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SHEET 1 **BOREHOLE RECORD BH235** OF 3 LOGGED BY ACS CLIENT DMR **CHECKED BY GWB** PROJECT IPSWICH MOTORWAY UPGRADE - WACOL TO DARRA DRILLED DATE 03-Aug-07 CONTRACTOR ANGLE **GROUND LEVEL** RL 22.42m Terratest Vertical 32594 E 150480 N **DRILL MODEL** Edson 3000 BEARING LOCATION **DRILLER Brent Ormsby** HOLE DIAMETER 100mm () **ELEVATION DATUM** Australian Height Datum COORDINATE SYSTEM Local Grid DRILLING **STRATA** MATERIAL DESCRIPTION **OBSERVATION** CONDITION SYMBOL CONSISTENCY WATER/ MOISTURE SAMPLE, TEST. EGEND DEPTH SOIL ORIGIN, R.L SOIL TYPE NON BIT. SUPPORT. STRUCTURE, Plasticity / Grain Size, Colour, Minor Components COHESIVE GROUP COHESIVE ETC. ETC. SN ST ST VSJ m m 0.03 22.39 FILL **ASPHALT** GM D Silty Sandy GRAVEL (GM) fine to medium grained, brown. FILL 22.12 0.30 Gravelly Sandy CLAY (CL) firm, brown, sub-rounded to rounded, with sand fine to coarse grained with a trace of gravel fine to coarse grained. CL **FILL** 21.62 0.80 SW SAND and GRAVEL (SW) loose to medium dense, fine to coarse grained. **FILL** 21.12 1.30 Sandy CLAY stiff, brown, sand fine to coarse grained, with gravel fine D **COHES** grained sub-rounded 20.82 1.60 SPT at 1.69m D CI CLAY (CI) hard, grey mottled light brown, with a trace of sand fine to N 6:30/75 medium grained **COHES** 2.30 with sand medium to coarse grained, hard, grey and brown SPT at 3.07m 19.32 3.10 N 30/140s CL Sandy CLAY (CL) hard, grey, sand fine to medium grained, with a trace of sand coarse grained angular **COHES** 4.10 grey and brown sand, medium to coarse grained 4.60 17.82 Sandy CLAY (CI) soft to firm, grey, sand fine grained. COHES CI 17.77 17.58 SPT at 4.8m 4 65 CL SC M Silty CLAY (CL) hard, grey. COHES N 6:9.13 Clayey SAND (SC) medium dense, fine to coarse grained, grey mottled _ NONCO 16.42 -**6** 6.00 CL Sandy CLAY (CL) firm to stiff, grey light brown, sand, fine to coarse W SPT at 6.3m N 6:9.9 **COHES** ed to ARUP Schespingeotechnics/ginthmaster w2d(14.12.07).gpj Schespingeotechnics/ginthgint librarylaus, library_2 (04.10.007).gbb Schespingeotechnics/ginthgint librarylaus, library_2 (04.10.007).gbb C GENERAL BORFHOLE LOG (rev 12Dec07 checked ABACP Feb 2006) 3. Made 22Janof8 10:50 14.77 7.65 Clayey SAND (SC) dense, fine to coarse grained, grey some brown. SPT at 7.8m N 10;20,15 NONCO 13.07 9.35 N 9;14,14 NONCO GP Gravelly SAND (GP) medium dense, coarse grained, grey-white, gravel 13 02 9 40 SP fine grained sub-rounded with a trace of clay. Gravelly Clayey SAND (SP) medium dense, coarse grained, grey-white, gravel fine grained sub-rounded. **NONCO NOTES** JOB Hole Diameter 100mm to 24.80m depth. (Solid Flight Augering to 6m. HW casing to 6.25m. Washboring with 100mm diameter tri-blade bit from 6m to 22.9m, 75mm diameter tri-blade bit from 23.15m to 24.5m. NMLC Coring from 13.8m 86015 to 23.15m. No free groundwater observed during drilling.)

SHEET 2 **BOREHOLE RECORD BH235** OF 3 LOGGED BY ACS CLIENT DMR **CHECKED BY GWB** PROJECT IPSWICH MOTORWAY UPGRADE - WACOL TO DARRA DRILLED DATE 03-Aug-07 RL 22.42m CONTRACTOR ANGLE GROUND LEVEL Terratest Vertical 32594 E 150480 N **DRILL MODEL** Edson 3000 BEARING LOCATION **DRILLER Brent Ormsby** HOLE DIAMETER 100mm () **ELEVATION DATUM** Australian Height Datum COORDINATE SYSTEM Local Grid DRILLING **STRATA** MATERIAL DESCRIPTION **OBSERVATION** CONDITION SYMBOL CONSISTENCY WATER/ MOISTURE SAMPLE, TEST. EGEND DEPTH SOIL ORIGIN, R.L SOIL TYPE NON BIT. SUPPORT. Plasticity / Grain Size, Colour, Minor Components COHESIVE STRUCTURE, GROUP COHESIVE ETC. ETC. S S T S YS m m Gravelly Clayey SAND (SP) medium dense, coarse grained, grey-white, gravel fine grained sub-rounded. (continued) SF **NONCO** 11.92 10.50 СН CLAY (CH) very stiff, grey-brown. SPT at 10.8m N 8:16.18 12 COHES SPT at 12.3m 12.30 ironstone lens 20 Deg, UN, Ro4, S, 10mm 12.40 ironstone lens 20 Deg, UN, Ro4, S, 10mm 13 8.92 13.50 CLAY (CI) hard, grey-brown. CI **COHES** SPT at 13.73m N 16;30/150 8.62 13.80 CORE LOSS: 0.2m (trace of sand, coarse grained in drilling mud return). **14**14.00 CLAY (CH) hard, brown to light brown, (clay extremely disturbed by coring process to degree such that core did not exhibit similar soil consistency as indicated by SPT results). СН 15 **COHES** 16 6.17 16.25 CL CLAY (CL) hard, brown with silt. **COHES** 5.95 16.47 SANDSTONE, very fine grained, brown. **SNDSTN** N 16:30/150 5.61 16.81 CORE LOSS: 1.39m (fines and trace of sand, fine grained in drilling mud Steesignigeotechnics/ginthmaster w2d(14.12.07),gipj Steesignigeotechnics/ginthgint library/aus_library_12 (04.10.07),gib A GENREAU BORFHOLE LOG (rev 12Dec07 checked AB/ACP Feb 2006) 3. Made 22Jan08 10:50 17 4.22 18.20 MUDSTONE, massive, brown with properties of clay (CH) hard. MUD 3.92 18.50 SANDSTONE, fine grained, massive, brown, with bands of MUDSTONE (with properties of hard silty clay (CL)). **SNDSTN** 19^{18.92} 3.50 SANDSTONE, fine to medium grained, brown light grey, with properties SNDSTN of a very dense, sand, with clay 3.10 19.32 SAND (SP) very dense, fine to coarse grained, light brown, white-grey, with clay and a trace of gravel fine grained angular. SP **SNDGRV** 2.67 19.75 N 28:30/100 CORE LOSS: 1.97m (sand, fine to coarse grained in drilling mud return). **NOTES** JOB Hole Diameter 100mm to 24.80m depth. (Solid Flight Augering to 6m. HW casing to 6.25m. Washboring with 100mm diameter tri-blade bit from 6m to 22.9m, 75mm diameter tri-blade bit from 23.15m to 24.5m. NMLC Coring from 13.8m 86015 to 23.15m. No free groundwater observed during drilling.)

ARL								HOLE				OF 3	
CLIENT PROJECT	DMR IPSWIC	СН МОТО	MOTORWAY UPGRADE - WACOL TO DARRA					CHECKED BY G				ACS GWB 13-Aug-07	
CONTRACTOR DRILL MODEL DRILLER	Eds	ratest son 3000 nt Ormsb	у		ANGLE Vertical BEARING - HOLE DIAMETER 100mm ()			GROUND LEVEL RL 2 LOCATION 3259				22.42m 94 E 150480 N ralian Height Datu	
DRILLING	STRATA				MATERIAL DESCRIPTION	CONDITIC				ON		OBSERV	
Sample, Test, Bit, Support, Etc.	R.L.	DEPTH m	GROUP SYMBOL	LEGEND	SOIL TYPE Plasticity / Grain Size, Colour, Minor Components	WATER/ MOISTURE	co	HESI	Æ	COH	ON ESIVE	SOIL O STRUC ET	
- - - -		- 21	0		CORE LOSS: 1.97m (sand, fine to coarse grained in drilling mud return) (continued)	-	> 0		>	>			
- - -	0.70	21.72			- SANDSTONE, fine to coarse grained, massive, brown to light brown and grey, with properties of a very dense sand (poorly cemented sands and gravels).	-						SNDS ⁻	
SPT at 23.2m N 29;30/100	-0.58 - 	23 23.00	sw	0 0	22.86 with gravels, fine to medium grained sub-rounded Gravelly SAND (SW) very dense, medium to coarse grained, grey, black, white (multicoloured), with clay, and some ash lenses, poorly cemented.	- - - -					-		
- - - SPT at 24.73m	-2.08	- 24 - 24.50	SP		- - - - - SAND (SP) very dense, medium to coarse grained, grey, black, white (multicoloured), with some gravel fine grained angular to sub-rounded,	-						SNDG	
N 18;30/150	-2.38 - - - - -	- 24.80 - 25			and a trace of clay well cemented sands and gravels. Borehole completed at 24.8m depth	-							
	- - - -	- 26 - -			- - - -	- - - -							
	- - - -	- 27 - -			- - -	-							
- - -	- - - -	- 28 - - -			 - -	- - - -							
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BOREHOLE PHOTOGRAPHS



PROJECT: Upgrade Centenary Highway CLIENT: Department of Main Roads PROJECT NUMBER: 86015

Hole: BH 235



Depth: 13.8m - 19m



Depth: 19m - 22.9m