

Phillips Range RC Drilling			Hole No: LRC 005		Page 1 of 1		
Easting: 0349150		Northing: 8279942		Datum: WGS 84		Geologist: ERM	
Start date: 14/10/04		Finish date: 14/10/04		Total depth: 52m		Inclination: VERT.	
Driller: DRILL TORQUE (QLD)		Drilling type: RC		FALCON ANOMALY "LRF 003"			
Depth(m)		Oxidation	Description		Comments		
from	to						
0	6		Red - brown, fine to med. grained clayey sands, becoming y-bn. below.				
6	9		White, friable med. grained sandstone - silicified in top metre.				
9	16		Sage white to pale yellow fine to med. grained sands.				
16	19		Pale grey to pale brown clays - slightly sandy in top metre.				
19	41		Carbonate sequence comprising fine grained limestone, varying in colour from very pale grey to grey-brown to dark grey or grey-brown.		Water at 22m (very little)		
41	43		Dark grey 'iskey' basalt - very fine grained & no features visible.				
43	52		Relatively fresh basalt.				
	E.O.H.		Hole terminated at 52m in basalt.		Mp to $2,500 \times 10^{-5}$ SIU		
			Summary:				
			0 - 16 m Between cover sequence (sandy)				
			16 - 19 m Regolith clays.				
			19 - 41 m Cambrian (?) carbonate sequence				
			41 - 52 m Cambrian basalt.				
			Sample No		SAMPLE INTERVAL		
			166058		0 - 4m		
			166059		4 - 8m		
			166060		8 - 12m		
			166061		12 - 16m		
			166062		16 - 20m		
			166063		20 - 24m		
			166064		24 - 28m		
			166065		28 - 32m		
			166066		32 - 36m		
			166067		36 - 40m		
			166068		40 - 44m		
			166069		44 - 48m		
			166070		48 - 52m		

Hole No: FRC 007

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Northing: 8280033

Datum: 10.8.84

Zone: S3 L.

Geologist: 123

Start date: 15/10/04

Finish date:	
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Total depth:

Inclination: VERT

Azimuth:

Driller:

Drilling type: RC - DRILL TORQUE QLD

Anomaly - LRF003

Depth(m)		Oxidation	Description	Comments
from	to			
0	6		Red Brown → Orangebrown sands. Mar. Crest? sst chips.	Mar B/Down 11.00 → 12.00 = 4 m.
6	8		Pink to White granular friable sst, typical coarctaceous look, mar Fe rich bands and discrete larger grc grains.	
8	13		White to Pale Br weakly Fe-rich granular medium sst. Friable. Quite strongly silicified.	
13	16		Fine gr (O) rich silty sst or limestone. Some fine with HCl. Pale gr → br.	
16	27		Increasingly sparry limestone / carbonate. Still occasional sandy lense with CO ₂ . Quite Brown coloured, although rare grey colouring. Finer tend to white color.	Hard drilling 22-23, Poor S/R 21-22 - First water 22-23
27	28		A/A but with rare Fe + Silicon segregations.	
28	38		Pale Brown homogeneous limestone; rare oolite patches 33-34 ^{3F-38} and very hard + compact.	
38	42		A/A but slightly siliceous, becoming very w'd (g 41) - mar brighty also 41-42.	
42	46	Corr	Weathered basalt becoming fresh by 43 - with mar grc.	2800 - 3200 x 10 ⁻⁵ S.U.
			166084 = 0-4 m	
			166085 = 4-8	
			166086 = 8-16	
			166087 = 12-16	
			166088 = 16-26	
			166089 = 20-24	
			166090 = 24-28	
			166091 = 28-32	
			166092 = 32-36	
			166093 = 36-40	
			166094 = 40-42	
			166095 = 42-46 corr	
				0 - 13 Crst sst
				13 - 42 Carbonate
				42 - 46 Basalt

Phillips Range RC Drilling			Hole No: LRC 008		Page of
Easting: 0349299		Northing: 8279926		Datum:	Geologist: J.W.
Start date: 15/10/04		Finish date:		Total depth:	Azimuth:
Driller:		Drilling type: RC - DOWN THE HOLE QLD			Anomaly LRF003.
Depth(m)		Oxidation	Description	Comments	
from	to				
0	3		Gritty grey rich or br sand, with grey grains from Crest ss		
3	5		Gritty grey rich or br sst and clays above sst, grey + clayey in general. 40-50% clay, some Fe stain. Some Gls on clay		
5	9		1/6 pale ye-br to buff clays + fine grained cherty limestone. Rare well defined layering. Occ br Fe? for		
9	19.0		Blue brown → Grey Gg. lst, rare cherty bands		
19.0	26		As Above, Typical Gg-Gr lst, + 50% brown clays very sticky		
26	31		Typical pale ye-br - buff lst with clays		H ₂ O @ 32 m.
31	37		AA lnt with increasing br clay layers and variably sandy fssl (31-32, 35-37). Possible gritty sand intertange		
37	40		Mostly soft br clays, probably after lnt, but very few chips		
40	42		Increasing chip return but still brown interface clay		
42	46		Coarse basalt becoming increasingly fresh Glt		
			166096 = 0-4		
			166097 = -8		
			166098 = -12		
			166099 = -16		
			166100 = -20		
			166101 = -24		
			166102 = -28		
			166103 = -32		
			166104 = -36		
			166105 = -40		
			166106 = 40-42		
			166107 = 42-46		
				0-9	Carbonate
				9-42	Carbonate
				42-46	Basalt

Phillips Range RC Drilling				Hole No.: LRC 009	Page / of 1
Easting: 0350107		Northing: 8281269		Datum: WGS 84	Geologist: ERM
Start date: 16/10/04		Finish date: 16/10/04		Total depth: 40.00	Azimuth: —
Driller: DRILL TORQUE (QUB)		Drilling type: RC		FALCON ANOMALY "LRF003B"	
Depth(m) from to		Oxidation	Description	Comments	
0	# 2		Red-brown clayey sands.		
# 2	# 4		Pennsylvanian chertstone & sandstone — Cretaceous cover sequence.		
4	34.5		Buff to pink grey fine grained limestone — Cambrian carbonate sequence. Sandy in parts, = calcareous cement? Colour ranging to dark grey brown & pale yellow-brown. Higher clay content 16-19m suggests shaly interbeds. (Moderate clay content below)		
34.5	40.0 EOH.		Basalt — dark grey & coarsely to 32 m, becoming dk. purple-brown below. Hole terminated at 40 m.	~1200 to 2000 x 10 ⁻⁵ SIU.	
			Summary:		
			0 - 4 m Cretaceous cover		
			4 - 34.5 m Cambrian (?) carbonate sequence		
			34.5 - 40 m Cambrian (?) basalt.		
			SAMPLE INTERVAL	SAMPLE NUMBER	
			0 - 4 m	= 166108	
			- 8	= 166109	
			- 12	= 166110	
			- 16	= 166111	
			- 20	= 166112	
			- 24	= 166113	
			- 28	= 166114	
			- 32	= 166115	
			32 - 35	= 166116	
			35 - 40	= 166117	

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Phillips Range RC Drilling				Hole No: LRC 011		Page 1 of 1	
Easting: 0344 670		Northing: 8274 995		Datum: WGS 84		Geologist: EXM	
Start date: 16/10/04		Finish date: 16/10/04		Total depth: 90m		Azimuth: —	
Driller: DRILL TORQUE (RLD.)		Drilling type: RC		Inclination: VERT.		FALCON ANOMALY "LRF 006"	
Depth(m)		Oxidation	Description	Comments			
from	to						
0	1		Clayey black soils.				
1	2		Pale white / buff coloured limestone.				
2	6		Pale grey to yellow-brown clays.				
6	8		Mixed clay and limestone as above - alternating layers.				
8	10		Pale grey clays, occasionally pale yellow-brown.				
10	12		Weathered, soft, clayey sands. White to pale buff / grey coloured. Ht clay content.				
12	13		Pale grey clay.				
13	14		Buff coloured limestone and clayey f.g. sandstone.				
14	15		Pale grey limestone and coarse grained grit.				
15	23		Poorly sorted f. to m. grained pale grey sandstone, possibly with clayey inclusions. Iron-staining at base.				
23	24		Pale grey to pale yellow-brown clays.				
24	25		Fungus-like sandstone and clays.	? Base of Cretaceous?			
25	27		Pale yellow-brown limestone.				
27	29		Pale yellow-brown clays.	Water at ~ 56 m.			
29	34		Yellow-brown limestone.				
34	74		Pale grey f.g. limestone: fungus-like layer 35-36m & clay layers 36-37m, 39-42m. (41-42m dark yellow brown clay). Becoming pale grey-brown limestone below ~40m, with occasional yellow-brown iron-staining.	SAMPLE NO	SAMPLE INTERVAL		
				166125	0-4 m		
				166126	4-8		
				166127	8-12		
				166128	12-16		
				166129	16-20		
				166130	20-24		
				166131	24-28		
				166132	28-32		
				166133	32-36		
				166134	36-40		
				166135	40-44		
				166136	44-48		
				166137	48-52		
				166138	52-56		
				166139	56-60		
				166140	60-64		
				166141	64-68		
				166142	68-72		
				166143	72-76		
				166144	76-80		
				166145	80-84		
				166146	84-90		
			Summary: 0-25m Cretaceous cover (ss. & carbonate)				
			25-90m Cambrian (?) limestone & clays.				
		F.O.H.					

Phillips Range RC Drilling			Hole No: LRC 012		Page 1 of 1	
Easting: 0343282		Northing: 8273790		Datum: WGS 84		Geologist: ERM
Start date: 17/10/04		Finish date: 19/10/04		Total depth: 34 m		Azimuth: —
Driller: DRILL TORQUE (QLD)		Drilling type: RC		FALCON ANOMALY "LRF 004-TH"		
Depth(m)		Oxidation	Description	Comments		
from	to					
0	3		"black soil": dark grey clays			
3	7		grey-brown to dark yellow-brown clays. Minor white silicified limestone(?) / chert.			
7	10		Fungus fragments and clays / soft white carbonate			
10	24.5		Soft white clays / carbonates; increasing iron content 18-20m; abundant Fe aggregates 20-21; back to soft white / yellow-brown clays 21-24.5			
24.5	26		Clayey sands / friable sandstone; f.g., white.			
26	29		Predominantly loose, f.g. sands - (some clays 26-27m); minor component of coarse grit. Coarser sand (m.g.) between 27-28m.			
29	30		Fine grained white sands & minor white carbonate.			
30	34		Fine white sands (flowing sand) & minor coarse grit / fine gravel. "friable f.g. white sandstone"			
	E.O.H.		Hole terminated at 34m due to drilling difficulties caused by flowing sands.			
			Summary: 0-24.5m Cretaceous cover sequence: clays.			
			24.5-34m Cretaceous cover sequence: sands.			
SAMPLE NO		SAMPLE INTERVAL				
166147		0-4m				
166148		4-8m				
166149		8-12m				
166150		12-16m				
166151		16-20m				
166152		20-24m				
166153		24-28m				
166154		28-32m				
166155		32-34m				

Phillips Range RC Drilling

Hole No: LRC013

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Easting: 0343365

Northing: 8273850

Datum: WGS 84

Zone: 53L

Geologist: ERM

Start date: 19/10/04

Finish date: 19/10/04

Total depth: 35m

Inclination: VERT.

Azimuth: —

Driller: DRILL TORQUE (QLD)

Drilling type: RC

FALCON ANOMALY "LRF004-TH"

Depth(m)		Oxidation	Description	Comments
from	to			
0	2		"Black oil" — dark grey-brown clays — (yellow-brown tinge) rather white carbonate at surface.	
2	10		White clay — ranging to pale brown / yellow-brown in parts. Rare hard white carbonate fragments in top 2m. Chalky texture.	Non-calcareous
10	17		Similar to above; white chalky clays but with some yellow-brown mottling throughout. Rare hard ferruginous frags. 14-15m.	
17	21		Ren chalky: white clays with yellow-brown, brown, and oolite. red brown mottling.	Non-calcareous.
21	23		Highly ferruginous m.g. sandstone — Fe cemented — becoming less iron-rich and more clayey below 22m.	
23	24		Fine sands and yellow-brown clays	
24	34.5		Fine grained, very friable sandstone — flowing muds — minor gritty component.	
34.5	35		Yellow-brown clay & oolite fragments of 1/8" — hole abandoned due to sand collapsing into limestone.	
	EOH			
<p>Summary: 0 — 21m Calcareous cover sequence: clays 21 — 35m Calcareous cover sequence: sands. Note: ? possible start of Cambrian limestone at 34.5?</p>				
<p>SAMPLE NO. SAMPLE INTERVAL</p>				
166156	0-4m			
166157	4-8m			
166158	8-12m			
166159	12-16m			
166160	16-20m			
166161	20-24m			
166162	24-30m			
166163	30-34m			
166164	34-35m			

Phillips Range RC Drilling

Hole No: LRC 014

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Easting: 0345707

Northing: 8270052

Datum: WGS 84

Zone: 53L

Geologist: ERM

Start date: 19/10/04

Finish date: 19/10/04

Total depth: 72m

Inclination: VERT.

Azimuth: —

Driller: DRILL TORQUE

Drilling type: RC

FALCON TARGET: "LRF 002"

Depth(m)		Oxidation	Description	Comments
from	to			
0	2		Red-brown to yellow brown sandy soils ± minor calcate.	
2	6		Yellow-brown clay with gritty component below 3m — "sandy clays"	
6	8		Pale yellow-brown to grey clay. Minor limestone.	Start of ? Cambrian? carbonates at ~ 7.5m
8	20		Pale grey to pale yellow-brown limestone (brown from 14-20m)	
20	23		Pale grey leached-looking limestone, becoming iron stained below.	
23	24		Yellow-brown Fe-staining zone in limestone.	
24	45		Clays: pale yellow-brown (24-26m), pale grey (26-28m), pale brown (28-30m) — grey to brown below. Rtl. are calcareous.	
45	47		Becoming damp — still clay/claystone but with a carbonate grit component.	Water from ~ 45m
47	72		Pale grey to pale brown limestone — cherty fragments with minor calcate 53-54m ± Fe staining & weathering common 57-60m. Increased clay content 60-62m. Fe staining 65-66m. Hole terminated at 72m in grey-brown limestone.	
Summary: 0-7.5m Pteridaceous cover / Cambrian?				
7.5-24m Limestone — ? Cambrian?				
24-47m Clay / claystone (calcareous)				
47-72m Cambrian (?) carbonate sequence				
SAMPLE NO		SAMPLE INTERVAL		
166165		0-4m		
166166		4-8m		
166167		8-12m		
166168		12-16m		
166169		16-20m		
166170		20-24m		
166171		24-28m		
166172		28-32m		
166173		32-36m		
166174		36-40m		
166175		40-44m		
166176		44-48m		
166177		48-52m		
166178		52-56m		
SAMPLE NO		SAMPLE INTERVAL		
166179		56-60m		
166180		60-64m		
166181		64-68m		
166182		68-72m		

Phillips Range RC Drilling

Hole No: LRC016

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Easting: 0345774 Northing: 8270928 Datum: WGS 84

Zone: 53L

Geologist: ERM

Start date: 25/10/04 Finish date: 25/10/04

Total depth: 54m

Inclination: VERT.

Azimuth: —

Driller: DRILL TORQUE (RLD)

Drilling type: RC

FALCON ANOMALY "LRF001"

Depth(m)		Oxidation	Description	Comments
from	to			
0	1.5		Black soil — (grey clay)	
1.5	6		Pale grey to yellow-brown clays — with minor limestone & thin Fe layer(s).	
6	8		Slightly ferruginous calcareous clays & minor calc. sandstone (f.g.)	
8	11		White, f.g., friable clayey SST. & minor coarse sand / grit.	
11	14		Sandstone of a with higher prop. clay (mud interbeds?) — calcareous.	
14	15		Fine grained pale yellow-brown sandstone.	
15	17		Sandy conglomerate: rounded SST. clasts (broken), chert.	Base of Cretaceous? Change from 5 1/2" to 4 1/2" diameter.
17	19		Pale grey to grey brown limestone — frequent iron staining.	
19	22		Pale grey-brown limestone.	
22	24		Pale yellow-brown calcareous clays: minor grey L/S 22-23m.	
24	25		Dark brown to pale grey-brown limestone.	
25	54		Pale grey-brown limestone: clayey 26-27m; yellow-brown Fe stain	Water ~ 40m
		E.O.H.	31-33m; red-brown interbeds 38-40m; Fe stained & poor recovery 40-42m.	
			Summary: 0-17m Cretaceous cover	
			17-54m Cambrian.	
			SAMPLE NO SAMPLE INTERVAL	
			166199 0-4m	
			166200 -8	
			166201 -12	
			166202 -16	
			166203 -20	
			166204 -24	
			166205 -28	
			166206 -32	
			166207 -36	
			166208 -40	
			166209 -44	
			166210 -48	
			166211 -52	
			166212 -56	

Phillips Range RC Drilling			Hole No: LRC 017		Page 1 of 1
Easting: 0345770		Northing: 8271073		Datum: WGS 84	Geologist: ERM
Start date: 25/10/04		Finish date: 25/10/04		Total depth: 40 m	Azimuth: —
Driller: DRILL TORQUE (QTD)		Drilling type: RC		FALCON ANOMALY "LRF001"	
Depth(m)		Oxidation	Description	Comments	
from	to				
0	3		Black soil (dark grey clays)		
3	7		Calcareous grey clays - yellow-brown in parts		
7	8		Grey clay - minor dark red-brown clay		
8	11		Grey to yellow-brown non-calc. clays.		
11	12		Highly ferruginous sandstone - f.g., dark red-brown		
12	15.5		Fine grained friable sandstone: pale grey & fine grained. Free flowing f.g. sand in part causing drilling problems		
15.5	19		Pale grey (to yellow brown) calcareous clays (mud)		
19	21		Limestone with abundant Fe staining (Cambrian regolith)		
21	40		Grey-brown to pale yellow-brown limestone: very poor recovery between 19 & 28 m (cavities?)		
		E.C.H.			
			Summary: 0 - 19 m Cretaceous cover sequence.		
			19 - 40 m Cambrian(?) carbonate sequence.		
SAMPLE NO		SAMPLE INTERVAL			
166213		0 - 4 m			
166214		- 8 m			
166215		- 12 m			
166216		- 16			
166217		- 20			
166218		- 24			
166219		- 28			
166220		- 32			
166221		- 36			
166222		- 40 m.			

[illegible]

Phillips Range RC Drilling			Hole No: LRC 019		Page 1 of 1	
Easting: 342656		Northing: 8271680	Datum: WGS 84		Geologist: NO (HEOFF)	
Start date: 26/10/04		Finish date: 26/10/04	Total depth: 55 metres		Azimuth: -	
Driller: DRILL TORQUE QLD			Drilling type: RC			
Depth(m)		Oxidation	Description	Comments		
from	to					
0	8		pale brown/ grey dk brown/pale grey clays	clay predominantly grey/white		
8	11		A/A but with ferruginized lithic fragments			
11	13		pale grey → white clay			
13	13 15		white/grey clay			
15	17		pale grey clay with some ferruginized frags	some red mottling		
17	18		grey clay			
18	19		white clay			
19	21		pale grey clay			
21	22		predom. micaceous sands w coarse qtz + some clay	qtz 3-5mm generally rounded		
22	24		sand w minor qtz grains	"		
24	26		bleached sand with qtz grains	25-26m has more qtz grains		
26	27		yellow brown stained qtz sands with minor claystone			
27	28		yellow/white sands with pebbles of Fe altered sst			
28	28		& some pebbles of white, unaltered f.g. sst			
28	28 30		very fine grained sand with pebbles of white sst	sand is bleached white & friable		
30	32		as above			
32	34		as above but larger pebbles/cobbles?	some ferruginization of sst		
			sand in 33-34 is pale yellow			
34	35		bleached sand A/A but with pale yellow clay pellets			
35	36		pale yellow sands with brown clays			
36	37		brown clay, some sst frags			
37	38		brown clay, some sst frags			
38	40		dark brown clay with minor pale lithic fragments			
40	42		dark brown clays - puggy? clastic	poor recovery 40-43m		
42	43		A/A but with limestone fragments			
43	51		limestone			
51	55		limestone, increased clay content			
	EOH					
			SUMMARY			
			0-43m	cretaceous sands/clays		
			43-55m	Carbonian Limestone		
			166231	0-4m	166238 28-32m	
			166232	4-8m	166239 32-36m	
			166233	8-12m	166240 36-40m	
			166234	12-16m	166241 40-43m	
			166235	16-20m	166242 43-47m	
			166236	20-24m	166243 47-51m	
			166237	24-28m	166244 51-55m	