metres. Clast & matrix supported with an orange brown muddy matrix
KUTh	SEL 26/2005	Tunbridge	DD-HQ	121.2	125.69	Ru - Upper Parmeener Supergroup	RSF/SQ	-	FU	-	A	FRESH	-	-	-	-	-	-	-	-	-	-	Grey fine grained sandstone with fractures dipping around 70degrees to horizontal.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	125.69	126.8	Ru - Upper Parmeener Supergroup	RST	RSU	FU	FU	D/A2	FRESH	-	30	-	-	-	-	-	50	CH	SP	Black to dark grey mudstones becoming hornfelsic and in places ?silicified (hardness ~6), predominantly hardness is around <3. Chloritic. Alteration associated with proximal dolerite intrusion. Core broken and "blocky"/cobble sized fragments.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	126.8	128.8	Ru - Upper Parmeener Supergroup	RST	RSF/SQ	FU	FU	A/A2	FRESH	-	-	-	-	B	100	S/T	-	-	-	Grey siltstone and interbedded sandstones. Carbonate vein x-cutting core at 127.6metres.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	128.8	132.6	Ru - Upper Parmeener Supergroup	RST	RSF/SQ	FU	FU	A/A2/A1	FRESH	-	30	-	-	B	100	S/T	-	-	-	Core becoming increasingly hornfelsic with pervasive weak chloritisation and increasing hardness.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	132.6	136	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH	-	5			B/L	-	-	-	CH	VSD/S	Fresh fine grained dolerite 50:50 plag:pyx. Several steeply dipping chlorite rich veinlets present. Veinlets react with HCL. Obvious Fe aureol associated with the veins. Core generally fractures along veinlets. Poorley consolidated interval @ 135.6 & 135m due to small shear zones, Chlorite rich within the sheer zones.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	136	138.6	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH	-	-	-	-	B/L	-	-	-	CH	VSD	Very poorley consolidated interval with many horizontal breaks. Fine to Medium grained with pyx crystals distinctly larger than the plag groundmass. Only very minor CB and Chlorite veining, with fracturing along the vein.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	138.6	147.4	Jdl - Jurassic Dolerite	JDD		FG-MG		A	FRESH	-	5	-	-	-	-	-	-	CH/CB	S	Increasing coherence , although still >5 breaks/meter. Includes many small (up to 4cm wide) bands of coarse grained dolerite with sharp boundaries to FG dolerite above and below. @143m 10cm wide shear zone hosting chlorite and carbonates.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	147.4	152.5	Jdl - Jurassic Dolerite	JDD		MG/CG		A1/A2	FRESH	-	-	-	-	-	-	-	-	-	-	Interval characterised by several layers within the dolerite, alternating between MG and CG dolerite. Very sharp boundaries at start and end of the layers. Also changing ratio of pyx:plag in different layers. Increasing coherence, with several horizontal breaks present. No veining.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	152.5	168.6	Jdl - Jurassic Dolerite	JDD		CG		A	FRESH	-	-	-	-	-	-	-	10	CH	U	Very coherent coarse grained dolerite. Pyx crystals becoming asicular, up to 1-7mm long. Plag makes up the groundmass. No veining of fracturing. Dominantly pyx crystals; dk grey to bronze in colour. Some selective chlorite alteration present.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	168.6	189	Jdl - Jurassic Dolerite	JDD		CG-VCG		A/G	FRESH	-	-	-	-	?/B	-	S	-	-	-	Light green groungmass hosting large asicular pyx crystals often >1cm long. 4mm wide subvertical vein running most of interval, minor CB, dominantly pink-orange mineral H-5, vitreous, some peacock colouring. No fracturing associated with vein. Coherent interval.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	189	200	Jdl - Jurassic Dolerite	JDD		CG-MG		A2	FRESH	-	-	5-in vein	PY	L/B/Y	-	S	5	CH	V	Decreases grainsize from CG-MG over approx. 50cm. Coherent interval except at 1m long steeply dipping Chlorite+pyrite+CB vein. Centre of 1cm wide vein is soft black chlorite. Pyroxenes in the dolerite dominantly bronze in colour.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	200	215.5	Jdl - Jurassic Dolerite	JDD		MG		A1/A	FRESH	-	-	-	-	-	-	-	-	CH	F	Dominantly lt grey groundmass. Coherent interval. Small fracture zone for 40cm leading up to 213 meter mark. Chlorite and CB present on soft puggy fracture surfaces. Becoming darker towards end of interval with increased fracturing towards end of interval.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	215.5	218	Jdl - Jurassic Dolerite	JDD		MG-CG		B/A	FRESH	-	-	-	-	B/Q	-			CH/SR	V	High level of fluid activity in this zone, with large amount of chlorite and sericite alteration assosiated with the viening. Dolerite hosting the veins is dominantly medium grained, but CG proximal to the veins. Euhedral tabular crystals of the pyroxene, some alteration to chlorite. Crystal growth within the voids often having a nodular/botreyoidal texture, xls are light brown/H-5-7: zeolites? Fe halo around the veins. Interval dominantly coherent, though porus.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	218	219	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH	-	-	-	-	-	-	-	-	-	-	fresh unaltered med grained dolerite.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	219	242	Jdl - Jurassic Dolerite	JDD		MG		A	FRESH	-	-	-	-	B	-		8	CH	U	pyx bronzy coloured. Coherent, with approx 2-3 breaks per meter. Minor chlorite alteration. Very minor sub-vert carbonate veining.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	242	245.3	Jdl - Jurassic Dolerite	JDD		MG/BX		A/B/G	FRESH	-	10	-	-	B	-		80	CB/CH/I	V	Strongly altered zone, with large amount of fracturing and minor brecciation. Mild slicken-slides on fracture surfaces. Large CB vins with associated FE-Oxide and chlorite alteration. Often euhedral clacite xls in the veins.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	244	245.3	Jdl - Jurassic Dolerite	JDD	R	BX		W/A/B	FRESH	-	-	-	-	B	-	-	-	-	-	Large sheer/breccia zone. Middle of interval characterised by a large solid CB vein/breccia zone (greater than width of the core). Breccia zone CB hosted, with xenoliths of the dolerite within. Green clay associated with the interval. Grainsize of pyx increases with proximity to the vein.
KUTh	SEL 26/2005	Tunbridge	DD-HQ	245.3	252.6	Jdl - Jurassic Dolerite	JDD		MG		A/A2	FRESH	-	-	-	-	B/L	-	-	-	CH/CY/I	V	1 1cm wide steeply dipping vein. vein; clay and chlorite rich, unconsolidated, strongly altered/puggy material. Dominantly sericite & chlorite. Strong fe-oxide alteration halo around vein. Other than fracture associated with vein, very coherent interval.
					EOH																		

Hole ID: University Farm

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
University Farm	GDA94	534,378	5,261,742	43	Vertical	No

GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	90	26/06/2008	01/07/2008	Gerald Spalding Drilling

Hole ID: Westbury

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Westbury	GDA94	485,940	5,396,730	233	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	05/05/2008	07/05/2008	Gerald Spalding Drilling
HQ core	102	252	14/05/2008	20/05/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_Type	Vn_ Type	Vn_ %	Vn_ Qual	Int_ Alt	Alt_ Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Westbury	RC	0	3	JDD		Y/S		R/B	L	F	-	-	-	-	-		CY	U	Red brown lateritic dolerite clay.
KUTh	SEL 26/2005	Westbury	RC	3	6	JDD				Y/B	L/SOIL	F	-	-	-	-	-	-	CY	U	Yellow brown less oxidised dolerite clay with abundant weathered sand sized plagioclase crystals
KUTh	SEL 26/2005	Westbury	RC	6	9	JDD				Y/B	L/SOIL	F	-	-	-	-	-	-	CY	U	As above with sand sized grains of highly weathered dolerite (<1mm)
KUTh	SEL 26/2005	Westbury	RC	9	12	JDD				Y/B	L/SOIL	F	-	-	-	-	-	-	-	U	As above with increasing proportion of dolerite. Sand sized plagioclase particles within doleritic clay matrix.
KUTh	SEL 26/2005	Westbury	RC	12	15	JDD				B/Y	SOIL	F	-	-	-	-	-	-	-	U	Coarse sand sized, fine grained weathered dolerite. Proportion of clay has all but dissappeared.
KUTh	SEL 26/2005	Westbury	RC	15	18	JDD				B/Y	SOIL	F	-	-	-	-	-	-	-	-	As above with 5 - 15% red/brown clay. Interpreted to be a minor fracture within the dolerite.
KUTh	SEL 26/2005	Westbury	RC	18	21	JDD				B/Y	SOIL	F	-	-	-	-	-	-	-	-	As above.
KUTh	SEL 26/2005	Westbury	RC	21	24	JDD				B/Y	SOIL	F	-	-	-	-	-	-	-	-	Coarse sand sized, fine grained weathered dolerite. Proportion of clay has all but dissappeared.
KUTh	SEL 26/2005	Westbury	RC	24	27	JDD	-	-	-	A2/D	FRESH	-	-	-	-	-	-	-	-	-	Fresh coherent fine grained dolerite.
KUTh	SEL 26/2005	Westbury	RC	27	36	JDD	-	-	-	A2/D	FRESH	-	-	-	-	-	-	-	-	-	As above.
KUTh	SEL 26/2005	Westbury	RC	36	42	JDD	-	-	-	A2/OB	FRESH	-	-	-	-	-	-	-	CY	F	Predominantly fresh coherent fine grained dolerite with minor clay. Interpreted as minor fracture infill.
KUTh	SEL 26/2005	Westbury	RC	42	57	JDD	-	-	-	A2/OB	FRESH	-	-	-	-	-	-	-	CY	F	Predominantly fresh coherent dolerite with very weathered sand sized plagioclase crystals and orange/brown clay. Interpreted as minor fault/fracture infill.
KUTh	SEL 26/2005	Westbury	RC	57	60	JDD	-	-	-	A2/OB/W	FRESH	-	-	-	-	-	-	-	-	-	As above with increasing proportion of weathered sand sized grains of dolerite and minor serricite associated with minor (mm scale) veins and/or faults. Interpreted as a small fracture.
KUTh	SEL 26/2005	Westbury	RC	60	63	JDD	-	-	-	A2/O/B	FRESH	-	-	-	Zeolite/Q/B	-	-	-	-	-	5%) weathered Fe stained sand sized particles of
KUTh	SEL 26/2005	Westbury	RC	63	66	JDD	-	-	-	A2/O/B	FRESH	-	-	-	-	-	-	-	-	-	As above with increase in proportion of Fe stained sand sized particles (5 - 10%).
KUTh	SEL 26/2005	Westbury	RC	66	75	JDD	-	-	-	A2/O/B	FRESH	-	-	-	Zeolite/Q/B	-	-	-	-	-	As above with significant increase in Fe stained fracture fill (~10%) with possible quartz/carbonate and serricite associated with minor (mm scale) veins and/or faults. Interpreted as a small fracture.
KUTh	SEL 26/2005	Westbury	RC	75	78	JDD	-	-	-	A2/OB	FRESH	-	-	-	Zeolite/Q/B	-	-	-	-	F	As above with minor clay and serricite associated with minor (mm scale) fracture fill, veins and/or fault(s).
KUTh	SEL 26/2005	Westbury	RC	78	81	JDD	-	-	-	O/B/A2	FRESH	-	-	-	Zeolite/Q/B	-	-	-	-	S	As above with significant increase in Fe stained clay (20 - 40%). Interpreted as a fault.
KUTh	SEL 26/2005	Westbury	RC	81	90	JDD	-	-	-	A2/O/B	FRESH	-	-	-	Zeolite/Q/B	-	-	-	-	F	As above with significant decrease in clay. Serricite associated with minor (mm scale) fracture fill, veins and/or fault(s). Quartz carbonate and serricite vein debris (2 - 5%).
KUTh	SEL 26/2005	Westbury	RC	90	102	JDD	-	-	-	A2/O/B	FRESH	-	-	-	-	-	-	-	-	-	Fresh coherent ophitic dolerite with significant decrease in proportion of Fe stained fragments contituting <5% of chips.
					EOH																
KUTh	SEL 26/2005	Westbury	Diamond	102.16	107.25	JDD	-	CG	-	L/G/A2	-	-	-	-	-	-	-	-	-	-	Blue grey coarse grained dolerite. Ophitic texture with pyroxenes giving a "spotted" texture to core. Core broken at regular intervals ≥ 10cm dipping 3 main orientations: ~67, 30 degrees and sub vertically. Minor chlorite with zeolite and carbonate veins sub mm scale and sparse. Dolerite weakly magnetic.
KUTh	SEL 26/2005	Westbury	Diamond	107.25	-	JDD	-	CG	-	W	-	-	-	-	Zeolite/B	1	S	10	CH	VP	V.minor fault infilled with zeolite. Core becoming broken to blocky below 108.3 to 109.7. Core weakly magnetic.
KUTh	SEL 26/2005	Westbury	Diamond	113.6	113.90	JDD	-	CG	-	L/G/A2	-	-	-	-	B/zeolite	10	S	10	CH	VP	Steeply dipping calcite/zeolite vein with v.minor brecciation/faulting. Dip ~82 degrees.
KUTh	SEL 26/2005	Westbury	Diamond	113.9	125.60	JDD	-	CG	-	L/G/A2	-	-	-	-	-	-	-	-	-	-	Coarse grained dolerite - moderate to good competence.
KUTh	SEL 26/2005	Westbury	Diamond	125.6	126.10	JDD	-	-	-	W	-	-	-	-	-	-	-	-	-	-	Small fault containing talc/?gypsum very soft - (likely to be the former) with minor carbonate. Core blocky and broken within this interval. Dip ~80degrees. Core weakly magnetic.

KUTh	SEL 26/2005	Westbury	Diamond	126.1	137.80	JDD	-	CG	-	L/G/A2	-	-	-	-	B/zeolite	<1	S	10	CH	VP	Blue grey coarse grained dolerite. Ophitic texture with pyroxenes giving a "spotted" texture to core. Minor chlorite with zeolite and carbonate veins sub mm scale and sparse. Dolerite weakly magnetic.
KUTh	SEL 26/2005	Westbury	Diamond	137.8		JDD	-	CG	-	L/G/A2/W	-	-	-	-	B	>10	S	-	-	-	Steeply dipping vuggy and drusy calcite filled sheeted vein suite. Discontinuous to 139.6. Core broken between 138.7 to 139.6m.
KUTh	SEL 26/2005	Westbury	Diamond	143.5	144.10	JDD	-	CG	-	L/G/A2/W	-	-	-	-	B	1-2	S	10	CH	VP	Sub horizontal anastomsing - whispy calcite veins. Dolerite containing bronze ?orthopyroxene phenocrysts. Chlorite aureole spreading from veins into the dolerite.
KUTh	SEL 26/2005	Westbury	Diamond	144.1	161.12	JDD	-	CG	-	L/G/A2/W	-	-	-	-	B/zeolite	<1	S	10	CH	VP	Competent coarse grained ophitic dolerite. Irregularly spaced mm scale sub-horizontal white calcite/zeolite veins. Dolerite weakly magnetic with irregularly spaced minor increases.
KUTh	SEL 26/2005	Westbury	Diamond	161.2	165.08	JDD	-	CG	-	L/G/A2/W	-	-	-	-	Zeolite	<1	S	-	-	-	Steeply dipping vuggy, drusy zeolite filled veins. Dip ~72 degrees. Veins sub cm thickness.
KUTh	SEL 26/2005	Westbury	Diamond	164.27	-	JDD	-	-	-	W	-	-	20	-	Talc/B/zeolite	10	S	-	-	-	Small fault associated with talc/carbonate/zeolite vein dipping ~75degrees and ~ 2cm thick with minor brecciation.
KUTh	SEL 26/2005	Westbury	Diamond	167.6	-	JDD	-	-	-	W	-	-	30	-	-	-	S	10	CH	VP	Fault - talc/carbonate filled with brecciation. Vein/fault thickness >3cm dipping ~75 degrees. Chlorite alteration throughout vein with minor localised alteration of dolerite.
KUTh	SEL 26/2005	Westbury	Diamond	178.64	178.77	JDD	-	CG/FG	-	L/G/A2	-	-	-	-	-	-	-	-	-	-	"dyke" ~13cm thick of much finer grained dolerite cross-cutting coarse grained dolerite. Contact is gently dipping ~15degrees. Pyroxene phenocrysts shrink from ≤3mm to sub-mm scale.
KUTh	SEL 26/2005	Westbury	Diamond	178.77	184.80	JDD	-	CG	-	L/G/A2/D	-	-	-	-	-	-	-	-	-	-	Irregular black cm scale "patches" with massive texture which are typically more magnetic and pyroxene poor irregularly spaced within this interval. Very coarse pyroxene phenocrysts up to 1.5cm at 180.19 to 180.27m.
KUTh	SEL 26/2005	Westbury	Diamond	181.5	-	JDD	-	-	-	-	-	-	-	-	Talc/zeolite	10	-	-	-	-	~ 10mm thick talc/zeolite vein. Minor brecciation within vein.
KUTh	SEL 26/2005	Westbury	Diamond	186	186.50	JDD	-	CG	-	L/G/A2/D/W	-	-	10	-	Zeolite	1	-	-	-	-	Steeply dipping veins with probable minor displacement.
KUTh	SEL 26/2005	Westbury	Diamond	188.3		JDD	-	CG	-	L/G/A2/D/W	-	-	-	-	B	1	-	-	-	-	Sub-horizontal carbonate vein ~1cm thick.
KUTh	SEL 26/2005	Westbury	Diamond	190.8		JDD	-	CG	-	L/G/A2/D	-	-	-	-	-	-	-	-	-	-	Pyroxene phenocrysts decreasing in size to <0.5mm to 191m. At 191m phenocryst size increases marginally to 191.12m with a return to coarse grained dolerite below this.
KUTh	SEL 26/2005	Westbury	Diamond	191.12	196.20	JDD	-	CG	-	L/G/A2/D	-	-	-	-	-	10	S	10	CH	VP	Core becoming broken with minor faults spaced within this zone, within coarse grained dolerite. Minor Fe staining occuring as an alteration aureole from zeolite/talc/gypsum filled fractures which are also chloritic.
KUTh	SEL 26/2005	Westbury	Diamond	204	216.60	JDD	-	CG	-	L/G/A2/D	-	-	-	-	-	-	-	-	-	-	Coarse grained competent dolerite.
KUTh	SEL 26/2005	Westbury	Diamond	216.60	219.50	JDD	-	CG/VCG	-	L/G/A2/D	-	-	-	-	-	-	-	-	-	-	Pyroxenes becoming dominant and coarse to very coarse with an increase in "massive" textured black "patches" - possibly magnetite/?hornblende.
KUTh	SEL 26/2005	Westbury	Diamond	219.50	226.00	JDD	-	CG	-	L/G/A2/D	-	-	-	-	B/zeolite	<1	-	-	-	-	Coarse grained dolerite - good competence with minor scattered mm scale zeolite/carbonate veins dipping ~70degrees
KUTh	SEL 26/2005	Westbury	Diamond	226.00	252.00	JDD	-	CG	-	L/G/A2/D	-	-	-	-	B/zeolite	<1	S/T	-	-	-	Decreasing competence with increasing fracture density. Fault at 242.85m with very minor scattered and stockworked veins mm scale. Dolerite coarse grained to EOH with slight variations in size but variations are very minor. Veins generally sub cm scale dipping in 3 orientations: approx <15, 50 and 75 degrees respectively.
					EOH																

Geologist: Andrew Wakefield

Hole ID: Woodsdale

Hole Summary:

Hole ID	Datum	Easting#	Northing#	RL(m)#	Azimuth	Survey
Woodsdale	GDA94	552,007	5,296,499	365	Vertical	No

#GPS

Type	From (m)	To (m)	Start Date	Finish Date	Company
RC	0	102	18/01/2008	21/01/2008	Gerald Spalding Drilling
HQ core	102	252.7	17/03/2008	28/03/2008	Gerald Spalding Drilling

DataSet	Prospect	Hole_ID	Rig	mFrom	mTo	Formation	Rock1	Rock2	Rock1_ Qual	Rock2_ Qual	Colour	Regolith	Reg_ Qual	Shear	Sulph+ Ore_%	Sulph+ Ore_Type	Vn_ Type	Vn_%	Vn_Qual	Int_Alt	Alt_Type	Alt_ Qual	Description
KUTh	SEL 26/2005	Woodsdale	RC	0	3	Ru- Upper Parmeener Supergroup	RSS				K	SAPRK											Light coloured medium grained sandstone. Muscovite common.
KUTh	SEL 26/2005	Woodsdale	RC	3	18	Ru- Upper Parmeener Supergroup	RSS		F/Y		B	SAPRK	F										Iron stained pebbly sized aggregates of sandstone. Clay and mica present
KUTh	SEL 26/2005	Woodsdale	RC	18	33	Ru- Upper Parmeener Supergroup	RSS				A1	FRESH											Light grey medium grained sandstone, dominantly composed of quartz and other lithics
KUTh	SEL 26/2005	Woodsdale	RC	33	39	Ru- Upper Parmeener Supergroup	RSS		S		A1/A	FRESH											as above, but includes soft aggregates of finer grained grey sand
KUTh	SEL 26/2005	Woodsdale	RC	39	57	Ru- Upper Parmeener Supergroup	RSS		S		K	FRESH											fine to medium grained light coloured sandstone. Often very soft/sandy, dominantly quartz fragments, with other lithics and micas
KUTh	SEL 26/2005	Woodsdale	RC	57	63	Ru- Upper Parmeener Supergroup	RSS		S		W	FRESH											Very porus and loosley held matrix. Soft white matrix supports fine quartz fragments. Less lithics than previous intervals.
KUTh	SEL 26/2005	Woodsdale	RC	63	66	Ru- Upper Parmeener Supergroup	RSS		S		K	FRESH											Interval dominantly uncolnsoldiated/very soft fine grained sand/sandstone.
KUTh	SEL 26/2005	Woodsdale	RC	66	72	Ru- Upper Parmeener Supergroup	RSS				B1	FRESH											Sandstone almost entirely medium grained quartz grains, matrix not a strong cement; easily crumbles. Micas common throughout, lithics not so common
KUTh	SEL 26/2005	Woodsdale	RC	72	78	Ru- Upper Parmeener Supergroup	RSS	RST	F		B1/R	FRESH	F										Sandstone as above, with iron staining, also includes layer of iron rich soft siltstone.
KUTh	SEL 26/2005	Woodsdale	RC	78	90	Ru- Upper Parmeener Supergroup	RSS				B1	FRESH											Quartz dominated medium grained sandstone, martix not a strong cement; breaks easily
KUTh	SEL 26/2005	Woodsdale	RC	90	96	Ru- Upper Parmeener Supergroup	RSS		F		B1/R	FRESH	F										As above, with iron staining
KUTh	SEL 26/2005	Woodsdale	RC	96	102	Ru- Upper Parmeener Supergroup	RSS				B1	FRESH											Equally Qaurtz and lithic composition fine to medium grained sandstone.
					EOH																		
KUTh	SEL 26/2005	Woodsdale	DD-HQ	102.7	114.24	Ru-Upper Parmeener Supergroup	SS		MG/MA/FR		A1	FRESH	-	-	-	-		-	-	B1/F/5%	FE - u (?)		Massive medium grained sandstone with distinct pervasive Fe-banding from 110.43-
KUTh	SEL 26/2005	Woodsdale	DD-HQ	114.24	115.3	Ru-Upper Parmeener Supergroup	SS		FG/BD		A/A1	FRESH	-	-	-	-							Darker grey bands due to 35% biotite fracture fill. Interbedded biotite-rich beds with
KUTh	SEL 26/2005	Woodsdale	DD-HQ	115.3	115.78	Ru-Upper Parmeener Supergroup	SU	ST	VFG/BD/LA		A/K1	FRESH	-	-	-	-							within the layers (~2%)
KUTh	SEL 26/2005	Woodsdale	DD-HQ	115.78	120.7	Ru-Upper Parmeener Supergroup	SS		MG/MA		A1	FRESH	-	-	-	-							Sub-horizontal banding
KUTh	SEL 26/2005	Woodsdale	DD-HQ	120.7	120.8	Ru-Upper Parmeener Supergroup	SS		MG		A2	FRESH	-	-	-	-							compared to previous sandstone equigranular sand-sized particles. Biotite (1-2%)
KUTh	SEL 26/2005	Woodsdale	DD-HQ	120.8	125	Ru-Upper Parmeener Supergroup	ST/SU/SS		VFG-FG/BD		A1/K/O1	FRESH	-	-	-	-							Interbedded layers of sandstone, siltstone and mudstone, grading not observed, beds usually <0.5cm - 3cm wide
KUTh	SEL 26/2005	Woodsdale	DD-HQ	125	126.13	Ru-Upper Parmeener Supergroup	SS		MG/BD		A/K1	FRESH	-	-	-	-							Medium grained sandstone interbedded with biotite beds up to 3mm thick usually ~1m, spaced ~1cm apart on average dipping ~15o ^a
KUTh	SEL 26/2005	Woodsdale	DD-HQ	126.13	127.68	Ru-Upper Parmeener Supergroup	SU/SS		BD/FG (SS)		A	FRESH	-	-	-	-	FE						Dominantly mudstone interbedded with fine-grained sandstone; 10-15% of core is covered by a network of very fine grained brown vienlets of fe-oxide 50o^a
KUTh	SEL 26/2005	Woodsdale	DD-HQ	127.68	128	Ru-Upper Parmeener Supergroup	SU/SS		BD/LC		A2/O1/K1	FRESH	-	-	-	-							Interval of very fine grained mudstone and sandstone (30cm), distinctive due to soft-sediment deformation-bedding undefined (?) Some sedimentary structures, eg flame and lode-casting indicating the bedding grades normally from course to fine grained sandstone.
KUTh	SEL 26/2005	Woodsdale	DD-HQ	128	130.27	Ru-Upper Parmeener Supergroup	SS		MG/XB		A1/A2	FRESH	-	-	-	-							Sub-horizontal - low angle dipping biotite banding up to 3mm thick, averaging 1cm apart
KUTh	SEL 26/2005	Woodsdale	DD-HQ	130.27	131.3	Ru-Upper Parmeener Supergroup	SU/ST/SS		VFG		A1/A2/K1	FRESH	-	-	-	-	FE	10%					Diffusely interbedded mudstones and siltstones and very fine-grained sandstone, minor stock-work veinlets with Fe-staining (assumed mineral infill - soft, uncertain of origin) diffuse bedding.
KUTh	SEL 26/2005	Woodsdale	DD-HQ	131.3	133.31	Ru-Upper Parmeener Supergroup	SM				O1/A2	FRESH	-	-	-	-							Several intervals (20cm average) of coarse, monomict conglomerate unit composing sub-angular - sub-rounded grains of 2mm-2cm
KUTh	SEL 26/2005	Woodsdale	DD-HQ	133.31	135.13	Ru-Upper Parmeener Supergroup	SS		FG/BD		A1.5/K-Y/O1	FRESH	-	-	-	-							Fine grained bedded sandstone (beds 3mm-1cm thick)
KUTh	SEL 26/2005	Woodsdale	DD-HQ	135.13	135.28	Ru-Upper Parmeener Supergroup	SS		FG/BD		A1/W/K1	FRESH	-	-	-	-							Finely laminated sandstone, distinctly lighter in colour to adjacent units with pervasive light pinkish staining.
KUTh	SEL 26/2005	Woodsdale	DD-HQ	135.28	138.14	Ru-Upper Parmeener Supergroup	SS		FG-MG		A1/A2	FRESH	-	-	-	-	C/B	5%					Medium - fine grained sandstone with minor veinlets. One vein sub-horizontal with alteration aureole 2cm either side (~137.75) lighter colour than surrounding country rock
KUTh	SEL 26/2005	Woodsdale	DD-HQ	138.14	139.3	Jdl - Jurassic Dolerite	JDD		MA/FG-VFG		A2	FRESH	-	-	-	-	C/B						Single vien runs sub-parallel to bedding, soft (4.5Moh) 0.75cm, intrudes at right angle.
KUTh	SEL 26/2005	Woodsdale	DD-HQ	139.3	150.6	Jdl - Jurassic Dolerite	JDD		MA/FG-VFG		A2	FRESH	-	-	-	-							
KUTh	SEL 26/2005	Woodsdale	DD-HQ	150.6	150.75	Jdl - Jurassic Dolerite	JDD		MA/MG		A2	FRESH	-	-	-	-							
KUTh	SEL 26/2005	Woodsdale	DD-HQ	150.75	151.8	Jdl - Jurassic Dolerite	JDD		MA/FG-VFG		A2	FRESH	-	-	-	-							
KUTh	SEL 26/2005	Woodsdale	DD-HQ	151.8	152.35	Jdl - Jurassic Dolerite	JDD		MA/MG-CG		A2	FRESH	-	-	-	-							Matic with coarse, pinksh feldspar (25%) xstals
KUTh	SEL 26/2005	Woodsdale	DD-HQ	152.35	175.15	Jdl - Jurassic Dolerite	JDD		MA/MG-CG		A2	FRESH	-	-	-	-	C/B	30%					Lots of veining at a similar orientation. Vein mineral is black and crumbly and reactive. Core is completely broken: even, repeated fracturing. Distinct prismatic px (or hbd?) xstals present (10-15%) bronze in colour, from 159.15 - 175.15
KUTh	SEL 26/2005	Woodsdale	DD-HQ	175.15	196.4	Jdl - Jurassic Dolerite	JDD		MA/CG		A2	FRESH	-	-	-	-							Distinctly rich in coarse-grained feldspar xstals (pinkish) (25-30% composition) with minor veining
KUTh	SEL 26/2005	Woodsdale	DD-HQ	196.4	207.6	Jdl - Jurassic Dolerite	JDD		MA/CG		A2	FRESH	-	-	-	-	C	<5%	W				Minor veining (white, reactive, soft.differs to vein composition of below section)
KUTh	SEL 26/2005	Woodsdale	DD-HQ	207.6	214	Jdl - Jurassic Dolerite	JDD		MA/CG		A2	FRESH	-	-	-	-							Minor veining: orangey-pink ~0.25cm, rock is distinctly plag-rich (pinkish crystals: blade-like in cross section) 25-30% comp. Pyrite flecks (5%): coarse-grained ~0.05mm
KUTh	SEL 26/2005	Woodsdale	DD-HQ	214	221.1	Jdl - Jurassic Dolerite	JDD		MA/CG		A2	FRESH	-	-	-	-							
KUTh	SEL 26/2005	Woodsdale	DD-HQ	221.1	234.73	Jdl - Jurassic Dolerite	JDD		MA/CG-MG		A2	FRESH	-	-	-	-	B/C				CH?EP?	V	Sub-parallel veining, common for core to be split and fractured along / close to the vein (0.25cm with) (pink-ironstain?) either side of vein (1cm each way) veins up to 2m long (halo) veins 1-5mm wide.
KUTh	SEL 26/2005	Woodsdale	DD-HQ	234.73	237.7	Jdl - Jurassic Dolerite	JDD		MA/CG		A2	FRESH	-	-	-	-	B/C				CH?EP?	V	Sub-parallel veining (more siliceous) plag-rich (35-50%), core cracked and split along some veins (veining probably only 1-5%)
KUTh	SEL 26/2005	Woodsdale	DD-HQ	237.7	238.3	Jdl - Jurassic Dolerite	JDD		MA/MG		A2	FRESH	-	-	-	-	B/C	1-5%			CH?EP?	V	Sub-parallel veining where core has fractured completely - all oriented the same direction(~50^a). 10-15 % chlorite or epidote alteration within veins
KUTh	SEL 26/2005	Woodsdale	DD-HQ	238.3	238.5	Jdl - Jurassic Dolerite	JDD		MA/MG		A2	FRESH	-	-	-	-	B/C				L / P?	VP	Dolerite hosting large carbonate Vein with mostly green (chlorite) and slightly pink alteration; alteration halo either side of vein boundary displays green and reddish-brown iron staining. Vein orientation and dimensions difficult to determine due to range of angles
KUTh	SEL 26/2005	Woodsdale	DD-HQ	238.5	252.7	Jdl - Jurassic Dolerite	JDD		MA/CG - MG		A2	FRESH	-	-	-	-	B/C	<5%					Dolerite, more siliceous than top of dolerite unit, feldspar comprises ~25-40%, minor veining
					EOH																		

Geologist: RC Chips - K Heynes, DD - B Jones