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# REPORT OF BOREHOLE: BH240

SHEET: 1 OF 3

DRILL RIG: FD500

CONTRACTOR: Foundril Pty Ltd

LOGGED: WJH DATE: 29/8/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 82377.1 m E 61274.7 m N GCCC

PROJECT: Gold Coast Rapid Transit

SURFACE RL: 13.93 m DATUM: AHD

LOCATION: Zone 2

INCLINATION: -90°

JOB NO: 117632047

HOLE DEPTH: 18.00 m

| Drilling |                        |       |                | Sampling     |                                     | Field Material Description |             |                                             |                                                                                                            |                    |                     |                                       |
|----------|------------------------|-------|----------------|--------------|-------------------------------------|----------------------------|-------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------|---------------------|---------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER | DEPTH (metres) | DEPTH RL     | SAMPLE OR FIELD TEST                | RECOVERED                  | GRAPHIC LOG | USC SYMBOL                                  | SOIL/ROCK MATERIAL DESCRIPTION                                                                             | MOISTURE CONDITION | CONSISTENCY DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS |
| ADV      | L-M                    |       | 0              | 13.93        |                                     |                            |             |                                             | FILL: CLAY<br>high plasticity, brown, with some fine grained sand, trace fine to medium sub-angular gravel |                    |                     |                                       |
|          |                        |       | 1              |              | SPT 1.00-1.45 m<br>2, 2, 6<br>N=8   |                            |             |                                             |                                                                                                            | F - St             |                     |                                       |
|          |                        |       | 2              |              |                                     |                            |             |                                             |                                                                                                            |                    |                     |                                       |
|          |                        |       | 2.50           | 11.43        | SPT 2.50-2.95 m<br>3, 2, 2<br>N=4   |                            |             | FILL<br>brown, rubbish, wood, wire, plastic |                                                                                                            |                    |                     |                                       |
|          |                        |       | 3              |              |                                     |                            |             |                                             |                                                                                                            |                    |                     |                                       |
|          |                        |       | 4              |              | SPT 4.00-4.45 m<br>1, 1, 0<br>N=1   |                            |             |                                             |                                                                                                            |                    |                     |                                       |
|          |                        |       | 5              |              |                                     |                            |             |                                             |                                                                                                            | M (>PL)            |                     |                                       |
|          |                        |       | 5.50           | 8.43         | SPT 5.50-5.95 m<br>3, 4, 7<br>N=11  |                            | CL          | CLAY<br>low plasticity, grey and red        |                                                                                                            |                    |                     |                                       |
| WB       | M                      |       | 6              |              |                                     |                            |             |                                             |                                                                                                            |                    | St                  |                                       |
|          |                        |       | 7              | 7.00<br>6.93 | SPT 7.00-7.45 m<br>4, 7, 9<br>N=16  |                            |             | grey                                        |                                                                                                            |                    |                     |                                       |
|          |                        |       | 8              |              |                                     |                            |             |                                             |                                                                                                            |                    |                     |                                       |
|          |                        |       | 9              |              | SPT 8.50-8.95 m<br>4, 8, 12<br>N=20 |                            |             |                                             |                                                                                                            |                    | VSt                 |                                       |
|          |                        |       | 9              |              |                                     |                            |             |                                             |                                                                                                            |                    |                     |                                       |
|          |                        |       | 9.90<br>4.03   |              |                                     |                            |             |                                             |                                                                                                            |                    |                     |                                       |

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GAP gINT FN. F01a  
RL3



# REPORT OF BOREHOLE: BH240

SHEET: 2 OF 3

DRILL RIG: FD500

CONTRACTOR: Foundril Pty Ltd

LOGGED: WJH      DATE: 29/8/11

CHECKED: NK      DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L    COORDS: 82377.1 m E 61274.7 m N GCCC

PROJECT: Gold Coast Rapid Transit      SURFACE RL: 13.93 m DATUM: AHD

LOCATION: Zone 2      INCLINATION: -90°

JOB NO: 117632047      HOLE DEPTH: 18.00 m

| Drilling |                        |                          |                | Sampling |                                         | Field Material Description |             |                                                    |                                |                    |                     |                                       |                                        |
|----------|------------------------|--------------------------|----------------|----------|-----------------------------------------|----------------------------|-------------|----------------------------------------------------|--------------------------------|--------------------|---------------------|---------------------------------------|----------------------------------------|
| METHOD   | PENETRATION RESISTANCE | WATER                    | DEPTH (metres) | DEPTH RL | SAMPLE OR FIELD TEST                    | RECOVERED                  | GRAPHIC LOG | USC SYMBOL                                         | SOIL/ROCK MATERIAL DESCRIPTION | MOISTURE CONDITION | CONSISTENCY DENSITY | STRUCTURE AND ADDITIONAL OBSERVATIONS |                                        |
| WB       | M                      | Groundwater not observed | 10             |          | SPT 10.00-10.45 m<br>17, 17, 21<br>N=38 |                            |             | Silty CLAY<br>high plasticity, brown and pale grey |                                | M (>PL)            | VSt                 |                                       |                                        |
|          |                        |                          | 11             |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
|          |                        |                          | 12             |          |                                         |                            |             |                                                    |                                |                    |                     |                                       | SPT 11.50-11.95 m<br>6, 13, 12<br>N=25 |
|          |                        |                          | 13             |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
|          |                        |                          | 14             |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
| 15       |                        |                          |                |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
|          |                        |                          | 16             |          | SPT 14.50-14.83 m<br>30/30 mm           |                            |             | For Continuation Refer to Sheet 3                  |                                |                    |                     |                                       |                                        |
| 17       |                        |                          |                |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
| 18       |                        |                          |                |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
| 19       |                        |                          |                |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |
| 20       |                        |                          |                |          |                                         |                            |             |                                                    |                                |                    |                     |                                       |                                        |

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GAP gINT FN. F01a  
RL3



# REPORT OF BOREHOLE: BH240

SHEET: 3 OF 3

DRILL RIG: FD500

CONTRACTOR: Foundril Pty Ltd

LOGGED: WJH DATE: 29/8/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 82377.1 m E 61274.7 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 13.93 m DATUM: AHD

LOCATION: Zone 2 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 18.00 m

| Drilling |       |     |           |                | Field Material Description |             |                                                                                         |            |                                   | Defect Information                                                                                                                           |  |  |                             |  |
|----------|-------|-----|-----------|----------------|----------------------------|-------------|-----------------------------------------------------------------------------------------|------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------|--|
| METHOD   | WATER | TCR | RQD (SCR) | DEPTH (metres) | DEPTH RL                   | GRAPHIC LOG | ROCK / SOIL MATERIAL DESCRIPTION                                                        | WEATHERING | INFERRED STRENGTH $I_{s(50)}$ MPa | DEFECT DESCRIPTION & Additional Observations                                                                                                 |  |  | AVERAGE DEFECT SPACING (mm) |  |
|          |       |     |           | 10             |                            |             |                                                                                         |            |                                   |                                                                                                                                              |  |  |                             |  |
|          |       |     |           | 11             |                            |             |                                                                                         |            |                                   |                                                                                                                                              |  |  |                             |  |
|          |       |     |           | 12             |                            |             |                                                                                         |            |                                   |                                                                                                                                              |  |  |                             |  |
|          |       |     |           | 13             |                            |             |                                                                                         |            |                                   |                                                                                                                                              |  |  |                             |  |
|          |       |     |           | 14             |                            |             |                                                                                         |            |                                   |                                                                                                                                              |  |  |                             |  |
|          |       |     |           | 15             | 14.55<br>-0.62             |             | Continuation of Sheet 2<br>ARGILLACEOUS SANDSTONE<br>fine to medium grained, brown      | HW         |                                   | 14.75 m: J, 45°, Pl, Ro, Sn<br>14.87 m: J, 30°, Pl, Ro, Sn<br>14.92 m: J, 60°, Pl, Ro, Sn<br>15.04 m: J, 10°, Un, Sn-Ct<br>15.16-15.23 m: DS |  |  |                             |  |
|          |       |     |           | 16             | 15.75<br>-1.82             |             | ARGILLACEOUS SILTSTONE<br>fine grained, green grey and brown with dark grey laminations |            |                                   | 15.37 m: J, 15°, Pl, Ro, Ct<br>15.45 m: J, 45°, Pl, Ro, Ct<br>15.57 m: J, 35°, Pl, Ro, Sn-Ct<br>15.74 m: J, 50°, Pl, Ro, Sn-Vr               |  |  |                             |  |
|          |       |     |           | 17             |                            |             |                                                                                         |            |                                   | 16.07-16.13 m: J, 30°, Pl, Ro, Ct, sp = 0.06 mm                                                                                              |  |  |                             |  |
|          |       |     |           | 18             | 17.50<br>-3.57             |             | becoming brown and grey                                                                 |            |                                   | 16.46 m: J, 45°, Ro, Sn-Vr<br>16.60-16.75 m: J, 30°, Pl, Ro, Sn, sp = 0.05 mm                                                                |  |  |                             |  |
|          |       |     |           | 19             | 18.00<br>-4.07             |             | END OF BOREHOLE @ 18.00 m<br>GROUNDWATER NOT OBSERVED                                   |            |                                   | 16.91 m: J, 15°, Pl, Ro, Sn                                                                                                                  |  |  |                             |  |
|          |       |     |           | 20             |                            |             |                                                                                         |            |                                   | 17.26 m: J, 45°, Pl, Ro, Sn-Ct<br>17.48 m: J, 45°, Pl, Ro, Sn-Vr<br>17.69-17.78 m: CZ                                                        |  |  |                             |  |

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GAP gINT FN. F02a  
RL3

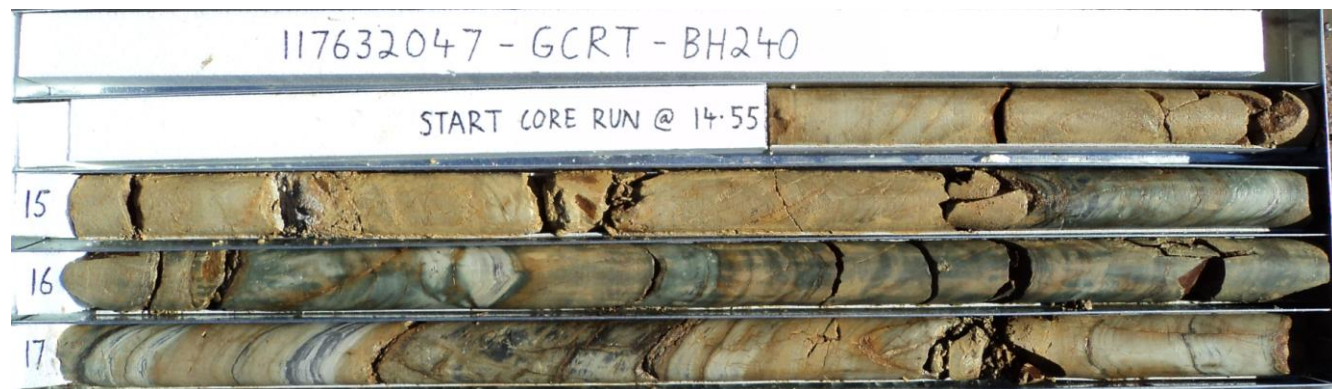


## REPORT OF CORE PHOTOGRAPHS: BH240

CLIENT: McConnell Dowell Constructors  
PROJECT: Gold Coast Rapid Transit  
LOCATION: Zone 2  
JOB NO: 117632047

COORDS: 82377.1 m E, 61274.7 m N  
SURFACE RL: 13.93      DATUM: AHD  
INCLINATION: -90°  
HOLE DEPTH: 18.00 m

DEPTH RANGE: 14.55 – 18.00 m  
DRILL RIG: FD500  
DRILLER: Foundril Pty Ltd  
LOGGED: WJH      DATE: 29/08/11  
CHECKED: NK      DATE: 26/09/11



**14.55 – 18.00 m**