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**Queensland  
Government**

Department of  
Main Roads

## ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH021

SHEET 1 of 2

REFERENCE No H10581

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION

LOCATION Cut 11 COORDINATES 486202.1 E; 7080818.7 N

PROJECT No FG5825 SURFACE R.L. 160.37m PLUNGE \_\_\_\_\_ DATE STARTED 20/7/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 20/7/09 DRILLER R & D Drilling

| DEPTH (m) | R.L. (m) | AUGER CASING WASH BORING CORE DRILLING | RQD ( ) %   | CORE REC % | SAMPLE | MATERIAL DESCRIPTION                                                                                                                                                                                                                                               | LITHOLOGY | USC WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS                                                           | SAMPLES TESTS |
|-----------|----------|----------------------------------------|-------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|-----------------|---------------------|-------------|--------------------------------------------------------------------------------------------|---------------|
|           |          |                                        |             |            |        |                                                                                                                                                                                                                                                                    |           |                |                 |                     |             |                                                                                            |               |
| 0         | 160.37   |                                        |             |            |        | <b>Silty CLAY</b><br>Mottled grey, minor organics.                                                                                                                                                                                                                 |           | (Cl)           |                 |                     |             |                                                                                            |               |
| 1         | 159.87   |                                        |             |            | A      | <b>PHYLLITE (XW - HW):</b><br>Generally exhibits the engineering properties of pale brown, moist, very stiff to hard, clayey silt.<br><br>Rock fabric visible throughout.                                                                                          |           | XW-HW          |                 |                     |             | 5,8,11<br>N=19                                                                             | SPT           |
| 2         | 158.37   |                                        |             |            | B      |                                                                                                                                                                                                                                                                    |           |                |                 |                     |             | 8,14,22<br>N=36                                                                            | SPT           |
| 3         |          |                                        | (19)        |            |        | <b>PHYLLITE (MW - SW):</b><br>Pale grey, fine grained, foliated.<br><br>Foliation is very distinct and dipping at 30°. Microfaulted foliations common with typically a 2mm offset.<br><br>Defects are generally close to medium spaced.                            |           | MW-SW          |                 |                     |             | <input type="checkbox"/> Clayey weathered seam<br><br>Is(50) = 0.43MPa<br>Is(50) = 0.24MPa | o<br>x        |
| 4         |          |                                        | 100<br>(29) |            |        | Prominent defect set dipping parallel to foliation.<br><br>Defect surfaces are typically iron stained or clay infilled.<br><br>2.0 - 5.2m: Foliation partings common.                                                                                              |           |                |                 |                     |             | <input type="checkbox"/> Clayey weathered zone                                             |               |
| 5         | 155.37   |                                        | 100<br>(65) |            |        | <b>PHYLLITE (SW):</b><br>Pale grey with distinctive dark grey mottling, fine grained, foliated.<br><br>Foliations are distinct and dip at 30°. Defects are generally close to medium spaced.                                                                       |           |                |                 |                     |             | <input type="checkbox"/> Clayey weathered seam<br><br>Is(50) = 0.36MPa<br>Is(50) = 0.90MPa | x<br>o        |
| 6         |          |                                        | 100<br>(82) |            |        | Prominent defect set dipping parallel to foliation with other sets dipping at 45° and occasionally sub-vertically.<br><br>Defect surfaces are typically thinly clay infilled or iron stained.<br><br>Rehealed fractured zones and disturbed foliations throughout. |           |                |                 |                     |             | Is(50) = 0.50MPa<br>Is(50) = 1.10MPa                                                       | x<br>o        |
| 7         |          |                                        | 100<br>(45) |            |        | <b>Detailed defect descriptions are shown on Form GEOT533/8 attached.</b>                                                                                                                                                                                          |           | SW             |                 |                     |             | <input type="checkbox"/> Broken zone                                                       |               |
| 8         |          |                                        |             |            |        |                                                                                                                                                                                                                                                                    |           |                |                 |                     |             | Is(50) = 0.23MPa<br>Is(50) = 0.60MPa                                                       | x<br>o        |
| 9         |          |                                        |             |            |        |                                                                                                                                                                                                                                                                    |           |                |                 |                     |             |                                                                                            |               |
| 10        | 150.37   |                                        |             |            |        |                                                                                                                                                                                                                                                                    |           |                |                 |                     |             |                                                                                            |               |

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached.

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# ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND  
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH021  
SHEET 2 of 2  
REFERENCE No H10581

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION  
LOCATION Cut 11 COORDINATES 486202.1 E; 7080818.7 N  
PROJECT No FG5825 SURFACE R.L. 160.37m PLUNGE \_\_\_\_\_ DATE STARTED 20/7/09 GRID DATUM MGA94  
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 20/7/09 DRILLER R & D Drilling

| DEPTH (m) | R.L. (m) | AUGER CASING WASH BORING CORE DRILLING | RQD ( ) % | CORE REC % | SAMPLE | MATERIAL DESCRIPTION                                                                                                                             | LITHOLOGY | USC | WEATHERING | INTACT STRENGTH | DEFECT SPACING (mm) | GRAPHIC LOG | ADDITIONAL DATA AND TEST RESULTS     | SAMPLES TESTS |
|-----------|----------|----------------------------------------|-----------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|------------|-----------------|---------------------|-------------|--------------------------------------|---------------|
| 10        | 150.37   |                                        |           |            |        | PHYLLITE (SW): (Cont'd)                                                                                                                          |           |     |            |                 |                     |             |                                      |               |
| 11        |          |                                        | 100 (55)  |            |        |                                                                                                                                                  |           |     |            |                 |                     |             |                                      |               |
| 12        |          |                                        |           |            |        |                                                                                                                                                  |           |     |            |                 |                     |             | Is(50) = 0.66MPa<br>Is(50) = 0.18MPa | o<br>x        |
| 13        |          |                                        |           |            |        | Detailed defect descriptions are shown on Form GEOT533/8 attached.                                                                               |           |     | SW         |                 |                     |             |                                      |               |
| 14        |          |                                        | 100 (81)  |            |        |                                                                                                                                                  |           |     |            |                 |                     |             | Is(50) = 0.20MPa<br>Is(50) = 1.10MPa | x<br>o        |
| 15        | 145.37   |                                        |           |            |        | RHYOLITE (MW):<br>Cream to off-white, fine grained matrix with occasional coarse grains.<br><br>Flow banding at 30°.                             |           |     |            |                 |                     |             |                                      |               |
| 16        | 143.87   |                                        | 100       |            |        | Defects are generally medium to widely spaced.<br><br>Defects dip parallel to flow banding and are iron stained.<br>Borehole terminated at 16.5m |           |     | SW         |                 |                     |             | Is(50) = 6.32MPa<br>Is(50) = 4.58MPa | x<br>o        |
| 17        |          |                                        |           |            |        |                                                                                                                                                  |           |     |            |                 |                     |             |                                      |               |
| 18        |          |                                        |           |            |        |                                                                                                                                                  |           |     |            |                 |                     |             |                                      |               |
| 19        |          |                                        |           |            |        |                                                                                                                                                  |           |     |            |                 |                     |             |                                      |               |
| 20        |          |                                        |           |            |        |                                                                                                                                                  |           |     |            |                 |                     |             |                                      |               |

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached.

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F:GEOT043/1



Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**  
Borehole No: **BH21 Cut 11**  
Start Depth: 2.00m  
Finish Depth: 16.50m  
Project No: FG5825  
H No: 10581



SCALE 1:5

F:GEOT043/1

## DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH  
GEOTECHNICAL TERMS AND SYMBOLS – FORM : GEOT 017/5 – 2009]

|                       |        |
|-----------------------|--------|
| <b>BOREHOLE NO.:</b>  | BH21   |
| <b>SHEET:</b>         | 1 of 4 |
| <b>REFERENCE NO.:</b> | H10581 |

**PROJECT:** BRUCE HIGHWAY (Cooroy to Curra) Section A Geotechnical Investigation

**LOCATION:** Cut 11

**PROJECT NO.:** FG5825

**SURFACE R.L.:** 160.36

**DRILLER:** R & D Drilling

**JOB NO.:** 128/10A/901

**DATUM:** MGA94

**DATE DRILLED:** 20/07/09

| DEPTH     | DEFECT TYPE | DIP° | PLANARITY | ROUGHNESS | APERTURE | WALL ALTERATION | OTHER   |
|-----------|-------------|------|-----------|-----------|----------|-----------------|---------|
| 2.04      | J           | 25   | PI        | S         | C        |                 | Cu      |
| 2.10      | FP          | 25   | PI        | S         | C        |                 | Cu      |
| 2.16-2.20 | Ws          | 30   | PI        | S         | C        |                 | Cu      |
| 2.26      | J           | 35   | PI        | S         | C        |                 | Cl, 2mm |
| 2.30      | FP          | 25   | PI        | S         | C        |                 | Cu      |
| 2.34      | J           | 80   | PI        | S         | C        |                 | Cl, 2mm |
| 2.39      | FP          | 20   | PI        | S         | C        |                 | Cl, 1mm |
| 2.43      | FP          | 25   | PI        | S         | C        |                 | Cl, 1mm |
| 2.48      | FP          | 25   | PI        | S         | C        |                 | Cu      |
| 2.68      | FP          | 25   | PI        | S         | C        |                 | Cu      |
| 2.72      | FP          | 25   | PI        | S         | C        |                 | Cu      |
| 2.80      | FP          | 30   | PI        | S         | C        | MnSt            |         |
| 2.89      | J           | 20   | PI        | S         | C        | MnSt            | CL      |
| 2.93      | J           | 30   | PI        | S         | C        | MnSt            |         |
| 2.95      | J           | 30   | PI        | R         | C        | MnSt, FeSt      |         |
| 3.01      | J           | 30   | PI        | S         | C        | MnSt, FeSt      |         |
| 3.07      | J           | 30   | PI        | S         | C        | FeSt            |         |
| 3.15      | J           | 30   | PI        | S         | C        | MnSt            |         |

### Abbreviations (as per F: GEOT 017/5 – 2009)

| ROUGHNESS |                | WALL ALTERATIONS |                          | TYPE  |                       | OTHER   |                  |
|-----------|----------------|------------------|--------------------------|-------|-----------------------|---------|------------------|
| R         | Rough          | FeSt             | Iron Stained             | J, Js | Joint, Joints         | Cl      | Clay Infill      |
| Sr        | Slightly Rough | W                | Weathered                | B     | Bedding               | CLy     | Clayey           |
| S         | Smooth         | Smn              | Secondary Mineralisation | BP    | Bedding Parting       | Co      | Coal Seam        |
| SL        | Slickensided   | Cn               | Clean                    | FP    | Foliation Parting     | Carb    | Carbonaceous     |
| PO        | Polished       | MnSt             | Manganese Stained        | LP    | Lamination Parting    | Sl      | Sand Infill      |
| PLANARITY |                | APERTURE         |                          | CLV   | Cleavage              | QZ      | Quartz           |
| PI        | Planar         | C                | Closed                   | Fr    | Fracture              | CA      | Calcite          |
| St        | Stepped        | O                | Open                     | SZ    | Sheared Zone          | Chl     | Chlorite         |
| Un        | Undulating     | F                | Filled                   | CZ    | Crushed Zone          | In      | Incipient        |
| Cu        | Curved         | T                | Tight                    | BZ    | Broken Zone           | Int     | Intersecting     |
| Ir        | Irregular      |                  |                          | HFZ   | Highly Fractured Zone | Lam (s) | Lamination (s)   |
|           |                |                  |                          | WS    | Weathered Seam        | Di      | Drilling Induced |
|           |                |                  |                          | Vn    | Vein                  | H       | Horizontal       |
|           |                |                  |                          |       |                       | V       | Vertical         |

NOTE: This sheet should be read in conjunction with appropriate Engineering Borelog. Defect angles were measured with respect to horizontal plane.



|                       |        |
|-----------------------|--------|
| <b>BOREHOLE NO.:</b>  | BH 21  |
| <b>SHEET:</b>         | 2 of 4 |
| <b>REFERENCE NO.:</b> | H10581 |

| DEPTH     | DEFECT TYPE | DIP°  | PLANARITY | ROUGHNESS | APERTURE | WALL ALTERATION | OTHER   |
|-----------|-------------|-------|-----------|-----------|----------|-----------------|---------|
| 3.23      | FP          | 30    | Pl        | S         | C        | MnSt            |         |
| 3.25      | J           | 30    | Pl        | R         | C        | MnSt            |         |
| 3.34      | J           | 30    | Pl        | S         | C        | MnSt, FeSt      |         |
| 3.35      | St          | 30    | Pl        | S         | C        |                 | CL, 1mm |
| 3.43      | J           | 30    | Pl        | S         | C        | MnSt            |         |
| 3.46      | J           | 30    | Pl        | S         | C        | MnSt            |         |
| 3.56      | J           | 60    | Pl        | S         | C        | MnSt            |         |
| 3.60      | J           | 30    |           |           |          |                 |         |
| 3.64      | J           | 35    | Pl        | S         | C        |                 | Cl      |
| 3.7-3.9   | Sz          | 45    | Pl        | S         | C        | W, FeSt         |         |
| 3.90      | J           | 45    |           | S         | C        |                 | Cl, 3mm |
| 4.01-4.05 | Sz          | 35    | St        |           | C        | FeSt            |         |
| 4.12-4.16 | Sz          | 45    | Pl        | S         | C        |                 | Cl, 2mm |
| 4.28      | J           | 35    | Pl        | S         | C        |                 | Cn      |
| 4.46      | J           | 35    | Pl        | S         | C        | MnSt            |         |
| 4.57      | J           | 30    | Pl        | S         | C        | MnSt            |         |
| 4.67-4.71 | Ws          | 35    | Pl        | S         | C        |                 | Cl, 3mm |
| 4.95      | J           | 30    | Pl        | S         | C        | MnSt            |         |
| 4.81      | J           | 20    | Pl        | S         | C        | MnSt            |         |
| 4.88      | J           | 35    | St        | S         | C        | MnSt            |         |
| 4.96      | J           | 5     | St        | S         | C        | MnSt            |         |
| 5.00      | J           | 25    | Un        | S         | C        | MnSt            |         |
| 5.10      | J           | 30    | Un        | S         | C        | MnSt            |         |
| 5.26      | J           | 30    | Pl        | S         | C        | MnSt, FeSt      |         |
| 5.40      | FP          | 35    | Pl        | S         | C        | MnSt            |         |
| 5.45      | Vn          | 75-90 | Un-St     | S         | C        | MnSt            |         |
| 5.46      | J           | 45    | Un        | S         | C        | MnSt            |         |
| 6.05      | J           | 40    | St        | R         | C        |                 |         |
| 6.27      | J           | 30    | Un-St     | S         | C        | MnSt            |         |
| 6.45      | J           | 30    | Pl        | S         | C        | FeSt            |         |
| 6.55      | J           | 55    | Un        | S         | C        | FeSt, MnSt      |         |
| 6.85      | FP          | 35    | Pl        | S         | C        | FeSt            |         |
| 6.97      | FP          | 15    | Pl        | S         | C        | MnSt            |         |
| 7.1       | Vn          | 80-85 | Un-St     | S         | C        |                 | Cl, 2mm |
| 7.3       | J           | 35    | Un        | S         | C        | FeSt, MnSt      |         |
| 7.42      | Vn          | 75    | Un        | S         | C        |                 | Cl, 1mm |
| 7.48      | J           | 35    | Pl        | S         | C        | FeSt            |         |
| 7.55      | J           | 15    | St        | R         | C        | FeSt            |         |
| 7.67      | J           | 30    | Pl        | S         | C        |                 |         |
| 7.71      | J           | 30    | Pl        | S         | C        |                 |         |
| 7.78      | J           | 30    | St        | S         | C        | MnSt            |         |
| 7.83      | J           | 30    | Pl        | S         | C        | FeSt            |         |
| 7.93      | Vn          | 70    | Pl        | S         | C        |                 | 3mm     |
| 7.95      | J           | 30    | Pl        | S         | C        | FeSt, MnSt      |         |
| 7.98      | J           | 30    | Un        | R         | C        | FeSt            | Cl, 1mm |
| 8.04      | J           | 25    | Un        | S         | O        | FeSt            |         |
| 8.06      | J           | 25    | Un        | S         | C        |                 |         |
| 8.08      | J           | 25    | Un        | S         | C        |                 |         |
| 8.14      | J           | 25    | Un        | S         | C        |                 |         |
| 8.16      | J           | 25    | Un        | S         | C        | FeSt            |         |
| 8.20-8.23 | FPX5        | 25    | Un        | S         | C        | FeSt            | Cl, 1mm |
| 8.4       | FP          | 5     | St        | S         | C        |                 |         |
| 8.49      | FP          | 5     | St-Un     | S         | C        |                 |         |
| 8.68      | Vn          | 75-80 | St        |           | C        |                 |         |
| 8.74      | J           | 30    | Pl        | S         | C        |                 |         |
| 8.84      | J           | 25    | Un        | S         | C        |                 |         |

|                       |        |
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| <b>BOREHOLE NO.:</b>  | BH 21  |
| <b>SHEET:</b>         | 3 of 4 |
| <b>REFERENCE NO.:</b> | H10581 |

| DEPTH       | DEFECT TYPE | DIP° | PLANARITY | ROUGHNESS | APERTURE | WALL ALTERATION | OTHER            |
|-------------|-------------|------|-----------|-----------|----------|-----------------|------------------|
| 8.94        | J           | 30   | St        | S         | C        |                 |                  |
| 8.97        | Vn          | 50   | Pl        |           | C        |                 | Cl, 1-2mm        |
| 9.04        | J           | 25   | Pl        | S         | C        |                 |                  |
| 9.08        | Vn          | 70   | Un        |           | C        |                 | Rehealed <4mm ap |
| 9.11        | J           | 30   | Pl        | S         | C        |                 |                  |
| 9.2         | J           | 25   | Pl        | S         | C        | FeSt            |                  |
| 9.32        | J           | 25   | Pl        | S         | C        | FeSt            |                  |
| 9.42        | J           | 35   | Pl        | S         | C        | FeSt            |                  |
| 9.45        | J           | 35   | Pl        | S         | C        | FeSt            |                  |
| 9.47        | Vn          | 60   | Pl        | S         | C        | W               | 5mm ap           |
| 9.50        | FP          | 30   | Un        | S         | C        |                 |                  |
| 9.54        | FP          | 30   | Pl        | S         | C        | FeSt            |                  |
| 9.65        | FP          | 25   | Un        | S         | C        | FeSt            |                  |
| 9.71        | J           | 25   | Un        | S         | C        | FeSt            |                  |
| 9.77        | FP          | 25   | Un        | S         | C        |                 |                  |
| 9.85        | FP          | 25   | Pl        | S         | C        |                 |                  |
| 9.95        | FP          | 30   | Un        | S         | C        |                 |                  |
| 10.06       | Vn          | 55   | Pl        | S         | C        |                 | Cl, 2mm          |
| 10.10       | J           | 30   | St        | S         | C        | FeSt            |                  |
| 10.13       | J           | 40   | St        | S         | C        |                 |                  |
| 10.27       | J           | 30   | Un        |           | C        | FeSt            | Cl, 4mm          |
| 10.29       | J           | 20   | Pl        | S         | C        |                 |                  |
| 10.32       | J           | 65   | Pl        |           | C        | FeSt            | Cl, 2mm          |
| 10.40       | J           | 10   | Pl        | S         | C        |                 | Cl, 1mm          |
| 10.43       | J           | 35   | Un-St     | R         | C        | FeSt            |                  |
| 10.48       | J           | 30   | Un        | S         | C        |                 |                  |
| 10.53       | J           | 35   | Pl        | S         | C        |                 | Cn               |
| 10.58       | J           | 60   | Un        | R         | C        |                 | Cn               |
| 10.91       | J           | 30   | Un-St     | PO        | C        | FeSt            |                  |
| 11.02       | J           | 20   | Pl        | S         | C        |                 | Cn               |
| 11.05       | J           | 20   | Pl        | S         | C        |                 | Cn               |
| 11.12       | J           | 35   | Un        | S         | C        |                 | Cn               |
| 11.15       | J           | 20   | Pl        | S         | C        |                 | Cn               |
| 11.17       | J           | 30   | Un        | S         | C        |                 | Cl               |
| 11.21       | J           | 35   | Un-St     | S         | C        |                 |                  |
| 11.24       | J           | 35   | Un-St     | S         | C        |                 |                  |
| 11.26-11.29 | Cz          | 5    | Pl        | S         | C        |                 |                  |
| 11.31       | J           | 5    | Un        | S         | C        |                 |                  |
| 11.34       | J           | 0    | Pl        | S         | C        |                 | Cl, 10mm         |
| 11.36-11.46 | Qz          | 65   | Pl        |           | C        |                 | 10mm             |
| 11.50       | J           | 20   | Un        | S         | C        |                 |                  |
| 11.53       | J           | 40   | Un        | PO        | C        |                 |                  |
| 11.56       | J           | 40   | Un        | PO        | C        |                 |                  |
| 11.6        | J           | 40   | Pl        | PO        | C        |                 |                  |
| 11.67       | J           | 25   | Pl        | PO        | C        |                 |                  |
| 11.70       | J           | 25   | Pl        | PO        | C        |                 |                  |
| 11.72       | J           | 25   | Pl        | PO        | C        |                 |                  |
| 11.75       | J           | 20   | Un        | PO        | C        |                 |                  |
| 11.78       | J           | 20   | Un        | PO        | C        |                 |                  |
| 11.90       | J           | 20   | Pl        | PO        | C        |                 |                  |
| 11.93       | J           | 20   | Un        | PO        | C        |                 |                  |
| 12.12       | J           | 30   | Un        | R         | C        |                 |                  |
| 12.15       | J           | 70   | Un        | R         | C        |                 |                  |
| 12.17       | J           | 25   | Pl        | PO        | C        |                 |                  |
| 12.23       | J           | 25   | Pl        | PO        | C        |                 |                  |
| 12.30       | J           | 25   | Pl        | PO        | C        |                 | Cl, clay veneer  |



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| <b>BOREHOLE NO.:</b>  | BH 21  |
| <b>SHEET:</b>         | 4 of 4 |
| <b>REFERENCE NO.:</b> | H10581 |

| DEPTH | DEFECT TYPE | DIP° | PLANARITY | ROUGHNESS | APERTURE | WALL ALTERATION | OTHER           |
|-------|-------------|------|-----------|-----------|----------|-----------------|-----------------|
| 12.34 | J           | 55   | Un        | SR        | C        |                 |                 |
| 12.40 | J           | 45   | Un        | PO        | C        |                 |                 |
| 12.43 | J           | 20   | Un        | PO        | C        |                 | Cl, clay veneer |
| 12.47 | J           | 10   | Un        | PO        | C        |                 |                 |
| 12.53 | J           | 30   | Un        | PO        | C        |                 |                 |
| 12.56 | J           | 30   | Un        | PO        | C        |                 |                 |
| 12.57 | J           | 70   | Un        | PO        | C        |                 |                 |
| 12.82 | J           | 25   | Pl        | S         | C        |                 |                 |
| 12.90 | J           | 25   | Pl        | PO        | C        |                 |                 |
| 12.93 | J           | 25   | Pl        | PO        | C        |                 |                 |
| 12.98 | Bz          | 25   | Pl        | S         | C        |                 |                 |
| 13.03 | J           | 25   | Un        | PO        | C        |                 |                 |
| 13.08 | J           | 25   | Un        | S         | C        | FeSt            |                 |
| 13.11 | J           | 25   | Un        | S         | C        |                 |                 |
| 13.18 | J           | 10   | Un        | SR        | C        |                 |                 |
| 13.24 | J           | 70   | Un-St     | S         | C        |                 | Cl, clay veneer |
| 13.33 | J           | 35   | Pl        | S         | C        |                 | Cl, 3mm         |
| 13.46 | J           | 25   | Pl-Un     | PO        | C        |                 | Cl, 3mm         |
| 13.50 | J           | 35   | Pl        | S         | C        |                 |                 |
| 13.54 | J           | 15   | Un        | S         | C        |                 |                 |
| 13.56 | J           | 30   | Pl        | PO        | C        |                 |                 |
| 13.62 | J           | 25   | Pl        | PO        | C        |                 |                 |
| 13.73 | J           | 20   | Pl        | PO        | C        |                 |                 |
| 13.95 | J           | 30   | St        | PO        | C        |                 |                 |
| 14.01 | J           | 15   | pL        | PO        | C        |                 |                 |
| 14.09 | J           | 30   | pL        | PO        | C        |                 |                 |
| 14.11 | J           | 20   | Un        | SR        | C        |                 |                 |
| 14.30 | J           | 20   | Un        | R         | C        |                 | Cl, <1mm        |
| 14.35 | J           | 20   | Pl        | SR        | C        | FeSt            |                 |
| 14.40 | J           | 15   | Un        | PO        | C        |                 |                 |
| 14.51 | J           | 20   | Un        | SR-R      | C        |                 |                 |
| 14.60 | J           | 25   | Un        | PO        | C        |                 |                 |
| 14.65 | J           | 20   | Un        | Pl        | C        | FeSt            |                 |
| 14.72 | J           | 20   | Pl        | PO        | C        | FeSt            |                 |
| 14.83 | J           | 30   | Un        | S         | C        | FeSt            |                 |
| 14.88 | J           | 15   | Un        | S         | C        |                 | Cl, <1mm        |
| 15.15 | J           | 30   | Un        | R         | C        | FeSt, MnSt      |                 |
| 15.44 | J           | 35   | Un        | R         | C        | FeSt            |                 |
| 16.16 | Vn          | 45   | Pl        |           | C        |                 | rehealed        |
| 16.25 | J           | 60   | Pl        | R         | C        | FeSt, MnSt      |                 |
|       |             |      |           |           |          |                 |                 |