

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_2008	TCZ- 26/2005	K26DD021	RC	0	3	Jdl	LCY				B/O	LSAP											Predominantly strongly Fe rich orange doleritic clay with minor sericite and sparse strongly weathered dolerite fragments.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	3	6	Jdl	LCY				B/O	LSAP											As above.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	6	9	Jdl	LCY				B/O	LSAP											As above.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	9	12	Jdl	LCY				B/O	LSAP											As above.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	12	15	Jdl	LCY	JDD			B/O	SAPRK											As above with fresh broken dolerite fragments subordinate to doleritic clay.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	15	18	Jdl	LCY	JDD			B/Y/O	SAPRK											As above.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	18	21	Jdl	LCY	JDD			B/Y/O	SAPRK											Mottled doleritic clay and strongly weathered dolerite. Probably redox front.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	21	27	Jdl	LCY	JDD			B/Y/O	SAPRK											As above with paler less Fe staining and possible increase(?) in sericite.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	27	30	Jdl	JDD				A/B/O	SAPRK											Predominantly small dolerite fragments within weathered dolerite clay.	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	30	42	Jdl	JDD				A/B/W	SAPRK											Medium grained dolerite with very minor biotite phenocrysts and sericite. Minor quartz/carbonate veins also present (<2%).	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	42	51	Jdl	JDD				A1/A/W	FRESH								10	CH	SP	As above with a significant increase in quartz/carbonate/zeolite associated with veining/faulting (15 - 30%).	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	51	57	Jdl	JDD	?SQ		LA	A1/B1/O	FRESH											Predominantly medium grained ophitic dolerite intermixed with weathered Fe stained dolerite fragements associated with faulting/fractures. Sericite common. Anomalous quartz lithic fine grained sandstone clast within chip sample - of Parmeener origin (contamination?)	
KUTH_2008	TCZ- 26/2005	K26DD021	RC	57	59.2		NS																Only 57m of chips from RC drilling, yet diamond drilling started at 59.2m - RC drilling probably out by 2m.	
																							Geologist: Andrew Wakefield	
KUTH_2008	TCZ- 26/2005	K26DD021	DD	59.2	67	Jdl	JDD		MG/WQ		A2	FRESH		zone	0.5	SU	Z/TC	5		20	CY/TC/SP	UP/SP		Non-magnetic, with roughly equal portion of anhedral plagioclase to pyroxene. Active area, jointed, with 3 small shear zones (<2cm wide). Each very rich in white and light green clays - talc, gypsum, chlorite. Usually soft within minor zeolite vein through centre of zone. Very minor evidence of sulphide oxidation/weathering out, ie a portion of the fe-sulphide remains, with distinct red alteration halo. Fracture surfaces almost always display alteration of some nature, with mild serpentinisation common.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	67	69.1	Jdl	JDD		MG/WQ		A1/A	FRESH		zone	1	PL	Q/TC	6	M/S	15	SP/TC/CY	SP		Last 15cm of interval a moderate size shear zone, bounded at top and bottom by a 1mm wide quartz vein. Within very soft and mildly brecciated, with angular fragments of talc randomly orientated within, generally green and white clays. Difficult to say if other four highly altered veins plumbed by shear. Minor serpentinisation present (with slickensiding). Also appears to be pyrolusite forming dendritic texture on fractured surfaces. Multiple sheeted veining; generally minor quartz and green/white clays.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	69.1	74.8	Jdl	JDD		MG/FR		A2/A	FRESH					Q/TC	5		5	CY/TC	V/F		Mild fracturing, fractured surfaces usually with a drusy texture; with very fine grained black vitreous crystals. Small number of clay ± talc ± quartz veins. The green possibly epidote.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	74.8	75.1	Jdl	LCY	JDD	PU		W/G1	FRESH		50						80	CY/TC	SP		Shear zone. Very soft within, largely unconsolidated. Dipping approx.60deg. Light green & white. No sign of lateral movement. No solid crystals present, dominantly clays and very soft chloritised/epidote clay
KUTH_2008	TCZ- 26/2005	K26DD021	DD	75.1	77.9	Jdl	JDD		MG		A2	FRESH					Q/TC/B	1			CY	V		equal portion of plagioclase to pyroxene, with an increase in black mafics, very mildly magnetic thus likely to be largely fe-titanium oxides), or other opaques. All anhedral, two small veins, as described in previous intervals. Becoming finer towards the end of the interval. Smaller of the two veins composed of carbonates
KUTH_2008	TCZ- 26/2005	K26DD021	DD	77.9	79.7	Jdl	JDD		MG/FG		A2	FRESH		20			TC	2		20	CH/EP/SP	V		Fine to medium grained. Interval defined by a number veins; veins act as plumbing to pervasively alter the surrounding rock. Alteration largely chlorite ± epidote. Veins dominantly talc and other low grade white meta clays. Very minor serpentinisation, visible on fractured surfaces and within veins. All fractures/veins have the same general orientation/dip (approx 60deg dip). With some minor veining perpendicular between the veins - minor stockwork.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	79.7	89.9	Jdl	JDD		FG/FR		A	FRESH					Q	0.5						Fine grained dolerite with moderate fracturing. No veining/shearing as described in previous intervals. Couple of very minor qz veinlets present.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	89.9	91.7	Jdl	JDD		MG/WQ		A	FRESH					C/Q	1		5	CY	F		Includes three 45deg dipping calcite + clay veins approx. 1cm thick. Large calcite xls forming 1cm long sharp pointed hexagonal scalenohedral crystals. Veins dominantly green and white within, soft, but consolidated.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	91.7	99.2	Jdl	JDD		MG/FR		A1/A	FRESH					Q	0.5						Moderately fractured, randomly orientated fractures, with very minor quartz veinlets.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	99.2	100	Jdl	JDD		MG/FR		A1/A	FRESH			1	PL	Q/Z	5			CY/CH/EP	F		Highly fractured due to subvertical vein, often with a drusy texture. Includes quartz ± epidote ± zeolite, and pyrolusite throughout. No alteration halos or carbonates
KUTH_2008	TCZ- 26/2005	K26DD021	DD	100	106.5	Jdl	JDD		MG/FR		A	FRESH					G/TC	5			CY/CH/EP	F/V		Moderate to high level fracturing. Moderate veining (white and green, as described in previous intervals). But more gypsum than talc
KUTH_2008	TCZ- 26/2005	K26DD021	DD	106.5	114.95	Jdl	JDD					FRESH					G/L/	15			CH/CY	V		Active looking zone, lots of veining with often stockwork. Highly altered within the veins, chlorite is abundant, becoming dark green in places. Gypsum is often apricot colour; often shows striated texture - shear movement. Total pervasive replacement of mineralogy where vein acts as plumbing. No parts dissolve in HCL. Shear zones: 107.2-107.5m, 113.3-113.7m, 114.5-114.9m. Within these zones core is completely unconsolidated, with clay and talc common.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	114.95	119.5	Jdl	JDD		FG/MG		A	FRESH			1	PL	Z/B/Q	10	V				V/F	Fine to Med grained dolerite, anhedral crystals of equal parts pyroxene to plagioclase. Includes several (12) veins; very vuggy within, with vitreous zeolites growing within vugs. White clay common within, beneath the clay often vitreous drusy texture. Fractured surfaces often display dendritic pyrolusite. Other than vein fractures good competency.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	119.5	133.45	Jdl	JDD		FG/MG/WQ		A/L1	FRESH			1	PL	Z/B/CY	5					V/F	dominantly fine grained, competent (average 2 breaks/m). Several veins within, generally fractures in association with vein. Includes minor dendritic pyrolusite on surfaces. Still green and white clays on fractured surface. Minor pervasive alteration associated with veins.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	133.45	133.7	Jdl	JDD		FG/MG/WQ		A/L1	FRESH					Z/B/L	80						Small interval characterised by large vein (80% of interval made up of the zeolite + carbonate clay rich vein.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	133.7	134.7	Jdl	JDD		FG/FR		A1/A	FRESH												Poor competency, with many fractures for a small interval. No veins or alteration.

KUTh_2008	TCZ- 26/2005	K26DD021	DD	134.7	134.9	Jdl	LCY					B/W/G1	FRESH		100																45deg dipping shear zone with mild serpentinisation. Includes round fe-stained clasts. Consolidated, soft, no brecciation	
KUTH_2008	TCZ- 26/2005	K26DD021	DD	134.9	142.8	Jdl	JDD		FG/MG		A1/L1/A	FRESH					L/B	2				CH/CY	V									Fine to medium grained. Coherent. Equal proportion of pyroxene and plagioclase laths. Anhedral. Approx 5% mafic minerals present. Minor chlorite + carbonate veining present, clay rich within veins.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	142.8	144	Jdl	JDD		FG/MG		A1/L1/A	FRESH										CY	SP									Dolerite as above, with thick vein at 143m, approx 20cm wide, with obvious small vein in the centre which has plumbed the pervasive alteration 10cm either side. Alteration to brown muddy clay. Otherwise a competent interval.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	144	149.3	Jdl	JDD		FG/MG		A/L1	FRESH					B	1														Moderately fractured dolerite as above, very minor carbonate veining with no associated alteration/selvaage.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	149.3	150	Jdl	JDD		FG/FR		A/L1	FRESH										SP/TC/B	F									interval as above, but strongly fractured/shattered. Mild serpentinisation within. Talc and carbonate found filling fractures.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	150	154.1	Jdl	JDD		FG		A2	FRESH																				anhedral crystals. Often light blue coating on fractured surfaces. Groundmass is very fine grained. No veining or alteration
KUTH_2008	TCZ- 26/2005	K26DD021	DD	154.1	154.3	Jdl	JDD		FG		A2	FRESH																				JDD as above, but includes carbonate + zeolite + chlorite vein 1cm thick. Fractures along vein, otherwise a competent interval. Zeolites form small asicular crystals.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	154.3	160.2	Jdl	JDD		FG		A1	FRESH					Z	5				CH	V									From 154.15 to 154.4m 1cm wide steeply dipping green and white vein; drusy texture, with very fine grained vitreous black crystals. Also includes zeolites and green chloritic mud. Rest of interval competent, with average 2 breaks per meter in the light coloured, fine grained dolerite.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	160.2	160.7	Jdl	JDD		FG		A1	FRESH					B/L	30	M/V		CH/E/CY	V										Short interval of dolerite, as above, includes vein approx 8cm thick, multistaged sheeted vein, with layers of carbonate, abundant chlorite, and minor epidote spotted throughout. Soft but consolidated, minor vugginess.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	160.7	184.45	Jdl	JDD		FG		A/A2	FRESH					B/C	2														Completely anhedral crystals in the dolerite. Slightly magnetic, minor green veining + carbonate + calcite. Average 1vn/meter. Generally fractures along veins (all <1cm)
KUTH_2008	TCZ- 26/2005	K26DD021	DD	184.45	186.2	Jdl	JDD		FG		A/A2	FRESH					C	5	V													Dolerite as above. Includes abundant black veinlets, all wit the same dip (approx. 45deg) and orientation. Doesn't fracture with veinlets. Distinct interval due to three 1cm width calcite veins, each dipping approx. 50deg. Almost entirely calcite, greenish, crystals often hexagonal prismatic, vitreous, up to 3cm long, but normally approx. 1cm long.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	186.2	191	Jdl	JDD		FG		A/L1	FRESH																				Competent, vein free interval, with average 2 breaks/ meter. Mafics compose approx. 5% of core, plag distinct blue colour. Anhedral, slightly magnetic.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	191	193.8	Jdl	JDD		FG		A/G	FRESH					B/C	5				SP/CY										First half of interval highly fractured and serpentinised. Serpentine pervasively alters and replaces the dolerite. Also includes carbonate + calcite veins through serpentine units; very soft. Second half of interval composed of calcite veins (in total 4) up to 1cm thick, that have serpentine chlorite + clay alteration halo, up to 3cm either side of the vein.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	193.8	200	Jdl	JDD		MG		A2	FRESH																				Anhedral crystals. Mafics approx. 10%, very weakly magnetic. Competent interval (average 2 breaks/meter). Fractures generally subhorizontal, no veins.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	200	201.1	Jdl	JDD		MG		A2	FRESH										CY/TC/CH										Dolerite as above, at start and end of interval, small very clay rich zones: completely unconsolidated. First approx. 2cm wide, dipping 45deg. Second, composition talc and chlorite, 1cm wide, dip 70deg.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	201.1	214.3	Jdl	JDD		FG/MG		A2	FRESH					B	1														FG to at times MG. Includes a couple of med grained mafic 'intrusions/enclaves', approx 4cm diameter. Good competency, average 1 break/ meter. Minor carbonate veining, all <1cm and steeply dipping. Fractures generally low angle orientations.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	214.3	215	Jdl	JDD		FG/MG		A2	FRESH					B	2				SP	U									Series of approx. 60deg dip fractures; within area long blades of serpentine. All fractures have same orientation, often brown fe-stained on fracture surface. Last 10cm of interval highly fractured/shattered. Carbonate within. Clay free
KUTH_2008	TCZ- 26/2005	K26DD021	DD	215	223.2	Jdl	JDD		FG/MG		A2	FRESH																				Generally fine grained with, with minor amounts of med. Grained dolerite. Includes many black unidentified veinlets; generally steeply dipping >60deg. Similar orientations. Rarely fractures along veinlets. Non-magnetic interval. Becoming very fine grained towards end of interval.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	223.2	223.9	Jdl	JDD	MST	VFG	HF	D	FRESH					C	1														Black, entering into Triassic siltstones. Looks to be quenched dolerite rather than baked sediments. Dolerit grading into aphanitic. Distinct boundary with only slightly baked Permo Triassic seds. Calcite vein (2mm wide) found at contact between the siltstone and dolerite.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	223.9	224.5	Pu	MST				A1	FRESH																				Siltstone dipping approx. 10-15deg. Few rounded sandstone dropstones.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	224.5	226	Pu	MST				A1/B	FRESH			3	PY	C	2	S		CY/FE	U/F										Highly fractured zone of siltstone. Pervasive brown discolouring, plumbed by fractures. Minor grey siltstone remaining. Some fracture surfaces display muddy brown/green clays. Minor oxidising pyrite present (with distinct orange halo). Minor sheet-like calcite veins present.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	226	236.5	Pu	MST				A1/A2	FRESH			5	PY	Y	1			FE	U										Poor competency. Pervasively fe-altered (discoloured). Includes dropstones, sometimes diameter >3cm. Pyrite commonly seen in veinlets as well as in clusters on fracture surfaces. Generally fairly massive lt grey siltstone. Towards the end of the interval there is an increase in finely laminated dk grey beds. Middle 6m of interval unaltered.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	236.5	246	Pu	MST				O/L/A	FRESH	F		5	PY					FE/CY/SR	V/F										Highly fractured interval. Very pervasive orange to reddy brown discolouration of the siltstone; water levels (?). Includes well rounded xenoliths up to 1cm diameter, always have an orange rim (oxidised sulphides). Siltstone proximal to fractures/veins up to 1cm either side have distinct blue alteration. Very fractured to at times shattered. Minor clay present, sericite (ankerite?) common. Looks to be a lot of oxidised pyrite. Many zones where rock fractured (ie cracked), but not actually broken. Veins puggy/muddy within.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	246	247.6	Pu	MST	LCY			A/O	FRESH		100	5	PY					CY/FE	F										Sheer zone, at times very unconsolidated. Many rounded qtz rich dropstones. Very clay rich within zone. Proximal to shear zone the rocks are highly fractured/shattered; grey with minor orange discolouring. Sulphides weathered out, leaving dk red oxides in place.
KUTH_2008	TCZ- 26/2005	K26DD021	DD	247.6	249.7	Pu	MST				A1	FRESH			5	PY					CH/SR	F										Light grey siltstone. First half of interval moderately fractured, second half of interval highly fractured. Sulphides (pyrite) weathered mildly, often retaining metallic lustre. Fracture fill often sericite/chlorite. Bedding dipping approx 15deg. Minor fine dark grey beds interbedded throughout.