MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2170R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.2 ft **(NAVD88)** | **NORTHING** 13,412,396 **US ft (NAD83)** | **EASTING** 2,599,989 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 1/3/08 | **COMPLETED** 1/7/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -33.0 | | | | | Continued from previous page | | | | |
| -34.3 | 113.5 | | | | | | | | -34.3 113.5 |
| | | 6 | 7 | 10 | 17 | SS-25 | | | FAT CLAY (CH), light gray (10YR7/2), mottled brownish yellow (10YR6/6), very stiff, moist, fine to medium grained sand, weak HCl reaction, organics, trace carbonate nodules |
| -44.3 | 123.5 | | | | | | | | -44.3 123.5 |
| | | 7 | 9 | 10 | 19 | SS-26 | | | FAT CLAY with sand (CH), light gray (10YR7/2), very stiff, moist, fine to medium grained sand, carbonate nodules, weak HCl reaction, ferrous staining |
| -54.3 | 133.5 | | | | | | | | -54.3 133.5 |
| | | 9 | 9 | 13 | 22 | SS-27 | | | FAT CLAY (CH), very pale brown (10YR8/2), very stiff, moist, fine to medium grained sand, trace carbonate nodules, strong HCl reaction |
| -64.3 | 143.5 | | | | | | | | |
| | | 6 | 12 | 11 | 23 | SS-28 | | | |
| -74.3 | 153.5 | | | | | | | | -74.3 153.5 |
| | | 7 | 21 | 40 | 61 | SS-29 | | | POORLY GRADED SAND with clay (SP-SC), very pale brown (10YR7/3), very dense, wet, fine to medium grained, strong HCl reaction (visual) |
| -84.3 | 163.5 | | | | | | | | |
| | | 30 | 36 | 44 | 80 | SS-30 | | | 163.5: light gray (2.5Y7/2) (visual) |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2170R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.2 ft **(NAVD88)** | **NORTHING** 13,412,396 **US ft (NAD83)** | **EASTING** 2,599,989 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 1/3/08 | **COMPLETED** 1/7/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -89.1 | | | | | Continued from previous page | | | | |
| | | | | | | | | | POORLY GRADED SAND with clay (SP-SC), very pale brown (10YR7/3), very dense, wet, fine to medium grained, strong HCl reaction (visual) *(continued)* |
| -94.3 | 173.5 | | | | | | | | -94.3 173.5 |
| | | 40 | 41 | 45 | 86 | SS-31 | | | Clayey SAND (SC), light gray (2.5Y7/2), very dense, wet, fine to medium grained, strong HCl reaction (visual) |
| -104.3 | 183.5 | | | | | | | | |
| | | 34 | 46 | 50/0.3 | 96/0.8 | SS-32 | | | 183.5ft: carbonate nodules |
| -114.3 | 193.5 | | | | | | | | |
| | | 32 | 44 | 37 | 81 | SS-33 | | | 193.5ft: fine to coarse grained |
| -123.8 | 203.0 | | | | | | | | FAT CLAY with sand (CH), light gray (10YR7/2), very stiff, moist, fine to medium grained sand, no HCl reaction, ferrous staining, trace organics |
| -129.3 | 208.5 | | | | | | | | |
| | | 15 | 17 | 10 | 27 | SS-34 | | | |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2170R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.2 ft **(NAVD88)** | **NORTHING** 13,412,396 **US ft (NAD83)** | **EASTING** 2,599,989 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 1/3/08 | **COMPLETED** 1/7/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -145.2 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY with sand (CH), light gray (10YR7/2), very stiff, moist, fine to medium grained sand, no HCl reaction, ferrous staining, trace organics *(continued)* |
| -149.3 | 228.5 | | | | | | | | |
| | | 11 | 14 | 18 | 32 | SS-35 | | | 228.5ft: hard, strong HCl reaction, trace carbonate nodules |
| -169.3 | 248.5 | | | | | | | | -169.3 248.5 |
| | | 22 | 28 | 30 | 58 | SS-36 | | | LEAN CLAY with sand (CL), light greenish gray (10Y8/1), hard, moist, fine to medium grained sand, trace carbonate nodules, strong HCl reaction, ferrous stains, organics |
| -189.3 | 268.5 | | | | | | | | -189.3 268.5 |
| | | 14 | 40 | 50/0.3 | 90/0.8 | SS-37 | | | Sandy LEAN CLAY (CL), light gray (10YR7/2), hard, moist, fine to medium grained sand, ferrous staining, organics, no HCl reaction, 0.3'-thick sand lense |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2170R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.2 ft **(NAVD88)** | **NORTHING** 13,412,396 **US ft (NAD83)** | **EASTING** 2,599,989 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 1/3/08 | **COMPLETED** 1/7/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -201.3 | | | | | Continued from previous page | | | | |
| | | | | | | | | | Sandy LEAN CLAY (CL), light gray (10YR7/2), hard, moist, fine to medium grained sand, ferrous staining, organics, no HCl reaction, 0.3'-thick sand lense *(continued)* |
| -209.3 | 288.5 | | | | | | | | -209.3 288.5 |
| | | 14 | 20 | 27 | 47 | SS-38 | | | FAT CLAY (CH), very pale brown (10YR8/2), hard, moist, fine to medium grained sand, trace carbonate nodules, strong HCl reaction, ferrous staining |
| -219.3 | 298.5 | | | | | | | | |
| | | 17 | 24 | 26 | 50 | SS-39 | | | 298.5ft: very pale brown (10YR7/3) |
| | | | | | | | | | -220.8 300.0 Boring Terminated at Elevation -220.8 ft |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JDH Date 6.12-08

Checked By KAW Date 7.10.08

SHEET 1 OF 2

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|---|---|---|---|
| BECHTEL PROJECT NO.: 25352 | | COUNTY Victoria | GEOLOGIST A. Osorio |
| SITE DESCRIPTION Exelon COL Project (Victoria Site) | | MACTEC PROJECT NO.: 6468-07-1777 | GROUND WATER (ft) |
| BORING NO. B-2171 | DRILL METHOD: Mud Rotary | SAMPLE METHODS: SPT | 0 HR. ND |
| GROUND SURFACE ELEV. 80.0 ft (NAVD88) | NORTHING 13,412,488 US ft (NAD83) | EASTING 2,600,093 US ft (NAD83) | 24 HR. ND |
| TOTAL DEPTH 81.5 ft | DRILL MACHINE CME-75 | DRILLER: D. Nalls/B. Turner | HAMMER (ID) 140 lb. Auto (MEC 11) |
| DATE STARTED 12/17/07 | COMPLETED 12/18/07 | CASING DEPTH: N/A | BITS USED: 4" Drag Bit |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 80.0 | | | | | Ground Surface | | | | 80.0 0.0 |
| 80.0 | 0.0 | | | | | SS-1 | | | NOTE: Standard penetration tests performed for this boring not valid due to use of nonconforming drill rod. Boring redrilled at offset location as B-2171R. Strata depicted on this boring adapted from B-2171R. FAT CLAY (CH), black (2.5/N), moist, trace sand, carbonate nodules, no HCl reaction |
| 76.5 | 3.5 | | | | | SS-2 | | | 3.5ft: greenish gray (10Y6/1 and 10Y5/1) |
| 74.0 | 6.0 | | | | | SS-3 | | | 6.0ft: yellowish brown stains, strong HCl reaction |
| 71.5 | 8.5 | | | | | SS-4 | | | |
| 69.0 | 11.0 | | | | | SS-5 | | | |
| 66.5 | 13.5 | | | | | SS-6 | | | 13.5ft: no HCl reaction |
| 61.5 | 18.5 | | | | | SS-7 | | | 18.5ft: light greenish gray (10YR7/1), weak HCl reaction |
| 56.5 | 23.5 | | | | | SS-8 | | | 23.5ft: yellowish brown (10YR5/6), mottled light greenish gray (10YR7/1), no HCl reaction |
| 51.5 | 28.5 | | | | | SS-9 | | | |
| 46.5 | 33.5 | | | | | SS-10 | | | |
| 41.5 | 38.5 | | | | | SS-11 | | | 38.5ft: greenish gray (10YR6/1), mottled yellowish brown (10YR5/6), strong HCl reaction |
| 36.5 | 43.5 | | | | | SS-12 | | | 36.5 43.5 |
| 35.5 | 44.5 | | | | | | | | Silty SAND (SM), greenish gray (10Y6/1), mottled light yellowish brown (10YR6/4), moist, little fines, strong HCl reaction |
| 31.5 | 48.5 | | | | | SS-13 | | | FAT CLAY (CH), greenish gray (10Y6/1), mottled light yellowish brown (10YR6/4), moist, few sand, trace carbonate nodules, weak HCl reaction |
| 30.8 | 49.2 | | | | | | | | POORLY GRADED SAND (SP), light yellowish brown (10YR6/4), mottled greenish gray (10Y6/1), moist, few fines, trace carbonate nodules, strong HCl reaction |
| 26.5 | 53.5 | | | | | SS-14 | | | 26.0 54.0 FAT CLAY with sand (CH), greenish gray (10Y6/1), moist, little sand, carbonate nodules, yellow brown stains, no HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** A. Osorio | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,488 **US ft (NAD83)** | **EASTING** 2,600,093 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 81.5 ft | **DRILL MACHINE** CME-75 | **DRILLER: D. Nalls/B. Turner** | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/17/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 4" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 23.9 | | | | | Continued from previous page | | | | |
| 21.5 | 58.5 | | | | | SS-15 | | | FAT CLAY with sand (CH), greenish gray (10Y6/1), moist, little sand, carbonate nodules, yellow brown stains, no HCl reaction *(continued)* |
| 16.5 | 63.5 | | | | | SS-16 | | | 63.5ft: brown (10YR5/3), mottled greenish gray (10Y6/1), trace sand |
| 11.5 | 68.5 | | | | | SS-17 | | | 68.5ft: grayish brown (10YR5/2) |
| 6.0 | 74.0 | | | | | SS-18 | | | |
| 3.0 | 77.0 | | | | | SS-19 | | | 77.0ft: light gray (10YR7/1) |
| 1.5 | 78.5 | | | | | | | | |
| 0.0 | 80.0 | | | | | SS20 | | | Clayey SAND (SC), greenish gray (10Y6/1), moist, little fines, trace yellowish brown nodules and carbonate nodules, no HCl reaction |
| -1.5 | 81.5 | | | | | | | | Boring Terminated at Elevation -1.5 ft |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JDH Date 6.12-08

Checked By LAW Date 7.10.08



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft (NAVD88) | **NORTHING** 13,412,480 US ft (NAD83) | **EASTING** 2,600,074 US ft (NAD83) | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: Nalls/Turner/Bray/Ellerson** | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH: 7.7 ft** | **BITS USED: 4" Roller Cone** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 80.0 | | | | | Ground Surface | | | | 80.0 0.0 |
| 80.0 | 0.0 | 2 | 3 | 3 | 6 | SS-1 | | | FAT CLAY (CH), black (2.5/N), firm, moist, few sand, no HCl reaction, grass and roots |
| 76.5 | 3.5 | 2 | 6 | 8 | 14 | SS-2 | | | 3.5ft: dark gray (4/N), stiff, trace carbonate nodules |
| 74.0 | 6.0 | 3 | 10 | 13 | 23 | SS-3 | | | 6.0ft: greenish gray (10Y6/1), very stiff, yellowish brown staining |
| 71.5 | 8.5 | 12 | 20 | 30 | 50 | SS-4 | | | 8.5ft: hard, weak HCl reaction |
| 69.0 | 11.0 | 10 | 13 | 16 | 29 | SS-5 | | | 11.0ft: gray (10YR6/1), very stiff, strong HCl reaction, trace black nodules |
| 66.5 | 13.5 | 5 | 9 | 10 | 19 | SS-6 | | | 13.5ft: greenish gray (10Y6/1), no HCl reaction, black and yellowish brown stains |
| 61.5 | 18.5 | 5 | 6 | 8 | 14 | SS-7 | | | 18.5ft: stiff |
| 56.5 | 23.5 | 4 | 6 | 8 | 14 | SS-8 | | | 23.5ft: yellowish brown (10YR5/6), mottled greenish gray (10Y6/1) |
| 51.5 | 28.5 | 6 | 5 | 9 | 14 | SS-9 | | | 28.5ft: black stains |
| 46.5 | 33.5 | 5 | 8 | 11 | 19 | SS-10 | | | 33.5ft: very stiff |
| 41.5 | 38.5 | 5 | 7 | 11 | 18 | SS-11 | | | 38.5ft: greenish gray (10Y6/1), mottled light yellowish brown (10YR6/4), weak HCl reaction |
| 36.5 | 43.5 | 7 | 12 | 17 | 29 | SS-12A/B | | | 36.5 43.5 Silty SAND (SM), greenish gray (10Y6/1), mottled light yellowish brown (10YR6/4), very firm, moist, little fines, strong HCl reaction |
| 35.5 | 44.5 | | | | | | | | FAT CLAY (CH), greenish gray (10Y6/1), mottled light yellowish brown (10YR6/4), very stiff, moist, few sand, trace carbonate nodules, weak HCl reaction |
| 31.5 | 48.5 | 9 | 13 | 21 | 34 | SS-13A/B | | | 30.8 49.2 POORLY GRADED SAND (SP), light yellowish brown (10YR6/4), mottled greenish gray (10Y6/1), dense, moist, few fines, trace carbonate nodules, strong HCl reaction |
| 26.5 | 53.5 | 18 | 17 | 18 | 35 | SS-14A/B | | | 26.0 54.0 FAT CLAY (CH), light yellowish brown (10YR6/4), hard, moist, few sand, strong HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.:** 25352 | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.:** 6468-07-1777 | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,480 **US ft (NAD83)** | **EASTING** 2,600,074 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER:** Nalls/Turner/Bray/Ellerson | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH:** 7.7 ft | **BITS USED:** 4" Roller Cone |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 23.9 | | | | | Continued from previous page | | | | |
| 21.5 | 58.5 | 8 | 13 | 19 | 32 | SS-15 | | | FAT CLAY (CH), light yellowish brown (10YR6/4), hard, moist, few sand, strong HCl reaction *(continued)* 58.5ft: gray (10YR6/1), trace carbonate nodules, black stains, no HCl reaction |
| 16.5 | 63.5 | 8 | 10 | 13 | 23 | SS-16 | | | 63.5ft: gray (10YR6/1), mottled light yellowish brown (10YR6/4), very stiff |
| 11.5 | 68.5 | 5 | 9 | 13 | 22 | SS-17 | | | 68.5ft: yellowish brown stains |
| 6.5 | 73.5 | 7 | 9 | 14 | 23 | SS-18 | | | 73.5ft: greenish gray (10Y6/1) |
| 1.5 | 78.5 | 8 | 9 | 12 | 21 | SS-19 | | | 1.5 — 78.5 Clayey SAND (SC), greenish gray (10Y6/1), very firm, moist, little fines, trace yellowish brown nodules and carbonate nodules, no HCl reaction |
| -3.5 | 83.5 | 16 | 21 | 22 | 43 | SS-20 | | | -3.5 — 83.5 POORLY GRADED SAND with clay (SP-SC), greenish gray (10Y6/1), dense, moist, few fines, strong HCl reaction |
| -8.5 | 88.5 | 11 | 27 | 30 | 57 | SS-21 | | | -8.5 — 88.5 POORLY GRADED SAND (SP), greenish gray (10Y6/1), very dense, moist, few fines, trace carbonate nodules, no HCl reaction, trace yellowish brown stains |
| -13.5 | 93.5 | 23 | 47 | 50/0.2 | 97/0.7 | SS-22 | | | 93.5ft: gray (10YR6/1), strong HCl reaction |
| -18.5 | 98.5 | 200/0.5 | | | 200/0.5 | SS-23 | | | 98.5ft: light gray (10YR7/1), coarse grained, SPT overdriven to collect sample |
| -28.5 | 108.5 | 19 | 48 | 34 | 82 | SS-24 | | | 108.5ft: gray (10YR6/1), medium to coarse grained |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,480 **US ft (NAD83)** | **EASTING** 2,600,074 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: Nalls/Turner/Bray/Ellerson** | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH: 7.7 ft** | **BITS USED: 4" Roller Cone** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -32.2 | | | | | Continued from previous page | | | | |
| | | | | | | | | | POORLY GRADED SAND (SP), greenish gray (10Y6/1), very dense, moist, few fines, trace carbonate nodules, no HCl reaction, trace yellowish brown stains *(continued)* |
| -38.5 | 118.5 | | | | | | | | -38.0 — 118.0 |
| | | 6 | 7 | 14 | 21 | SS-25 | | | FAT CLAY (CH), light greenish gray (10Y7/1), very stiff, moist, few sand, trace carbonate nodules, black nodules, black stains, no HCl reaction |
| -48.5 | 128.5 | | | | | | | | |
| | | 7 | 11 | 14 | 25 | SS-26 | | | 128.5ft: gray (10YR6/1), mottled yellowish brown (10YR5/6), trace carbonate nodules, weak HCl reaction |
| -58.5 | 138.5 | | | | | | | | |
| | | 6 | 8 | 12 | 20 | SS-27 | | | |
| | | | | | | | | | -65.0 — 145.0 |
| | | | | | | | | | POORLY GRADED SAND (SP), gray (10YR6/1), dense, moist, few fines, fine to medium grained, trace carbonate nodules, strong HCl reaction |
| -68.5 | 148.5 | | | | | | | | -69.1 — 149.1 |
| | | 31 | 26 | 17 | 43 | SS-28A/B | | | FAT CLAY (CH), gray (10YR6/1), slightly mottled yellowish brown (10YR5/6), hard, moist, few sand, trace carbonate nodules, weak HCl reaction |
| -78.5 | 158.5 | | | | | | | | |
| | | 26 | 27 | 25 | 52 | SS-29 | | | 158.5ft: greenish gray (10Y6/1), mottled yellowish brown (10YR5/8), black stains |
| | | | | | | | | | -86.0 — 166.0 |
| | | | | | | | | | POORLY GRADED SAND (SP), light gray (10YR7/2), very dense, moist, medium grained, few fines, strong HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,480 **US ft (NAD83)** | **EASTING** 2,600,074 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: Nalls/Turner/Bray/Ellerson** | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH: 7.7 ft** | **BITS USED: 4" Roller Cone** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -88.3 | | | | | Continued from previous page | | | | |
| -88.5 | 168.5 | 25 | 30 | 50 | 80 | SS-30 | | | POORLY GRADED SAND (SP), light gray (10YR7/2), very dense, moist, medium grained, few fines, strong HCl reaction *(continued)* |
| -98.5 | 178.5 | 32 | 40 | 37 | 77 | SS-31 | | | 178.5ft: yellow (10YR7/6), wet, trace fines |
| -108.5 | 188.5 | 38 | 50/0.4 | | 88/0.9 | SS-32 | | | 188.5ft: no recovery |
| -114.2 | 194.2 | 37 | 40 | 41 | 81 | SS-33 | | | 194.2ft: pale brown (10YR6/3), fine grained |
| -119.2 | 199.2 | 23 | 28 | 27 | 55 | SS-34 | | | 199.2ft: light gray (2.5Y7/2), few fines, some carbonate nodules |
| -139.2 | 219.2 | 3 | 9 | 14 | 23 | SS-35 | | | -139.2 FAT CLAY with sand (CH), light gray (2.5Y7/1), very stiff, moist, few sand, no HCl reaction 219.2 |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,480 **US ft (NAD83)** | **EASTING** 2,600,074 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: Nalls/Turner/Bray/Ellerson** | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH: 7.7 ft** | **BITS USED: 4" Roller Cone** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -144.4 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY with sand (CH), light gray (2.5Y7/1), very stiff, moist, few sand, no HCl reaction *(continued)* |
| -159.2 | 239.2 | 19 | 26 | 37 | 63 | SS-36 | | | 239.2ft: light gray (2.5Y7/1), and light yellowish brown (10YR6/4), hard, strong HCl reaction |
| | | | | | | | | | -175.0 — 255.0 POORLY GRADED SAND (SP), light gray (10YR7/1), very dense, moist, few fines, no HCl reaction |
| -178.5 | 258.5 | 29 | 38 | 42 | 80 | SS-37 | | | |
| | | | | | | | | | -190.0 — 270.0 FAT CLAY with sand (CH), light gray (10YR7/2), hard, moist, little sand, weak HCl reaction |
| -198.5 | 278.5 | 10 | 21 | 28 | 49 | SS-38A/B | | | -198.9 — 278.9 Clayey SAND (SC), light gray (10YR7/2), dense, moist, little fines, weak HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.:** 25352 | **COUNTY** Victoria | **GEOLOGIST** A. Osorio/J. Liles | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.:** 6468-07-1777 | **GROUND WATER (ft)** | |
| **BORING NO.** B-2171R | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.0 ft **(NAVD88)** | **NORTHING** 13,412,480 **US ft (NAD83)** | **EASTING** 2,600,074 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-75 | **DRILLER:** Nalls/Turner/Bray/Ellerson | **HAMMER (ID)** 140 lb. Auto (MEC 11) |
| **DATE STARTED** 12/19/07 | **COMPLETED** 1/4/08 | **CASING DEPTH:** 7.7 ft | **BITS USED:** 4" Roller Cone |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -200.5 | | | | | Continued from previous page | | | | |
| | | | | | | | | | Clayey SAND (SC), light gray (10YR7/2), dense, moist, little fines, weak HCl reaction *(continued)* |
| | | | | | | | | | -205.0 285.0 |
| | | | | | | | | | FAT CLAY (CH), light greenish gray (10Y7/1), hard, moist, few sand, trace to few black and yellowish brown stains, strong HCl reaction |
| -218.5 | 298.5 | 10 | 17 | 23 | 40 | SS-39 | | | |
| | | | | | | | | | -220.0 300.0 |
| | | | | | | | | | Boring Terminated at Elevation -220.0 ft |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC

GEOTECHNICAL BORING LOG

Prepared By WBD Date 6/16/08

Checked By KAW Date 7-10-08



| | | | |
|---|---|---|---|
| BECHTEL PROJECT NO.: 25352 | | COUNTY Victoria | GEOLOGIST J. Jarvis |
| SITE DESCRIPTION Exelon COL Project (Victoria Site) | | MACTEC PROJECT NO.: 6468-07-1777 | GROUND WATER (ft) |
| BORING NO. B-2172 | DRILL METHOD: Mud Rotary | SAMPLE METHODS: SPT | 0 HR. ND |
| GROUND SURFACE ELEV. 80.1 ft (NAVD88) | NORTHING 13,412,096 US ft (NAD83) | EASTING 2,599,830 US ft (NAD83) | 24 HR. ND |
| TOTAL DEPTH 100.0 ft | DRILL MACHINE CME-45 | DRILLER: J. Warren/J. Alexander | HAMMER (ID) 140 lb. Auto (MEC 12) |
| DATE STARTED 11/15/07 | COMPLETED 11/16/07 | CASING DEPTH: N/A | BITS USED: 2 15/16" Roller Cone |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 80.1 | | | | | Ground Surface | | | | 80.1 0.0 |
| 79.1 | 1.0 | 1 | 1 | 2 | 3 | SS-1 | | | FAT CLAY (CH), dark gray (10YR4/1), soft, moist, few to little sand, no HCl reaction |
| 76.4 | 3.7 | 1 | 2 | 4 | 6 | SS-2 | | | 76.4 3.7 FAT CLAY with sand (CH), gray (5YR5/1), firm, moist, little sand, carbonate horizon at 4.9' to 5.4' |
| 74.5 | 5.6 | 2 | 3 | 4 | 7 | SS-3 | | | 5.6ft: gray (7.5YR5/1), mottled brown (7.5YR4/2), stiff, carbonate nodules, manganese stains |
| 71.2 | 8.9 | 5 | 9 | 11 | 20 | SS-4 | | | 8.9ft: light gray (10YR7/2), very stiff, ferrous nodules, black stains, strong HCl reaction |
| 69.0 | 11.1 | 7 | 9 | 12 | 21 | SS-5 | | | 11.1ft: light brownish gray (10YR6/2) |
| 66.5 | 13.6 | 7 | 10 | 12 | 22 | SS-6 | | | 13.6ft: light gray (10YR7/2), few sand |
| 60.2 | 19.9 | 3 | 6 | 9 | 15 | SS-7 | | | 19.4ft: stiff, little sand |
| 55.9 | 24.2 | 6 | 9 | 11 | 20 | SS-8 | | | 55.9 24.2 FAT CLAY (CH), light gray (10YR7/2), mottled brownish yellow (10YR6/6), very stiff, moist, few to little sand, strong HCl reaction, carbonate and manganese nodules, ferrous staining |
| 50.3 | 29.8 | 4 | 6 | 8 | 14 | SS-9 | | | 29.8ft: light brown (7.5YR6/3), stiff |
| 46.4 | 33.7 | 7 | 10 | 11 | 21 | SS-10 | | | 33.7ft: light gray (10YR7/2), very stiff, few sand |
| 40.4 | 39.7 | 7 | 7 | 11 | 18 | SS-11 | | | 39.7ft: yellowish brown (10YR6/6), mottled light gray (10YR7/2) |
| 36.5 | 43.6 | 6 | 10 | 14 | 24 | SS-12 | | | 43.6ft: weak HCl reaction |
| 31.4 | 48.7 | 7 | 9 | 14 | 23 | SS-13 | | | 31.4 48.7 FAT CLAY with sand (CH), light brown (7.5YR6/3), mottled yellowish brown (10YR5/6), very stiff, moist, little sand, weak HCl reaction, manganese and ferrous staining |
| 25.2 | 54.9 | 9 | 11 | 11 | 22 | SS-14 | | | 54.9ft: light reddish brown (5YR6/3), mottled reddish |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/16/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** J. Jarvis | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2172 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,096 **US ft (NAD83)** | **EASTING** 2,599,830 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 100.0 ft | **DRILL MACHINE** CME-45 | **DRILLER: J. Warren/J. Alexander** | **HAMMER (ID)** 140 lb. Auto (MEC 12) |
| **DATE STARTED** 11/15/07 | **COMPLETED** 11/16/07 | **CASING DEPTH: N/A** | **BITS USED: 2 15/16" Roller Cone** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 24.0 | | | | | Continued from previous page | | | | |
| 21.5 | 58.6 | 7 | 8 | 13 | 21 | SS-15 | | | yellow (5YR6/6), few to little sand, no HCl reaction, carbonate nodules<br>FAT CLAY with sand (CH), light brown (7.5YR6/3), mottled yellowish brown (10YR5/6), very stiff, moist, little sand, weak HCl reaction, manganese and ferrous staining *(continued)*<br>58.6ft: light brown (7.5YR6/3), mottled reddish yellow (5YR6/6), weak HCl reaction |
| 16.5 | 63.6 | 7 | 10 | 10 | 20 | SS-16 | | | 63.6ft: little sand, strong HCl reaction |
| 11.4 | 68.7 | 7 | 10 | 10 | 20 | SS-17 | | | 11.4 — 68.7<br>POORLY GRADED SAND (SP), gray (7.5YR6/1), firm, moist, trace fines, weak HCl reaction, carbonate horizon from 69.4-69.6ft |
| 6.4 | 73.7 | 19 | 30 | 33 | 63 | SS-18 | | | 73.7ft: pinkish gray (5YR6/2), very dense, wet, carbonate horizon from 74.6-74.8ft, strong HCl reaction |
| 1.5 | 78.6 | 8 | 9 | 17 | 26 | SS-19 | | | 78.6ft: light gray (10YR7/1), very firm, few fines, weak HCl reaction |
| -3.6 | 83.7 | 18 | 15 | 14 | 29 | SS-20 | | | Field reports do not indicate that SS-20 was split into separate jars |
| -4.4 | 84.5 | | | | | | | | FAT CLAY with sand (CH), light gray (10YR7/1), very stiff, wet, little sand, ferrous staining, carbonate particles through out, strong HCl reaction |
| -7.6 | 87.7 | 18 | 36 | 50/0.3 | 86/0.8 | SS-21A/B | | | -8.6 — 88.7<br>POORLY GRADED SAND (SP), pinkish gray (7.5YR7/2), very dense, wet, trace fines, carbonate deposit at 89.5ft, strong HCl reaction |
| -13.6 | 93.7 | 50/0.2 | | | 50/0.2 | SS-22 | | | -13.6 — 93.7<br>FAT CLAY (CH), light gray (10YR7/1), hard, moist, few to little sand, ferrous staining, carbonate deposits though out |
| -18.6 | 98.7 | 50/0.5 | | | 50/0.5 | SS-23 | | | -18.6 — 98.7<br>WELL-GRADED SAND (SW), light brown (7.5YR6/3), very dense, wet, trace fines, ferrous staining, strong HCl reaction — 100.0<br>-19.9<br>Boring Terminated at Elevation -19.9 ft |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/16/08

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JPJr Date 6.12.08

Checked By KAW Date 7.10.08



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| **BECHTEL PROJECT NO.:** 25352 | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.:** 6468-07-1777 | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft (NAVD88) | **NORTHING** 13,412,225 US ft (NAD83) | **EASTING** 2,599,945 US ft (NAD83) | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER:** D. White/O. Smith | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH:** N/A | **BITS USED:** 3 7/8" Wing Bit |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 79.6 | | | | | Ground Surface | | | | 79.6 0.0 |
| 79.6 | 0.0 | 3 | 4 | 5 | 9 | SS-1 | | | FAT CLAY with sand (CH), dark gray (2.5Y4/1), stiff, moist, little sand, no HCl reaction, organics, thinly laminated |
| 76.1 | 3.5 | 7 | 5 | 7 | 12 | SS-2 | | | 3.5ft: grayish brown (10YR5/2), strong HCl reaction, carbonate nodules, ferrous stains |
| 73.6 | 6.0 | 6 | 7 | 9 | 16 | SS-3 | | | 73.6 6.0 LEAN CLAY with sand (CL), very pale brown (10YR7/3), very stiff, moist, little sand, strong HCl reaction, carbonate nodules, organics, ferrous staining |
| 71.1 | 8.5 | 5 | 5 | 5 | 10 | SS-4 | | | 8.5ft: light gray (10YR7/2), stiff |
| 68.6 | 11.0 | 5 | 8 | 8 | 16 | SS-5 | | | 11.5ft: very pale brown (10YR7/3), very stiff, weak HCl reaction |
| 66.1 | 13.5 | 6 | 7 | 9 | 16 | SS-6 | | | |
| 61.1 | 18.5 | 5 | 6 | 8 | 14 | SS-7 | | | 61.1 18.5 FAT CLAY (CH), yellow (10YR7/8), mottled light greenish gray (10Y8/1), stiff, moist, few to little sand, strong HCl reaction, organics, trace carbonate nodules |
| 56.1 | 23.5 | 5 | 6 | 8 | 14 | SS-8 | | | |
| 51.1 | 28.5 | 4 | 6 | 8 | 14 | SS-9 | | | |
| 46.1 | 33.5 | 6 | 6 | 9 | 15 | SS-10 | | | |
| 41.1 | 38.5 | 19 | 15 | 19 | 34 | SS-11 | | | 41.1 38.5 Clayey SAND (SC), light gray (10YR7/2), dense to very firm, moist, fine grained, some fines, strong HCl reaction, ferrous staining, carbonate nodules |
| 36.1 | 43.5 | 8 | 12 | 11 | 23 | SS-12 | | | 43.5ft: brownish yellow (10YR6/6), mottled very pale brown (10YR/3), wet |
| 31.1 | 48.5 | 14 | 19 | 22 | 41 | SS-13 | | | 48.5ft: yellow (10YR7/8), interbedded clay-rich seams |
| 26.1 | 53.5 | 12 | 12 | 20 | 32 | SS-14 | | | 53.5ft: very pale brown (10YR7/3), and brownish yellow (10YR6/8), no HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft **(NAVD88)** | **NORTHING** 13,412,225 **US ft (NAD83)** | **EASTING** 2,599,945 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 23.5 | | | | | Continued from previous page | | | | |
| 21.1 | 58.5 | 11 | 9 | 11 | 20 | SS-15 | | | Clayey SAND (SC), light gray (10YR7/2), dense to very firm, moist, fine grained, some fines, strong HCl reaction, ferrous staining, carbonate nodules *(continued)* 58.5ft: brownish yellow (10YR6/6), mottled light gray (10YR7/2), firm, strong HCl reaction |
| 17.6 | 62.0 | | | | | | | | |
| 16.1 | 63.5 | 5 | 7 | 11 | 18 | SS-16 | | | Sandy FAT CLAY (CH), brownish gray (10YR6/6), and very pale brown (10YR7/4), very stiff, some sand, no to strong HCl reaction, carbonate nodules, 0.4'-thick clay seam |
| 11.1 | 68.5 | 8 | 23 | 43 | 66 | SS-17A/B | | | |
| 10.1 | 69.5 | | | | | | | | Clayey SAND (SC), reddish yellow (7.5YR6/6), very dense, wet, fine to coarse grained, little fines, strong HCl reaction, carbonate nodules |
| 6.1 | 73.5 | 12 | 15 | 21 | 36 | SS-18 | | | 73.5ft: very pale brown (10YR7/3), dense, some fines, no HCl reaction |
| 1.1 | 78.5 | 6 | 11 | 15 | 26 | SS-19 | | | 78.5ft: very firm |
| -3.9 | 83.5 | | | | | | | | |
| -3.9 | 83.5 | 26 | 24 | 17 | 41 | SS-20 | | | FAT CLAY with sand (CH), yellow (10YR7/8), mottled light greenish gray (10Y8/1), hard, moist, little sand, weak HCl reaction, carbonate nodules |
| -8.9 | 88.5 | 40 | 50/0.3 | | 90/0.8 | SS-21 | | | 88.5ft: very pale brown (10YR8/2), strong HCl reaction, ferrous staining, trace organics |
| -13.9 | 93.5 | | | | | | | | |
| -13.9 | 93.5 | 18 | 40 | 45 | 85 | SS-22 | | | Clayey SAND (SC), light gray (10YR7/2), to very pale brown (10YR7/4), very dense, wet, fine grained, little fines, no HCl reaction, 0.3'-thick carbonate seam |
| -15.9 | 95.5 | | | | | | | | POORLY GRADED SAND with clay (SP-SC), very pale brown (10YR8/4), very dense, wet, medium to coarse grained, few fines, strong HCl reaction |
| -18.9 | 98.5 | 50/0.5 | | | 50/0.5 | SS-23 | | | |
| -25.4 | 105.0 | | | | | | | | FAT CLAY with sand (CH), brownish yellow (10YR6/6), mottled light greenish gray (10Y8/1), very stiff, moist, little sand, strong to weak HCl reaction, organics, carbonate nodules |
| -28.9 | 108.5 | 8 | 10 | 14 | 24 | SS-24 | | | |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft **(NAVD88)** | **NORTHING** 13,412,225 **US ft (NAD83)** | **EASTING** 2,599,945 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -32.6 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY with sand (CH), brownish yellow (10YR6/6), mottled light greenish gray (10Y8/1), very stiff, moist, little sand, strong to weak HCl reaction, organics, carbonate nodules *(continued)* |
| -38.9 | 118.5 | 4 | 9 | 12 | 21 | SS-25 | | | 118.5ft: light gray (10YR7/2), trace ferrous staining |
| -48.9 | 128.5 | 16 | 17 | 20 | 37 | SS-26 | | | -48.9 / 128.5 Sandy FAT CLAY (CH), very pale brown (10YR8/2), hard, moist, little to some sand, strong to weak HCl reaction, carbonate nodules, ferrous staining |
| -58.9 | 138.5 | 16 | 16 | 14 | 30 | SS-27 | | | 138.5ft: very stiff |
| -68.9 | 148.5 | 5 | 7 | 9 | 16 | SS-28 | | | 148.5ft: light gray (10YR7/2), mottled brownish yellow (10YR6/8), interbedded clay seams |
| -78.9 | 158.5 | 12 | 21 | 27 | 48 | SS-29 | | | -78.9 / 158.5 Clayey SAND (SC), very pale brown (10YR7/3), mottled brownish gray (10YR6/6), dense, moist, fine grained, strong HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft **(NAVD88)** | **NORTHING** 13,412,225 **US ft (NAD83)** | **EASTING** 2,599,945 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -88.7 | | | | | Continued from previous page | | | | |
| -88.9 | 168.5 | 28 | 21 | 24 | 45 | SS-30 | | | Clayey SAND (SC), very pale brown (10YR7/3), mottled brownish gray (10YR6/6), dense, moist, fine grained, strong HCl reaction *(continued)*<br>168.5ft: medium to coarse grained, carbonate nodules |
| -98.9 | 178.5 | 44 | 50/0.3 | | 94/0.8 | SS-31 | | | 178.5ft: very dense, little fines, little gravel |
| -103.9 | 183.5 | | | | | | | | POORLY GRADED SAND (SP), very pale brown (10YR7/3), very dense, wet, fine grained, few fines, strong HCl reaction |
| -108.9 | 188.5 | 50/0.3 | | | 50/0.3 | SS-32 | | | |
| -115.4 | 195.0 | | | | | | | | Clayey SAND (SC), brownish yellow (10YR6/6), dense, moist, fine grained, little to some fines, strong HCl reaction |
| -118.9 | 198.5 | 20 | 18 | 16 | 34 | SS-33 | | | |
| -128.9 | 208.5 | 16 | 18 | 24 | 42 | SS-34 | | | 208.5ft: light gray (10YR7/2), mottled brownish yellow (10YR6/8), trace organics, interbedded clay layers |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft **(NAVD88)** | **NORTHING** 13,412,225 **US ft (NAD83)** | **EASTING** 2,599,945 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -144.8 | | | | | Continued from previous page | | | | |
| | | | | | | | | | Clayey SAND (SC), brownish yellow (10YR6/6), dense, moist, fine grained, little to some fines, strong HCl reaction *(continued)* |
| -148.9 | 228.5 | | | | | | | | -148.9 228.5 |
| | | 12 | 15 | 21 | 36 | SS-35 | | | FAT CLAY (CH), very pale brown (10YR8/2), mottled yellow (10YR7/8), hard, moist, few sand, strong HCl reaction, carbonate nodules, organics |
| -168.9 | 248.5 | | | | | | | | |
| | | 11 | 17 | 27 | 44 | SS-36 | | | 248.5ft: light gray (10YR7/2), mottled brownish yellow (10YR6/8), trace sand |
| -177.4 | 257.0 | | | | | | | | Clayey SAND (SC), light gray (10YR7/2), very dense, wet, fine grained, little fines, no HCl reaction, organics |
| -188.9 | 268.5 | | | | | | | | |
| | | 47 | 48 | 49 | 97 | SS-37 | | | |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** C. Gandy | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2173 | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 79.6 ft **(NAVD88)** | **NORTHING** 13,412,225 **US ft (NAD83)** | **EASTING** 2,599,945 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 300.0 ft | **DRILL MACHINE** CME-55 LC | **DRILLER: D. White/O. Smith** | **HAMMER (ID)** 140 lb. Auto (MEC 02) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 12/18/07 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Wing Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -200.9 | | | | | Continued from previous page | | | | |
| | | | | | | | | | Clayey SAND (SC), light gray (10YR7/2), very dense, wet, fine grained, little fines, no HCl reaction, organics *(continued)* |
| | | | | | | | | | -207.4 287.0 |
| -208.9 | 288.5 | 12 | 17 | 24 | 41 | SS-38 | | | FAT CLAY (CH), very pale brown (10YR8/2), mottled brownish yellow (10YR6/6), hard, moist, few sand, strong HCl reaction, organics, trace carbonate nodules |
| -218.9 | 298.5 | 15 | 20 | 26 | 46 | SS-39 | | | 298.5ft: weak HCl reaction, ferrous staining |
| | | | | | | | | | -220.4 300.0 |
| | | | | | | | | | Boring Terminated at Elevation -220.4 ft |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JPH Date 6-12-08

Checked By KAW Date 7-10-08

SHEET 1 OF 11

| | | | |
|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft (NAVD88) | **NORTHING** 13,412,299 US ft (NAD83) | **EASTING** 2,600,001 US ft (NAD83) | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER:** T. Warren/N. Skoglund | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH:** N/A | **BITS USED:** 3 7/8" Drag Bit |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 80.1 | | | | | Ground Surface | | | | |
| 80.1 | 0.0 | 1 | 2 | 5 | 7 | SS-1 | | | FAT CLAY with sand (CH), dark gray (5YR4/1), firm, moist, little fine sand, no HCl reaction, trace organics |
| 77.1 | 3.0 | 2 | 2 | 2 | 4 | SS-2 | | | 3.0ft: dark gray (10YR4/1), soft |
| 74.1 | 6.0 | 1 | 4 | 5 | 9 | SS-3 | | | 6.0ft: pale brown (10YR6/3), stiff, trace carbonate nodules, strong HCl reaction |
| 71.6 | 8.5 | 3 | 4 | 6 | 10 | SS-4 | | | Sandy LEAN CLAY (CL) pinkish gray (5YR6/2), stiff, moist, strong HCl reaction, trace carbonate nodules trace black and brown grains |
| 69.1 | 11.0 | 7 | 8 | 9 | 17 | SS-5 | | | 11.0ft: pinkish gray (7.5YR6/2), very stiff |
| 66.6 | 13.5 | 6 | 10 | 11 | 21 | SS-6 | | | |
| 61.4 | 18.7 | 5 | 7 | 10 | 17 | SS-7 | | | 18.5ft: mottled yellowish brown (10YR5/6) |
| 56.5 | 23.6 | 5 | 8 | 12 | 20 | SS-8 | | | 23.6ft: light gray (10YR7/2), mottled light reddish brown (5YR6/4) |
| 51.4 | 28.7 | 5 | 7 | 11 | 18 | SS-9 | | | FAT CLAY (CH), light yellowish brown (10YR6/4), mottled light gray (10YR7/2), very stiff, moist, strong HCl reaction, trace carbonate grains |
| 46.4 | 33.7 | 6 | 7 | 10 | 17 | SS-10 | | | 33.7ft: light gray (10YR7/2), mottled yellowish brown (10YR5/6), few sand, trace carbonate nodules |
| 41.4 | 38.7 | 12 | 17 | 23 | 40 | SS-11 | | | 38.7ft: brownish yellow (10YR6/6), to light gray (10YR7/2), hard, few to little sand |
| 39.1 | 41.0 | | | | | | | | |
| 36.4 | 43.7 | 12 | 16 | 23 | 39 | SS-12 | | | Clayey SAND (SC), brownish yellow (10YR6/6), mottled light gray (7.5YR7/1), dense, moist, some fines, trace carbonate nodules, strong HCl reaction |
| 31.4 | 48.7 | 17 | 16 | 16 | 32 | SS-13 | | | 48.7ft: pinkish gray (7.5YR7/2), mottled brownish yellow (10YR6/6) |
| 29.1 | 51.0 | | | | | | | | |
| 26.4 | 53.7 | 6 | 8 | 12 | 20 | SS-14 | | | POORLY GRADED SAND (SP), very pale brown (10YR7/3), firm, moist, traces fines, no HCl reaction, traces of yellowish red stains |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 24.0 | | | | | Continued from previous page | | | | |
| 22.6 | 57.5 | | | | | | | | Sandy FAT CLAY (CH), light brownish gray (10YR6/2), very stiff, moist, some sand, trace carbonate grains and nodules, trace brown stains, strong HCl reaction |
| 21.4 | 58.7 | 13 | 13 | 14 | 27 | SS-15 | | | |
| | | | | | | | | | 63.7ft: pinkish gray (5YR7/2), mottled light brown (7.5YR6/4), few to little sand |
| 16.4 | 63.7 | 7 | 8 | 17 | 25 | SS-16A/B | | | |
| 15.4 | 64.7 | | | | | | | | Clayey SAND (SC), very pale brown (10YR7/3), very firm, moist, some fines, fine grained, no HCl reaction |
| 11.4 | 68.7 | 11 | 13 | 20 | 33 | SS-17A/B | | | 68.7ft: light brown (7.5YR6/3), dense |
| 10.7 | 69.4 | | | | | | | | 69.4ft: Sandy LEAN CLAY (CL), light brown (7.5YR6/4), hard, moist, trace to few sand, trace carbonate nodules, trace dark brown staining, strong HCl reaction |
| 6.4 | 73.7 | 9 | 9 | 14 | 23 | SS-18 | | | 73.7ft: pinkish gray (7.5YR6/2), very stiff |
| 1.4 | 78.7 | 11 | 13 | 16 | 29 | SS-19 | | | 78.7ft: light gray (10YR 7/2), some sand |
| -3.6 | 83.7 | 50/0.3 | | | 50/0.3 | SS-20 | | | 83.7ft: hard, trace sand |
| -8.6 | 88.7 | 7 | 8 | 16 | 24 | SS-21 | | | 88.7ft: pinkish gray (7.5YR 7/2), very stiff, few sand |
| -13.6 | 93.7 | 5 | 17 | 18 | 35 | SS-22 | | | POORLY GRADED SAND with clay (SP-SC), light gray (10YR7/1), dense, moist, fine sand, trace fines, no HCl reaction |
| -18.6 | 98.7 | 50/0.3 | | | 50/0.3 | SS-23 | | | Silty SAND (SM) very pale brown (10YR7/3), very dense, fine to medium grained, trace dark brown grains, strong HCl reaction |
| -22.4 | 102.5 | | | | | | | | FAT CLAY (CH), light gray (5Y7/1), mottled brownish yellow (10YR6/6), very stiff, moist, few sand, trace carbonate nodules, trace black and brown nodules and stains, strong HCl reaction |
| -28.7 | 108.8 | 6 | 8 | 13 | 21 | SS-24 | | | |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -32.1 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY (CH), light gray (5Y7/1), mottled brownish yellow (10YR6/6), very stiff, moist, few sand, trace carbonate nodules, trace black and brown nodules and stains, strong HCl reaction *(continued)* |
| -38.6 | 118.7 | 7 | 11 | 14 | 25 | SS-25 | | | 118.7ft: pinkish gray (7.5YR6/2), trace sand |
| -48.6 | 128.7 | 10 | 28 | 31 | 59 | SS-26 | | | 128.7ft: light gray (10YR7/2), hard, some sand |
| -54.9 | | | | | | | | | 135.0 Silty SAND (SM), light gray (10YR7/1), very dense, moist, fine grained, trace fines, strong HCl reaction |
| -58.6 | 138.7 | 14 | 40 | 35 | 75 | SS-27 | | | |
| -68.6 | 148.7 | 9 | 16 | 23 | 39 | SS-28 | | | 148.7ft: very pale brown (10YR7/2), dense, no HCl reaction |
| -74.9 | | | | | | | | | 155.0 POORLY GRADED SAND with clay (SP-SC), light gray (10YR7/2), mottled strong brown (7.5YR5/8), dense, moist, fine grained, few fines, trace brownish grains, strong HCl reaction |
| -78.6 | 158.7 | 13 | 15 | 28 | 43 | SS-29 | | | |
| -84.9 | | | | | | | | | 165.0 Silty SAND (SM), light gray (10YR7/1), to very pale brown (10YR7/1), very dense, moist, fine to medium grained, trace fines, no HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

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| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -88.2 | | | | | Continued from previous page | | | | |
| ~~-88.6~~ | ~~168.7~~ | 37 | 50/0.3 | | 87/0.8 | SS-30 | | | Silty SAND (SM), light gray (10YR7/1), to very pale brown (10YR7/1), very dense, moist, fine to medium grained, trace fines, no HCl reaction *(continued)* |
| -98.6 | 178.7 | 18 | 33 | 50/0.2 | 83/0.7 | SS-31 | | | 178.7ft: light gray (5Y7/2), to very pale brown (10YR7/4), trace carbonate nodules, trace olive yellow stains, strong HCl reaction |
| -108.6 | 188.7 | 50/0.08 | | | 50/0.08 | SS-32 | | | 188.7ft: light gray (10YR7/2), fine sand, trace black grains, trace yellowish brown stains, weak HCl reaction |
| -118.6 | 198.7 | 22 | 37 | 41 | 78 | SS-33 | | | 198.7ft: pinkish gray (7.5YR7/2), medium sand |
| | | | | | | | | | -131.9 — 212.0 FAT CLAY (CH), pinkish gray (7.5YR7/2), hard, moist, few sand, trace carbonate nodules, trace strong brown nodules, trace black organics, strong HCl reaction |
| -138.6 | 218.7 | 38 | 50/0.4 | | 88/0.9 | SS-34A/B | | | -139.1 — 219.2 POORLY GRADED SAND (SP), light gray (10YR7/1), to very pale brown (10YR7/1), very dense, moist, fine grained, trace fines, no HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.:** 25352 | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.:** 6468-07-1777 | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft (NAVD88) | **NORTHING** 13,412,299 US ft (NAD83) | **EASTING** 2,600,001 US ft (NAD83) | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER:** T. Warren/N. Skoglund | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH:** N/A | **BITS USED:** 3 7/8" Drag Bit |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -144.3 | | | | | Continued from previous page | | | | |
| | | | | | | | | | POORLY GRADED SAND (SP), light gray (10YR7/1), to very pale brown (10YR7/1), very dense, moist, fine grained, trace fines, no HCl reaction *(continued)* |
| | | | | | | | | | -148.9 — 229.0 FAT CLAY (CH), light gray (7.5YR7/1), mottled light brown (7.5YR6/4), hard, moist, trace sand, trace carbonate nodules, strong HCl reaction |
| -158.6 | 238.7 | 19 | 22 | 28 | 50 | SS-35 | | | |
| | | | | | | | | | -169.9 — 250.0 POORLY GRADED SAND (SP), light gray (10YR7/1), very dense, moist, fine grained, trace fines, no HCl reaction |
| -178.6 | 258.7 | 29 | 35 | 45 | 80 | SS-36 | | | |
| | | | | | | | | | -184.9 — 265.0 Clayey SAND (SC), greenish gray (10YR6/1), moist, weak HCl reaction |
| | | | | | | | | | -189.9 — 270.0 FAT CLAY with sand (CH), light gray (10YR7/1), hard, moist, some fine sand, no HCl reaction |
| -198.6 | 278.7 | 12 | 40 | 50 | 90 | SS-37A/B | | | -199.1 — 279.2 |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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| **BECHTEL PROJECT NO.:** 25352 | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.:** 6468-07-1777 | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD:** Mud Rotary | **SAMPLE METHODS:** SPT | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft (NAVD88) | **NORTHING** 13,412,299 US ft (NAD83) | **EASTING** 2,600,001 US ft (NAD83) | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER:** T. Warren/N. Skoglund | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH:** N/A | **BITS USED:** 3 7/8" Drag Bit |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -200.4 | | | | | Continued from previous page | | | | |
| | | | | | | | | | POORLY GRADED SAND (SP), light gray (10YR7/1), very dense, moist, fine grained, few fines, no HCl reaction *(continued)* |
| | | | | | | | | | -209.9 — 290.0 |
| | | | | | | | | | FAT CLAY (CH), light gray (2.5YR7/2), hard, moist, trace fine sand, trace carbonate grains, strong HCl reaction |
| -218.6 | 298.7 | | | | | | | | |
| | | 14 | 21 | 25 | 46 | SS-38 | | | |
| -238.8 | 318.9 | | | | | | | | |
| | | 8 | 12 | 19 | 31 | SS-39 | | | 318.9ft: pinkish gray (7.5YR6/2), few sand, trace black organics |
| | | | | | | | | | -241.7 — 321.8 |
| | | | | | | | | | POORLY GRADED SAND (SP), light gray (2.5Y7/2), and yellowish brown (2.5Y6/3), wet, fine grained sand, strong HCl reaction |
| | | | | | | | | | -254.8 — 334.9 |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -256.5 | | | | | Continued from previous page | | | | |
| -258.7 | 338.8 | 8 | 11 | 17 | 28 | SS-40 | | | FAT CLAY (CH) very pale brown (10YR7/3), mottled light brown (7.5YR6/4), very stiff, moist, trace sand, trace brownish stains *(continued)* |
| -278.7 | 358.8 | 10 | 12 | 20 | 32 | SS-41 | | | 358.8ft: pale brown (10YR6/3), hard |
| -298.7 | 378.8 | 9 | 12 | 17 | 29 | SS-42 | | | 378.8ft: very stiff, no sand, weak HCl reaction |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -312.6 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY (CH) very pale brown (10YR7/3), mottled light brown (7.5YR6/4), very stiff, moist, trace sand, trace brownish stains *(continued)* |
| -318.7 | 398.8 | 10 | 12 | 20 | 32 | SS-43 | | | 398.8ft: very pale brown (10YR7/3), hard, trace sand, strong HCl reaction |
| -338.7 | 418.8 | 30 | 50/0.3 | | 80/0.8 | SS-44 | | | LEAN CLAY (CL), light gray (10YR7/1), mottled strong brown (7.5YR5/6), hard, moist, strong HCl reaction |
| -358.7 | 438.8 | 15 | 20 | 26 | 46 | SS-45 | | | FAT CLAY (CH), pale brown (10YR6/3), mottled light brown (7.5YR6/4), hard, moist, strong HCl reaction, |

-338.7 418.8

-358.7 438.8

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08

MACTEC



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|---|---|---|---|
| **BECHTEL PROJECT NO.: 25352** | **COUNTY** Victoria | **GEOLOGIST** H. Lyatuu | |
| **SITE DESCRIPTION** Exelon COL Project (Victoria Site) | **MACTEC PROJECT NO.: 6468-07-1777** | **GROUND WATER (ft)** | |
| **BORING NO.** B-2174A | **DRILL METHOD: Mud Rotary** | **SAMPLE METHODS: SPT** | **0 HR.** ND |
| **GROUND SURFACE ELEV.** 80.1 ft **(NAVD88)** | **NORTHING** 13,412,299 **US ft (NAD83)** | **EASTING** 2,600,001 **US ft (NAD83)** | **24 HR.** ND |
| **TOTAL DEPTH** 601.0 ft | **DRILL MACHINE** CME-75 | **DRILLER: T. Warren/N. Skoglund** | **HAMMER (ID)** 140 lb. Auto (MEC 09) |
| **DATE STARTED** 12/11/07 | **COMPLETED** 1/6/08 | **CASING DEPTH: N/A** | **BITS USED: 3 7/8" Drag Bit** |

| ELEV. (ft) | DEPTH (ft) | BLOW COUNT 0.5ft | 0.5ft | 0.5ft | BLOWS PER FOOT 0 20 40 60 80 100 | SAMP. NO. | MOI | LOG | SOIL AND ROCK DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| -368.7 | | | | | Continued from previous page | | | | |
| | | | | | | | | | FAT CLAY (CH), pale brown (10YR6/3), mottled light brown (7.5YR6/4), hard, moist, strong HCl reaction, *(continued)* |
| -378.7 | 458.8 | | | | | | | | |
| | | 9 | 16 | 21 | 37 | SS-46 | | | 458.8ft: light gray (10YR7/2) |
| -398.7 | 478.8 | | | | | | | | |
| | | 11 | 15 | 18 | 33 | SS-47 | | | -398.7 — 478.8 SILT with sand (ML), light gray (2.5YR7/1), hard, moist, little sand, trace dark brown grains, strong HCl reaction |
| | | | | | | | | | -409.9 — 490.0 FAT CLAY (CH), light yellowish brown (10YR6/4), mottled light gray (2.5Y7/2), hard, moist, trace sand, strong HCl reaction |
| -418.5 | 498.6 | | | | | | | | |
| | | 38 | 36 | 50 | 86 | SS-48 | | | |

EXELON COL BORE EXELON-2.GPJ EXELON COL.GDT 6/12/08