APPENDIX C

2011 and 2012 Field Forms

APPENDIX C

2011 Low-flow Groundwater Sampling Forms

Groundwater Gauging Forms



GROUNDWATER LEVEL DATA FORM

| SITE NAME: | For | rt Totlen | | FIELD ST | ΓAFF: | Page 1 of 1 Emily Patt, Liz Martin 10404-03 | | |
|------------|-----|-----------|----------|---------------------|-------|---|----------|--|
| DATE: | 5/1 | 4/11 | | PROJEC [*] | T#: _ | | | |
|) | | TOC | Depth to | Depth to | Depth | to | Comments | |

| Well I.D. | Time | TOC Elevation (if known) | Depth to Bottom of Well (ft) | Depth to LNAPL (ft) | Depth to Water (ft) | Comments |
|-----------|------|--------------------------------|------------------------------------|---------------------------|------------------------|----------|
| MW-1 | 1023 | | 33.03 | ND | 17.63 | |
| MW-Z | 0913 | | 25.98 | ND | 15.26 | |
| MW - 3 | 0857 | | 31.10 | ND | 13.21 | |
| MW-4R | 0805 | | 12.65 | ND | 5.97 | |
| MW-5 | 0951 | | 25. 25 | ИД | 18.52 | |
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| Measurement reference point: | □ Ground Surface | |
|-------------------------------|------------------|---------|
| Weather Conditions: 50's f va | -0 britas lacia | 12. meh |

Other Significant Observations:



GROUNDWATER LEVEL DATA FORM

| SITE NAME | : FN | + Totten | | _ FIELD S | TAFF: ച്ച | Page 1 of 1ason Ramond, Emily Pratt |
|--------------|-------------|--------------------------------|------------------------------------|---------------------------|------------------------|-------------------------------------|
| DATE: | 5) | 1/11 | | _ PROJEC | Т#: 104 | 04 |
| Well I.D. | Time | TOC Elevation (if known) | Depth to Bottom of Well (ft) | Depth to LNAPL (ft) | Depth to Water (ft) | Comments |
| WW-1 | 0841 | | 33.05 | NA | 17.15 | |
| MW-2 | 1049 | | 26.02 | NA | 15.55 | |
| MW-3 | 1158 | | 31.13 | NA | 13.18 | |
| MW-4 | 1307 | - | 12.67 | NA | 6.16 | |
| MW-5 | 1512 | | 25.29 | NA | 18.63 | |
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| | | | | | | |
| Measuren | nent refe | rence point: | □ Grour | nd Surface | Тор с | of Casing (TOC) |
| Weather Co | onditions: | | | | | |
| Other Signit | ficant Obse | ervations: | | | | |

Monitoring Well Development Forms



WELL DEVELOPMENT LOG

| | Project No.: 1040 | | 5/4/ 10404 | | | Site: Project Name | : : | Fort Totkn Fort Tothen | | | |
|---|---|--|-----------------------------|--|---|---|---------------------|------------------------------------|---|------------|--|
| | Dev. Contract | or: | | Marie | | Developed B | | | reit, Liz Ma | | |
| | Well No.: DTW and Tir As-built DTB Well Volume | (see note): | AIA | 601023 | | Well Dia.: DTB (measured) and Time: Height of Water: Minimum Dev. Volume: | | 2" 33.03@.1023 15.4 | | | |
| | Dev. Start: Da Purge Method Equipment: | ate and Time | Whalo | © 1028 Pump Pump | | Dev. End: Da Surge Metho Maximum dr | d: | 5/4/11 @ 1037 Whale Pump dry | | | |
| | Average disch Total quantity Disposition o | of water dis | charged by | | | | | | | <i>j</i> . | |
| | | | 1 | Votes | | | Para | meters Mon | itored (if required | d) | |
| | Time | Cumulative Volume Removed (gal) | Water Level (ft) BTOC | Clarity/Color | | marks | Turbidity (NTUs) | рН | Conductivity (uS/m) | Other | |
| | 1037 | 4 | dny | Slightly down | men qu | | | | | | |
| | 1204 | 4 | 18.30 | | | · · · · · · · · · · · · · · · · · · · | | | | | |
| 2 | 08-1212 | 3.5 7.5 | dγ | clear | well d | vy : | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | Comments: | | | | | | | | | | |
| | | | | | | | Reviewed By | | | | |
| | DTB = dep gal = gallo | eight of water (in oth to bottom of | well (in feet) | DTW = depth to w BTOC = below top HOW = DTB-DTV Volume Water = F Minimum Develop ing well construction | p of casing W HOW x Gallons oment Volume = | | | Well Dia. 0.75 1 2 4 | Gal / ft of Water 0.023 0.041 0.16 0.65 | | |



gal = gallons

(1) Obtain As-built DTB from the monitoring well construction diagram.

WELL DEVELOPMENT LOG

| Date: | rate: 5/4/11 roject No.: 10404-03 | | | | | | fort Totten | | | | |
|--|---------------------------------------|-----------------------------|------------------|-----------------|--------------|---------------------|----------------------------|---------------------|-------------|--|--|
| - | | | | | Project Name | | Fort T | otten | | | |
| Dev. Contrac | ctor: | Water | nark | | Developed B | y: | Emily Pro | Alt, LIZ Mar | tin | | |
| Well No.: | | MW-Z | | | Well Dia.: | | 2" | | | | |
| DTW and Ti | | 15.26 | | | DTB (measu | red) and Time: | ed) and Time: 25.98 @ 0912 | | | | |
| As-built DTI | | NA | | | - | Height of Water: | | 10.72 | | | |
| Well Volume | e (gal): | HA-7-720M | 1.72 | | Minimum De | ev. Volume: | 5.15 | | | | |
| Dev. Start: D | ate and Time | :5/4/11 | 0917 | | Dev. End: D | ate and Time: | 5/4/11 | 0926 | | | |
| Purge Metho | od: | Whale | Pump | | Surge Metho | od: | | mp | | | |
| Equipment: | , | Whale | Pump | | Maximum dı | | NOI du | M | | | |
| A 41 | 1 | | · | | | | | 1 | | | |
| | charge rate (ga | | | | | , | | | | | |
| | ty of water dis of discharged | | oumping: | | | | | ···· | | | |
| | | 1 | Votes | | | Para | ameters Mon | itored (if required | | | |
| | Cumulative | | | ****** | | | T | 1 104011 | / | | |
| Time | Volume Removed (gal) | Water Level (ft) BTOC | Clarity/Color | Remarks | | Turbidity (NTUs) | рН | Conductivity (uS/m) | Other | | |
| 0926 | ව | 25.0 | Clear | well day | | | | | | | |
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| Comments: | | | | | | | <u> </u> | | | | |
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| | | | | | | Reviewed By | • | | | | |
| Notes: | | | | - | | | | ··· | | | |
| Notes: dia. = dia | meter | | DTW = depth to v | vater (in feet) | | | Well Dia. | Gal / ft of Water | | | |
| ft = foot BTOC = below top of casing | | | | | | | 0.75 | 0.023 | | | |
| HOW = height of water (in feet) HOW = DTB-DTW | | | | | | 1 | 0.041 | | | | |
| DTB = de | epth to bottom of | well (in feet) | Volume Water = I | iOW x Gallons | ft of water | | 2 | 0.16 | | | |

Minimum Development Volume = Volume x 5

0.65

Watermark

WELL DEVELOPMENT LOG

| Project No.: | | <u> 5/4/11</u> | | | Site: | | Fort Tot | | | |
|--------------|---|---|---------------|--------|-------------|---------------------|--|---------------------|---------|--|
| | | 10404 Project Name: Waterwark Developed By: | | FortTo | Hen | | | | | |
| Dev. Contra | ictor: | Watern | lark | | Developed B | y: | Emily Prat | t. LIZ Warts | n | |
| Well No.: | | _WW-3 |) | | Well Dia.: | | 2" | | | |
| DTW and T | Time: | | ල | | DTB (measu | red) and Time: | 31.10 P. 0857 17.89 8.6 5/4/11 0908 | | | |
| As-built DT | TB (see note): | | | | Height of W | ater: | | | | |
| Well Volum | ne (gal): | 2.86 | | | Minimum D | ev. Volume: | | | | |
| Dev. Start: | Date and Time | : Wha 5/ | 4/11 090 | 0 | Dev. End: D | ate and Time: | | | | |
| Purge Meth | | Whale f | rmp | | | | 14) 20 0.10 | Pump | | |
| Equipment: | | | Pump | | | | Day | (0111) | | |
| Total quant | scharge rate (ga ity of water dis of discharged | scharged by p | | | | | - | | | |
| | | N | lotes | | | Para | meters Mon | tored (if required | 1) | |
| Time | Cumulative Volume Removed (gal) | Level (ft) BTOC | Clarity/Color | | marks | Turbidity (NTUs) | рН | Conductivity (uS/m) | Other | |
| ୦୯୦୫ | 5 | 31.10 | clear | men g. | 4 | | | ļ | <u></u> | |
| 1055 | | 1440 | | | | | | <u> </u> | | |
| 1103 | 9.5 | 12.90 | clear | well | λη. | | | <u> </u> | | |
| 1002 | 1,3 | 31.41 | Clear | werr | avy. | | | | | |
| | <u> </u> | | | | | | | | | |
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WELL DEVELOPMENT LOG

| Date: Project No.: Dev. Contrac | Project No.: Dev. Contractor: | | -03 | | Site: Project Nar Developed | | Fort Totten Fort Totten | | | |
|--|---|------------------------------|---|--|--|---------------------|---------------------------|---|---------|--|
| Well No.: DTW and Ti As-built DTI Well Volume | B (see note): | 5,97 (2 NA | R 0805 | | DTB (measured) and Time: Height of Water: | | | 4" 12.65 @ 0805 6 68 13 gal | | |
| Dev. Start: Dev. S | od: | Minale P | 0817 ump | | Dev. End: Date and Time: Surge Method: Maximum drawdown: | | 5/4/11 0827 Whale Pump | | | |
| Total quantit | charge rate (ga by of water dis of discharged | llon/minute) charged by p | o: oumping : | | murb a | | | | | |
| | | 1 | Votes | | | Para | meters Mon | itored (if required | d) | |
| Time | Cumulative Volume Removed (gal) | Water Level (ft) BTOC | rel (ft) Clarity/Color F | | marks | Turbidity (NTUs) | рН | Conductivity (uS/m) | Other | |
| 0820 | 5 | | | | | | | | | |
| 0827 | 8 | 12.65 | soudy brow | ment gr | Υ | | | | | |
| 1120 | | 5,40 | | | | | | | | |
| 3-1128 | 4 | | Sightly cloud | م طمیعات | 101 | | - | | · · · · | |
| 40-1143 | 2.5 | | clear | whent (| | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Comments: | | | <u> </u> | | *** | | | | | |
| | | | | | | Reviewed By: | | | | |
| DTB = de gal = galle | eight of water (in opth to bottom of ons | well (in feet) | DTW = depth to v BTOC = below to HOW = DTB-DT Volume Water = F Minimum Develor ing well constructio | p of casing W HOW x Gallons/ oment Volume = | | | Well Dia. 0.75 1 2 4 | Gal / ft of Water 0.023 0.041 0.16 0.65 | | |



WELL DEVELOPMENT LOG

| Date: Project No.: Dev. Contrac | roject No.: 10404-03 Dev. Contractor: Watermark | | | Site: Project Nam Developed E | | Fort T | otten otten att, Liz Mart | | | | |
|--|---|--|------------------|-------------------------------------|--|---------------------|-------------------------------------|---|-------|--|--|
| Well No.: DTW and Ti As-built DTF Well Volume | 3 (see note): | | @ ଜ5। | | Well Dia.: DTB (measu Height of W Minimum D | ater: | 2" 25.25 @, 0951 6.73 3.23 | | | | |
| Purge Methor Equipment: Average disc Total quantity | Purge Method: Equipment: Whate Pump Average discharge rate (gallon/minute): Total quantity of water discharged by pumping: Disposition of discharged water | | | | Surge Method: | | | 5/4/11 P. 1001 Whale Pump Unknown | | | |
| | | N | Notes | | | Para | ameters Mon | itored (if required | 1) | | |
| Time | Cumulative Volume Removed (gal) | Water Level (ft) BTOC | Clarity/Color | Remarks | | Turbidity (NTUs) | рН | Conductivity (uS/m) | Other | | |
| 1001 | 7.5 | | cloar | good rea | harge | | | | | | |
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| Comments: | | ······································ | | | | | | | | | |
| | | | | | | Reviewed By | | | | | |
| Notes; dia. = diar | meter | | DTW = depth to w | rater (in feet) | | | Well Dia | Gal / ft of Water | ···· | | |

BTOC = below top of casing
HOW = DTB-DTW

HOW = height of water (in feet) DTB = depth to bottom of well (in feet)

Volume Water = HOW x Gallons/ft of water

Minimum Development Volume = Volume x 5

(1) Obtain As-built DTB from the monitoring well construction diagram.

0.75 0.023 1 0.041 2 0,16 0.65

Low-Flow Groundwater Sampling Forms



| Well I.D.: | <u> MW - 1</u> | | | | · | Date: | 5/9/2011 | | | _ | |
|----------------------------|--------------------------------|----------------------------------|--|------------------------|-----------------------------|--|--------------------------------------|-------------------------------|----------------------------|-------------------------|--------------|
| Well Depth | (from T.O.C.) = | _ 33.05 | ft ft | | | Well Diamete Screen Depth | · / | 2 | to Unk | inches Feet below grade | |
| Static Wate (from T.O.0 | r Level (WL) = C.) | 17.15 | ft ft | | | Sampler(s): | | EmilyPre | at & Jason | Raimondi | |
| T = dep T = _ < ? | | c Water Level (ft) 7 . (5 Well V | olume: 2.5 | 4 x3=7. | 632 (gallons) | Purging Devi Sampling De Pump Intake Actual Purge | vice: (depth below TOC): | pensto benstal 32 35 | the pump | © Feet (Gallons) | |
| · <u>- ·</u> | 31 | | Specific Conductance | Turbidity | D.O. | ORP | | Static | | | |
| <u>Time:</u> | Temp. (°C) (± 3%) f4, 10 | pH (SU) (± 0.1) S , 7& | (umhos/cm) (± 3%) 3 3 4 | (NTUs) (±10% if >1) | (mg/l) (± 10%) I , 76 | (mV) 2/0,6 | Flow Rate (<u>ml/min)</u> 242 | water <u>Level</u> /9. 6 | Color/ Clarity Cleac | Comments | |
| 9:20 | 13.53 | 5.99 | 330 | 1.68 | 8.33 | 195.8 | 20919 | 20.78 | clear | | |
| 9:25 | 13.68 | 5.98 | 329 | 2.94 | 2.06 | 189.5 | 20911 | 22.86 | clear | | |
| 9130 | 13.74 | 5.99 | _330 | 3.89 | 8.17 | 185.3 | <u> 34870</u> | 22,44 | clear | | |
| 9:35 | 13.82 | 8.98 | 330_ | 4.10 | 8.04 | 182.1 | 2005/9 | 72.96 | cker | Re Col. Turbidity | <u>Senso</u> |
| 9140 | 13.76_ | 5.95 | 329 | 0.99 | 7.82 | 179.4 | 164 | 23,12 | clear | | |
| 9145 | 13.89 | 5.92 | 329 | 1.47 | 7.15 | 175,9 | 162 | 23,36 | Clear | | |
| 4:50 | 14,14 | 5.92 | 336 | 0.60 | 7.48 | 174,6 | 162 | 23,46 | Clear | | |
| 9:55 | 14.07 | 5.93 | 331 | Oe 78 | 7.37 | 102.3 | 162 | 23.55 | Clear | | |
| 10:00 | 14.15 | <u>5,99</u> | <u>336</u> | 0.48 | 7.41 | 172.8 | 164 | 23.64 | clear | | |
| | Parameter | s <u>Stable</u> | <u>. </u> | | | | | | | | |
| 10:10 | Collect So | umple (1 | PR) | | | | | | | | |
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| | | | | | | | | | | | |



| Well I.D.: | MW- | ٧ | | | | Date: <u>5</u> | 19/11 | | | _ |
|----------------|--|------------------------------------|-------------------------------|------------------------------------|---------------------------|--|---------------------------|---------------------------------|----------------------------|-------------------------------------|
| _ | h (from T.O.C.) = er Level (WL) = C.) | 15.59 15.5 | 5 26.07 ft | | | Well Diameter Screen Depth Sampler(s): | | | to <u>unk</u> Raimondi, | inches Feet below grade Emily Pra H |
| T = de $T = 2$ | Water in Well (T): opth (ft) - Station color - 15 or 4 (a) ft | c Water Level (ft) 5 · 5 5 Well V | folume: 1.675 | X3= 5.0 | (gallons) | Purging Device Sampling Devi Pump Intake (of Actual Purge V | ice: depth below TOC): | | altac pump nc pump | Feet (Gallons) |
| <u>Time:</u> | Temp. (°C) (±3%) | pH (SU) (± 0.1) | Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if>1) | D.O. (mg/l) (± 10%) | ORP (mV) (±10) | Flow Rate (ml/min) | Static water <u>Level</u> | Color/ Clarity | Comments |
| 10155 | 12.97 | 6.12 | 128 | 0.78 | 9.95 | 214.6 | 202 | 15,79 | clear | |
| 1 <u>1:00</u> | 12.93 | 6.04 | 128 | 1.07 | 8.13 | 2/6,9 | 204 | 15.79 | clea/ | |
| 11:05 | 12.17 | 6.06 | 138 | 0.40 | 7.82 | 2072 | <u> 206</u> | 15.8 | Clear | |
| 1/1/0 | 12.77 | 6.07 | 128 | 0,36 | 7.62 | 201,7 | 206 | 15.8 | clear | |
| 11:15 | 12.91 | 6.06 | 127 | 0.10 | 7,53 | 196.9 | 206 | 15-8 | clear | |
| 11:20 | 12.70 | 8 .06 | <u> 188</u> | 0,20 | 7.68 | 194.0 | 206_ | 15.8 | <u>Cleur</u> | |
| 11:25 | 12.20 | <u>6.05</u> | /27 | <u>ary</u> 2 | 7.61 | 194.9 | 206 | 15.81 | clear | |
| | Paramete | rs Stable | | | | | | | | |
| 1130 | Coilect san | n ple | | | | | | | | |
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| Well I.D.: | MW | -3 | | | | Date: 5 | 5/9/2011 | | | _ |
|-------------------|--|--------------------|-------------------------------------|---------------------------------------|---------------------------|---|--------------------------|---------------------------------|-------------------|------------------------------------|
| _ | (from T.O.C.) = r Level (WL) = C.) | 31.13 | | | | Well Diameter Screen Depth Sampler(s): | (d) = | 2 Unk Jason Ro | to <u>unk</u> | inches Feet below grade mulu Rrait |
| T = der T = 3; | | Water Level (ft) | Volume: 2.67 | × 3 = 8.6 | (gallons) | Purging Device Sampling Devi Pump Intake (d Actual Purge V | ce: lepth below TOC): | | ac pump | Feet (Gallons) |
| <u>Time:</u> | Temp. (°C) (± 3%) | pH (SU) (± 0.1) | Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if>1) | D.O. (mg/l) (± 10%) | ORP (mV) (± 10) | Flow Rate (ml/min) | Static water <u>Level</u> | Color/ Clarity | Comments |
| 12/05 | 12.76 | 6.78 | 435 | 6.80 | 7.12 | 2122 | 208 | 14.75 | clear | |
| 12:10 | 13,20 | 6.79 | 436 | 0.57 | 6-21 | 204.6 | 210 | 15.25 | clear | |
| 12:15 | 12.23 | 6.81 | 439 | 0.06 | 6,25 | 200.9 | 210 | 15,40 | clear | |
| 12:20 | 12.84 | 6.80 | 440 | 0.16 | 6.11 | 198.7 | 216 | 15.56 | clear | |
| 12:26 | 12.94 | 6.81 | 440 | 0.21 | 6.01 | 200,1 | 210 | 15.65 | Clear | |
| 12:30 | 12.94 | 6.80 | 441 | 0.31 | 6,02 | 199.6 | 210 | 15,68 | clear | |
| | Parameters | Stable | | | | | | | | |
| 1235 | Collect S | ample | | | | | | | | |
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| Well I.D.: | MW- | 4 | | Date: 5/9/11 | | | | | | _ | |
|---|----------------------|--------------------|-------------------------------|-------------------------------|---------------------------|-------------------------------|-------------------------|---------------------------------|-----------------------|-------------------------|--|
| Well Depth (| from T.O.C.) = | 12.6 | . 7 ft | | | Well Diameter Screen Depth | (d) = | 4 unb | to unk | inches Feet below grade | |
| Static Water Level (WL) = 6 16 (Grown T.O.C.) | | | | | | Sampler(s): | | | H Josen | Parmondi | |
| T = depti T = | | c Water Level (ft) | i 2 | | | | ce: epth below TOC): | pristal | tic Punno tic pump | Feet | |
| $T = C_{o}$ | 5) ft | Well V | olume: 4.23 Specific | ×3= 12 | .69 (gallons) | Actual Purge Vo | olume: | 3.5 | | _ (Gallons) | |
| Time: | Temp. (°C) (± 3%) | pH (SU) (± 0.1) | Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if >1) | D.O. (mg/l) (± 10%) | ORP (mV) (± 10) | Flow Rate (ml/min) | Static water <u>Level</u> | Color/ Clarity | Comments | |
| 1315 | 14.21 | 6.28 | 1148 | 8.64 | 4.13 | 204.0 | 218_ | 6.54 | clear | | |
| 1320 | 14.55 | 6.84 | 1145 | 4,21 | 3.73 | 187.4 | 218 | 6.83 | Clear | | |
| 1325 | 14.53 | 6.86 | 1140 | 3.26 | 3.83 | 178.4 | 218 | 7.05 | clear | | |
| 1330 | - 14-41 | 6.87 | 1122 | 2.70 | 4.16 | 164.3 | 218 | 7.11 | clear | | |
| 1335 | 14,50 | 6.88 | | 2.04 | 4.31 | 193.5 | 718 | 7.17 | clear | | |
| 1340 | 14.43 | <u>6.88</u> | 1068 | 1.65 | 4.44 | 148.2 | 218 | 7.28 | clear | | |
| 1345 | 14.48 | 6.88 | 1013 | 2.19 | 4.29 | 138.6 | 212 | 7.43 | clear | | |
| 1350 | 14.38 | <u>6.86</u> | 991 | 1.62 | 4.40 | 137.2 | 206 | 7.47 | dear | | |
| 1355 | 14.43 | <u>6.85</u> | 965 | 1.43 | 4.60 | 135.7 | 206 | 7.55 | clear | | |
| 1900 | 14.53 | 6.83 | 958 | 1.57 | 4.63 | 134.2 | 192 | 7.60 | clear | | |
| _1409_ | 14.65 | 6.82 | 965 | 0.72 | 4.67 | 129.4 | 192 | 7.60 | dear | | |
| 1410 | 14.60 | 6.81 | 968 | 0.19 | 4.66 | 128.7 | 192 | 7.62 | clear | | |
| 1415 | 14.59 | 6.80 | 972 | 0.60 | 4.98 | 129.3 | 192 | 7.66 | clear | | |

Parameters Stable (EMP) Collect sample at 1415

Collect DUP-1 at 1430



| Well I.D.: | MW-5 | · | | | | Date: <u>5</u> | 19/11 | | | |
|-----------------------------|----------------------|----------------------------|---|------------------------------------|---------------------------|----------------------------------|-----------------------------|---------------------------------|-------------------|-------------------------|
| Well Depth | (from T.O.C.) = | 25. | 29 ft | | | Well Diameter Screen Depth | (d) = | 2 unk | to unk | inches Feet below grade |
| Static Water (from T.O.C | Level (WL) = | 18. | <u>63</u> ft | | | Sampler(s): | | Emily Pratt | Jason Rair | |
| T = dep | | Water Level (ft) | | | | Purging Device Sampling Devi | ce: | Peristalt | Te Pump | |
| | 5.29 - 1 .66 ft | <u>පි.(ා පි</u> Well Vo | olume: 1066 | x 3= 3.1° | 97 (gallons) | Pump Intake (d Actual Purge V | lepth below TOC): olume: | 24 !.5 | | Feet (Gallons) |
| <u>Time:</u> | Temp. (°C) (± 3%) | pH (SU) (± 0.1) | Specific Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if>1) | D.O. (mg/l) (± 10%) | ORP (mV) (± 10) | Flow Rate (ml/min) | Static water <u>Level</u> | Color/ Clarity | <u>Comments</u> |
| <u></u> 15:20 | 13,38 | 5,45 | 488 | 1,67 | \$ 7,78 | 205.6 | 200 | 18.75 | clear | |
| 15125 | 13.51 | 5,26 | 486 | 0.91 | 6.17 | 203,1 | 210 | 18.75 | clear | |
| 15:30 | 13.55 | 5,27 | 482 | 0.45 | 6.01 | 199.1 | 210 | 18-75 | clear | |
| 15135 | 13,\$359 | 5,22 | 4年76 | 0.40 | 5,94 | <u> </u> | 210 | 18,785 | <u>clear</u> | |
| 15140 | 13.58 | 5,19 | <u>482</u> | 0,94 | 5,70 | 204,5 | 210 | 18,75 | <td></td> | |
| 15:45 | 13.60 | 5,19 | <u> 482</u> | 0.11 | <u>5.72</u> | 205,0 | 210 | 18.75 | <u>clear</u> | |
| | Paramoters | Stable | | | | | | | | |
| 1550 | Collect | Sample | (JPR) | | | | | | | |
| | | | | | | | | | | |
| | | <u> </u> | | | | | | | | |
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Soil Boring Logs



Project Name Fort Totten Coast Guard Station
Project Number

| BORING NO. | | AI2-101 | | | | | |
|-------------|-----------|---------|---|--|--|--|--|
| SHEET | 1 | of | 1 | | | | |
| DATE STARTE | 5/13/2011 | | | | | | |
| DATE COMPLE | 5/1 | 3/2011 | | | | | |

| Boring Co. | Watermark Environmen | ntal | Boring Location | North of east end of Bayside Street | | Groun | dwater Level | s |
|------------|----------------------|------|---------------------|-------------------------------------|---|-------|--------------|-------|
| Driller | Jason Raimondi | | Drilling Method | Hand Auger | | Date | Time | Depth |
| Logged By | Emily Pratt | | Drilling Equipment | Hand Auger | | | | |
| Checked By | Larry Pannell | | TOC Elevation (feet |) | | | | |
| | ' | | | | | | | |
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| D E P T H | SAMPLE INFORMATION DEPTH Type BLOWS DED 6 INCHES PENREC PID/ | | | ATION PEN/REC | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | USCS Symbol | REMARKS (e.g., Well Info) |
|-----------------------|---|---------------|--------------------|---------------|----------|---|----------------|------------------------------|
| (feet) | (inches) | Гуре & No. | BLOWS PER 6 INCHES | (inches) | FID | observations Sandy SILT: 60% fines (with little clay). 40% poorly graded fine sand (trace medium to coarse sand). Trace fine gravel. Dark brown. Dry. Pieces of | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | wood observed. | ML | Sample at 0825 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Sandy SILT: 65% fines (with little clay). 35% well graded fine-coarse sand. Trace fine gravel. Reddish-brown. Dry. | ML | Sample at 0829 |
| 1.5 _ | | | | | | | | |
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| Notes: | 1) | <u> </u> | | <u> </u> | <u> </u> | | 4 | |
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Log A12-101 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI2-102

 SHEET
 1
 of 1

 DATE STARTED
 5/13/2011

 DATE COMPLETEL
 5/13/2011

| Boring | Co. | | mark Environmental | | | | Boring Location | Northeast of Bldg. | 624 (against th | e fence) | Groundwater Levels | | | | |
|----------|----------------|---------------|----------------------|----------|-------------|---|---|--|---|-------------|--------------------|----------------|------------|--|--|
| Driller | | | Raimondi | | | | Drilling Method | Hand Auger | | | Date | Time | Depth | | |
| Logge | d By | Emily | Pratt | | | | Drilling Equipment | Hand Auger | | | | | | | |
| Check | ed By | Larry F | Pannell | | | | TOC Elevation (feet | ·) | | | | | | | |
| | | | | | | | | | | | | | | | |
| D | | | SAMPLE INFORM | ΔΤΙΩΝ | | | STRATI | JM / SAMPLE DESCR | PIPTION | | | | | | |
| E | | | OANNI EE IIVI OIKIVI | ATTON | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, | | | | | USCS | REM | ARKS | | |
| P T | | | | | | | ure state [density, max | | | | cy Symbol | | /ell Info) | | |
| Н | DEPTH | Type & No. | BLOWS PER 6 INCHES | PEN/REC | PID/ FID | and pl | lasticity] evidence of cor | ntamination (visual, olfa observations | actory), formatioi | n name, oti | ner | | | | |
| (feet) | (inches) | & No. | | (inches) | FID | | | observations | | | | | | | |
| | | | | | | 0.11 | . 0415 700/ !! | | 1 000/ f | - | | | | | |
| 0.5 | 0.0" | C 1 | NI/A | NI/A | 0.0 | Silt | ty SAND: 70% well-g | raded fine-coarse sar Dry. Pieces of coal a | nd. 30% fines. | I race fine | | Sample at 0752 | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | | graver. Brown. i | Dry. Pieces of coal a | and wood prese | rii. | SM | Sample | at 0/52 | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | SILT: 55% fines (wit | | | | | | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | | gravel. Reddish-brown. Dry. Pieces of coal and wood present. ML | | | | ML | Sample | at 0805 | | |
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Log A12-102

Last Update: 10/10/2007



Project Number

| Fort Totten Coast Guard Station | |
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BORING NO. AI2-103 SHEET 1 of 1 DATE STARTED 5/13/2011 DATE COMPLETEE 5/13/2011

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|---------|-------------------|---------------|--------------------|---------------------|-------------|--|----------|--------------------|----------|-----------|--|--|
| 3oring | Co. | Water | mark Environmental | I | | Boring Location Northeast of Bayside Street | | Groundwater Levels | | | | |
| Oriller | | | Raimondi | | | Drilling Method Hand Auger | | Date | Time | Depth | | |
| ogge | d By | Emily | | | | Drilling Equipment Hand Auger | . | | | | | |
| Check | ed By | Larry F | Pannell | | | TOC Elevation (feet) | - | | | | | |
| | | | | | | | | | | | | |
| D | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION | | | | | | |
| E P | | | | | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, or moisture state [density, max particle size, angularity, and shape] or [cons | | USCS | | ARKS | | |
| T H | | | | 1 | | and plasticity] evidence of contamination (visual, olfactory), formation nam | | Symbol | (e.g., W | ell Info) | | |
| (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | Sandy SILT: 70% fines (with little clay). 30% poorly graded fine sand | d (trace | | | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | medium to coarse sand). Brown. Dry. Pieces of wood observe | d. | ML | Sample | at 0845 | | |
| | | | | | | | | | | | | |
| | | | | | | Sandy SILT: 70% fines (with little clay). 30% poorly graded fine sand | d (trace | | | | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | medium to coarse sand). Brown. Dry. | (| ML | Sample | at 0855 | | |
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Log A12-103 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al2-104

 SHEET
 1
 of 1

 DATE STARTED
 5/13/2011

DATE COMPLETEE 5/13/2011

| Boring | Co. | | mark Environmental | | | Boring Location North of Bldg 624 | Groundwater Levels | | | |
|----------------|---|---------------|---|---------------------|-------------|--|---|------|----------|---|
| Driller | | | Raimondi | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | Date | | Time | Depth |
| Logge Check | a By | Emily | Pratt Pannell | | | Drilling Equipment Hand Auger TOC Elevation (feet) | | | | |
| CHECK | eu by | Larry | - ai ii leii | | | TOC Elevation (leet) | | | | |
| | | | | | | | | | | <u> </u> |
| D | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION | | | | |
| E | | | | | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, | | | | ARKS |
| P T | | | | | | moisture state [density, max particle size, angularity, and shape] or [consisten | | nbol | (e.g., V | /ell Info) |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), formation name, otl observations | ier | | | |
| (IEEI) | (IIICHES) | OX INU. | | (IIICHES) | FID | obodi valiono | _ | | | |
| | | | | | | 0 1 00 7 000 7 | | | | |
| 0.5 | 0.0" | C 4 | NI/A | NI/A | 0.0 | Sandy SILT: 60% fines. 40% poorly graded fine sand (with little medium | ı to | . | Camania | -+ 0720 |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | coarse sand). Trace fine gravel. Brown. Dry. Pieces of coal present. | . M | L | Sample | at 0730 |
| | | | | | | Sandy SILT: 65% fines (with little clay). 35% poorly graded fine sand (w | | | | |
| | | | | | | little medium to coarse sand). Trace fine gravel. Brown/reddish-brown | | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Dry. Pieces of coal and wood present. | M | L | Sample | at 0735 |
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| 1.5 | | | | | | | | | | |
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| Notes: | 1) | - | | | | <u> </u> | | | | |
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Log A12-104 Last Update: 10/10/2007



ect Name Fort Totten Coast Guard Station

| BORING NO. | AI2-105 | | | | | |
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| SHEET | 1 | of | 1 | | | |
| DATE STARTE | 5/13/2011 | | | | | |
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|---------|----------|--------------|------------------|--------------|----------|--|---|--------|---|
| Boring | 100 | \M ater | mark Environme | ental | | Boring Location West of Bayside Street | | Group | dwater Levels |
| Driller | | | Raimondi | illai | | Drilling Method Hand Auger | | Date | Time Depth |
| Logge | | Emily | | | | Drilling Equipment Hand Auger | | Date | Time Deput |
| Check | ked By | Larry I | Pannell | | | TOC Elevation (feet) | | | |
| 0 | , | | G | | | | | | |
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| D | | | SAMPLE INFO | DMATION | | STRATUM / SAMPLE DESCRIPTION | | | |
| E | | | SAMELE INFO | KIVIATION | | Grading term (if applicable), SOIL GROUP NAME, other soil gro | ups, color, | USCS | REMARKS |
| Р | | | | | | moisture state [density, max particle size, angularity, and shape] or | [consistency | Symbol | (e.g., Well Info) |
| T H | DEPTH | Туре | | PEN/REC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation | n name, other | | |
| (feet) | (inches) | & No. | BLOWS PER 6 INCH | (inches) | FID | observations | | | |
| | | | | | | | | | |
| | | | | | | Sandy SILT: 80% fines (with little clay). 20% poorly graded | fine sand | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | Brown. Dry. Pieces of coal present. | | ML | Sample at 0945 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | Sandy SILT: 75% fines (with some clay). 25% well graded fir | e to medium | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | sand. Trace fine sub-rounded gravel. Pieces of coal pr | esent. | ML | Sample at 0950 |
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Log A12-105 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI2-106

 SHEET
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 of
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 DATE STARTED
 5/13/2011

 DATE COMPLETEL
 5/13/2011

| Boring | g Co. Watermark Environmental Boring Location west of former Bldg. 624 | | | | Groundwater Levels | | | | |
|---------|--|-------|---|----------|--------------------|---|-----------|------------|-----------|
| Driller | | | Raimondi | | | Drilling Method Hand Auger | Date | Time Depth | |
| Logge | d By | Emily | Pratt | | | Drilling Equipment Hand Auger | | | |
| Check | ed By | Larry | Pannell | | | TOC Elevation (feet) | | | |
| | | | | | | | | | |
| D | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION | | | |
| Е | | | SAMPLE INFORM | ATION | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, | USCS | REMA | ARKS |
| P T | | | | | | moisture state [density, max particle size, angularity, and shape] or [consisten | cy Symbol | (e.g., W | |
| Н | DEPTH | Туре | BLOWS PER 6 INCHES | PENREC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation name, oth observations | er | | |
| (feet) | (inches) | & No. | | (inches) | FID | ODSEI VALIONS | _ | | |
| | | | | | | | | | |
| | | | | | | Sandy SILT: 65% fines. 35% poorly graded fine sand (trace medium to | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | coarse sand). Brown. Dry. Pieces of coal present. | ML | Sample | at 0915 |
| | | | | | | | | | |
| | | | | | | Sandy SILT: 55% fines. 40% well graded fine to coarse sand. 5% fine s | ub- | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | angular gravel. Reddish-brown. Dry. Pieces of coal and metal present | . ML | Sample | at 0920 _ |
| | | | | | | | | | |
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| 1.5 | | | | | | | | | |
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Log A12-106 Last Update: 10/10/2007



Project Name

Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

 BORING NO.
 AI2-107

 SHEET
 1
 of 1

 DATE STARTED
 5/11/2011

 DATE COMPLETEE
 5/11/2011

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|------------|-------------------------|----------------------|-------------------------------|---|--------|--------------|-------|
| Boring Co. | Watermark Environmental | Boring Location | northwest of former Bldg. 624 | | Ground | dwater Level | ls |
| Driller | Jason Raimondi | Drilling Method | Hand Auger | | Date | Time | Depth |
| Logged By | Larry Pannell | Drilling Equipment | Hand Auger | | | | |
| Checked By | Katie Thomas | TOC Elevation (feet) | | | | | |
| | | | | | | | |

| D E P T | E P T | | | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, othe | USCS Symbol | REMARKS (e.g., Well Info) |
|------------------|----------------------|---------------|--------------------|---------------------|-------------|--|----------------|------------------------------|
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | Dark brown silty SAND. Trace coarse sand and fine gravel. Wood and plastic fragments present. | SM | Sample at 1000 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Dark brown silty SAND as above containing wood and plastic fragments. Change at 20" bgs to yellow silty SAND with little clay. | SM | Sample at 1034 |
| 1.5 _ | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | | | | | | | |

Log A12-107 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI2-108

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 DATE STARTED
 5/12/2011

 DATE COMPLETEL
 5/12/2011

| oring | Co | W ater | mark Environmental | | | Boring Location West of Bldg 624, east of Bayside Street | Ground | dwater Levels | | | | |
|--------|----------|--------------------|---|----------|------|---|--------|---|--|--|--|--|
| | 00. | | | | | | | | | | | |
| riller | | | Raimondi | | | Drilling Method Hand Auger | Date | Time Depth | | | | |
| ogge | д Ву | Emily | | | | Drilling Equipment Hand Auger | | | | | | |
| heck | ed By | Larry F | Pannell | | | TOC Elevation (feet) | | | | | | |
| | | | | | | | | | | | | |
| D E | | SAMPLE INFORMATION | | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, USCS REMA | | | | | | |
| P | | | | | | moisture state [density, max particle size, angularity, and shape] or [consistency | Symbol | (e.g., Well Info) | | | | |
| T H | DEPTH | Туре | | PEN/REC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation name, other | | | | | | |
| (feet) | (inches) | & No. | BLOWS PER 6 INCHES | (inches) | FID | observations | | | | | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND: 80% poorly graded fine sand (with some medium to coarse sand). 20% fines. Trace fine sub-angular gravel. Brown. Dry. Coal, slag, metal, ceramic, wood pices identified. | SM | Sample at 1515 Collected DUP- Al2-1 at 1520 | | | | |
| | | | | | | Condu CII To COO/ fines (with little clay) 250/ well graded fine to seem | | Commis at 1505 | | | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Sandy SILT: 60% fines (with little clay). 35% well graded fine to coarse sand. 5% fine sub-angular gravel. Brown. Dry. Coal, brick, glass pieces present. | ML | Sample at 1535 Collected DUP- Al2-2 at 1530 | | | | |
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Log A12-108 Last Update: 10/10/2007



Name Fort Totten Coast Guard Station

 BORING NO.
 AI2-109

 SHEET
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 of 1

 DATE STARTED
 5/11/2011

| | uc | | Hark | Project Numb | er | | DATE CO | MPLETED | 5/11/2011 |
|-----------------------|---|------------------|---|--------------|---|--|------------|----------------|------------------------------|
| riller ogge | Co. d By ded By | Jason Larry F | mark Environme Raimondi Pannell Thomas | ntal | | Boring Location west-southwest of former Bldg. 624 Drilling Method Hand Auger Drilling Equipment Hand Auger TOC Elevation (feet) | | Ground Date | dwater Levels Time Depth |
| D E P T H | DEPTH | Type & No. | SAMPLE INFO | PEN/REC | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil group moisture state [density, max particle size, angularity, and shape] or [c and plasticity] evidence of contamination (visual, olfactory), formation r | onsistency | | REMARKS (e.g., Well Info) |
| feet)).5 _ | (inches) | & No. | N/A | (inches) | 0.0 | observations Fine to coarse GRAVEL, angular. Possible former sub-ba | ase. | GP | Sample at 0851 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Asphalt layer from 6-18". Below that, light brown silty SAND, to Majority of sample collected below 18". | race clay. | SM | Sample at 0920 |
| 1.5 _ | *************************************** | | | | | | | | |
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Log A12-109

Last Update: 10/10/2007



Project Name Fort Totten Coast Guard Station

 BORING NO.
 AI2-110

 SHEET
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 of 1

 DATE STARTED
 5/12/2011

| Project Number DATE C | | | | | | | | COMPLETE[5/12/2011 | | | |
|--|----------|--------------------|--|-----|------|--|---------------------------|---------------------|---------------------|--------------------|--|
| Boring Co. Driller Logged By Checked By | | Jason Emily | mark Environment Raimondi Pratt Pannell | al | | Boring Location East of Bldg 264 Drilling Method Hand Auger Drilling Equipment Hand Auger TOC Elevation (feet) | | Ground Date | dwater Leve Time | ls Depth | |
| D E P T H | DEPTH | SAMPLE INFORMATION | | | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil gromoisture state [density, max particle size, angularity, and shape] or and plasticity] evidence of contamination (visual, olfactory), formatio observations | r [consistency | | | ARKS (ell Info) | |
| (feet) 0.5 | (inches) | S-1 | N/A | N/A | 0.0 | Sandy SILT: 65% fines (some clay). 35% poorly graded fine little medium to coarse sand). Trace fine gravel. Brown. Dr coal and glass present. | | ML | Sample with MS | at 1550 S/MSD | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Sandy SILT: 75% fines (some clay). 25% poorly graded fine little medium to coarse sand). Reddish-brown. Dry. Small | e sand (with coal pieces. | ML | Sample | at 1555 | |
| 1.5 _ | | | | | | | | | | | |
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Log A12-110 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI2-111

 SHEET
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 of 1

 DATE STARTED
 5/11/2011

 DATE COMPLETEE
 5/11/2011

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| Boring | Co. | Water | atermark Environmental Boring Location southwest of former Bldg. 624 | | Ground | dwater Levels | | |
| Driller | | Jason | Raimondi | | | Drilling Method Hand Auger | Date | Time Depth |
| Logge | d By | Larry F | Pannell | | | Drilling Equipment Hand Auger | | |
| Check | ed By | Katie 7 | Thomas | | | TOC Elevation (feet) | | |
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| _ | | | 0445151555 | 471011 | | OTDATINA (OAMBLE DECORIDADA | | |
| D E | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, | | |
| P | | | | | | moisture state [density, max particle size, angularity, and shape] or [consistency | USCS Symbol | REMARKS (e.g., Well Info) |
| T | | | | | | and plasticity] evidence of contamination (visual, olfactory), formation name, other | | (e.g., vveii ii ii o) |
| H (****) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | |
| (feet) | (inches) | & INO. | | (inches) | FID | ODGGI VALIGITO | + + | |
| | | | | | | | | |
| | | | | | | Dark brown silty SAND. Well graded, sub-rounded. Trace to little coarse | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | sand and fine gravel. | SM | Sample at 0826 |
| - | | | · | - | | | | |
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| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Dark brown silty SAND as above. Coal and brick fragments at 10" bgs. | SM | Sample at 0907 |
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Log A12-111 Last Update: 10/10/2007



Project Name Fort Totten Coast Guard Station Project Number

| BORING NO. | AI2-112 | | | | | |
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| SHEET | 1 | of | 1 | | | |
| DATE STARTE | 5/1 | 1/2011 | | | | |
| DATE COMPLE | ETEC | 5/1 | 1/2011 | | | |

| Boring Co. | Watermark Environmental | Boring Location south corner of former Bldg. 624 | Groundwater Levels | | |
|-------------|-------------------------|--|--------------------|------|--------------------|
| Driller | Jason Raimondi | Drilling Method Hand Auger | Date | Time | Depth |
| Logged By | Larry Pannell | Drilling Equipment Hand Auger | | | |
| Checked B | y Katie Thomas | TOC Elevation (feet) | | | |
| | | | | | |
| D E P | SAMPLE INFORMATION | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state (density, max particle size, angularity, and shape) or (consistency | USCS Symbol | | ARKS /ell Info) |

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|-----------------------|-------------|-------|--------------------|--------------------|-------------|---|----------------|------------------------------|
| D E P T H | E P T | | | | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | USCS Symbol | REMARKS (e.g., Well Info) |
| (feet) | (inches) | & No. | BLOWS PER 6 INCHES | PEWREC (inches) | PID/ FID | observations | - | |
| | | | | | | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | Dark brown silty SAND. Trace coarse sand. | SM | Sample at 0925 |
| | | | | | | | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Light brown clayey SAND (20-30% clay). Trace fine to coarse gravel. | sc | Sample at 0940 |
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Log A12-112 Last Update: 10/10/2007



 BORING NO.
 AI3-101

 SHEET
 1
 of 1

 DATE STARTED
 5/10/2011

| V | Watermark Project Name | | Fort Totten Coast Guard Station | DATE | DATE STARTED 5/10/2011 | | | | |
|-------------------------------------|---|---------------|--|--------------------|------------------------|--|---|-------------|-----------------------------|
| • | ac | · · · | riarit | Project Numb | ber | | DATE | COMPLET | EC 5/10/2011 |
| Boring Driller Logge Check | d By | Larry F | mark Environme Pannell Pannell Thomas | ntal | | Boring Location East of Bldg 614 Drilling Method Hand Auger Drilling Equipment Hand Auger TOC Elevation (feet) | | Gro Date | oundwater Levels Time Depth |
| D E P T H | DEPTH | Time | SAMPLE INFO | | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil gr moisture state [density, max particle size, angularity, and shape] o and plasticity] evidence of contamination (visual, olfactory), formatic | r [consister | ncy Symb | |
| (feet) | (inches) | Type & No. | BLOWS PER 6 INCHE | ES PENREC (inches) | FID/ | observations | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.1 | Silty SAND. Trace coarse sand and fine gravel. Brown | n. Dry. | SM | Sample at 1005 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.1 | Silty SAND. Trace coarse sand and fine gravel. Brown Approximately 20% clay beginning at 18" bgs. | n. Dry. | SM | Sample at 1025 |
| 1.5 | | | | | | | | | |
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Log Al3-101 Last Update: 10/10/2007



| BORING NO. | | AI3- | 102 | |
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| SHEET | 1 | of | 1 | |
| DATE STARTE | D | 5/1 | 0/2011 | |
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| VV | Natermark Project Number | | | | | Fort Totten Coast Guard Station | | TE STARTED 5/10/2011 TE COMPLETEL 5/10/2011 | | | |
|-------------------------------------|--------------------------|--------------------|--|------------|-------------|--|--------------|---|------------------------------|------|--|
| Boring Driller Logge Check | d By | Larry I | mark Environme Pannell Pannell Thomas | ntal | | Boring Location Northeast of Bldg. 612 Drilling Method Hand Auger Drilling Equipment Hand Auger TOC Elevation (feet) | | Groun Date | dwater Levels Time De | epth | |
| D E P T H | | SAMPLE INFORMATION | | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil gro moisture state [density, max particle size, angularity, and shape] or and plasticity] evidence of contamination (visual, olfactory), formatio | [consistency | USCS Symbol | REMARKS (e.g., Well Info) | | |
| (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHE | (inches) | PID/ FID | observations Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. | | | | | |
| 0.5 _ | 6-24" | S-1 S-2 | N/A N/A | N/A N/A | 0.0 | begins below turf) Silty SAND. Trace coarse sand and fine gravel. Brown Approximately 15% clay beginning at 18" bgs. | ı. Dry. | SM | Sample at 1 Sample at 1 | | |
| 1.5 _ | | | | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | <u> </u> | <u> </u> | | <u> </u> | I | | | | | |

Log Al3-102 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI3-103

 SHEET
 1
 of 1

 DATE STARTED
 5/10/2011

DATE COMPLETEL 5/10/2011

| Boring Oriller | g Co. | | mark Environmental Pannell | Boring Location West of Bldg. 612 Drilling Method Hand Auger | Groun | dwater Levels Time Depth | | |
|-----------------------|----------------|---------------|-------------------------------|--|-------|---|----------------|------------------------------|
| .ogge | ed By | | Pannell | | | Drilling Equipment Hand Auger | | |
| Check | ked By | Katie | Thomas | | | TOC Elevation (feet) | | |
| D E P T H | DEPTH | Type | SAMPLE INFORM | ATION PEN/REC | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | USCS Symbol | REMARKS (e.g., Well Info) |
| (feet) | (inches) | Type & No. | BLOWS PER 6 INCHES | (inches) | FID | observations | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.1 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. (Description begins below turf) | SM | Sample at 1525 |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. Approximately 15% clay beginning at 18" bgs. | SM | Sample at 1545 |
| '- | 0-24 | 3-2 | IV/A | IN/A | 0.0 | Approximately 15% day beginning at 16 bgs. | Sivi | Sample at 1545 |
| 1.5 _ | | | | | | | | _ |
| 0 | | | | | | | | |
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Log Al3-103 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI3-104

 SHEET
 1
 of 1

 DATE STARTED
 5/10/2011

 DATE COMPLETEL
 5/10/2011

| Boring | 1 Co. | Water | mark Environmental | | | Boring Location | East of Bldg. 611 and Bldg. 612 | | Groun | dwater Leve | ls |
|-------------|-------------------|--------------------|--------------------|---|---|--------------------------------|--------------------------------------|---|----------------|---|--------------------|
| Oriller | | Larry I | Pannell | | | Drilling Method | Hand Auger | | Date | Time | Depth |
| ogge | ed By | Larry I | Pannell | | | Drilling Equipment | Hand Auger | | | | |
| Check | ked By | Katie ⁻ | Thomas | | | TOC Elevation (fee | et) | | | | |
| | | | | | | | | | | | |
| D | | SAMPLE INFORMATION | | | | STRAT | TUM / SAMPLE DESCRIPTION | | | | |
| E P T | | | | | | moisture state [density, max | le), SOIL GROUP NAME, other soil gro | [consistency | USCS Symbol | (e.g., W | ARKS (ell Info) |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of co | observations | Triaine, other | | | |
| | | | | | | Silty SAND. Trace coarse | sand and fine gravel. Brown. Dry. | (Description | 1 | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | | begins below turf) | | SM | Sample | at 1130 |
| | | | | | | Silty SAND. Trace coa | arse sand and fine gravel. Brown. C | Ory. Brick | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.1 | fragment at 12". App | proximately 10% clay beginning at 1 | 8" bgs. | SM | Sample | at 1200 |
| | | | | | | | | | | | |
| 1.5 _ | | | | | | | | | | | |
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| Notes: | 1) |) | l | <u>l</u> | l | | | | I | | |
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Log Al3-104 Last Update: 10/10/2007



Fort Totten Coast Guard Station

| BORING NO. | | AI3- | 105 |
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| SHEET | 1 | of | 1 |
| DATE STARTE | D | 5/1 | 0/2011 |

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|------------------|-------------------|---------------|------------------|----------------------|--|---|--------------------------|---------------|---|---------|
| Boring | Co. | Water | mark Environme | ental | | Boring Location Beneath deck east of Bldg. 611 | | Groundwater L | | |
| Driller | | | Pannell | | | Drilling Method Hand Auger | | Date | Time | Depth |
| Logge | d By | Larry I | Pannell | | | Drilling Equipment Hand Auger | | | | |
| Check | ed By | Katie | Thomas | | | TOC Elevation (feet) | | | | |
| D E P T | | | | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil gromoisture state [density, max particle size, angularity, and shape] or | [consistency | ncy Symbol | REMARKS (e.g., Well Info) | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCH | HES PEN/REC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), formatio observations | n name, other | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | N/A 0.0 Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. (Description begins below turf) | | | | Sample | at 1235 |
| . 1_ | 6-24" | S-2 | N/A | N/A | 0.2 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. fragments at 12". Approximately 10% clay beginning at | Glass bottle 18" bgs. | SM | Sample | at 1255 |
| 1.5 | | | | | | | | | | |
| 2 | | | | | | | | | | |
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Log Al3-105 Last Update: 10/10/2007



Project Number

| Fort Totten Coast Guard Station |
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BORING NO. Al3-106 SHEET 1 of 1 DATE STARTED 5/11/2011 DATE COMPLETED 5/11/2011

| Boring Co. Oriller | | Tristat | e Drilling | | | Boring Location Wes | West of Bldg. 611 (N of flag pole) | | Ground | dwater Level | s |
|-----------------------|-----------------|--------------------|-------------------|--------------------|-------------|--|---|-----------------|--------|-------------------|---------|
| | | Wayne Bolger | | | | Drilling Method Ge | Geoprobe | | Date | Time | Depth |
| Logged By | | Emily Pratt | | | | | eoprobe 54LT | | | | |
| Checked By | | Larry I | Pannell | | | TOC Elevation (feet) | | | | | |
| | ı | | | | | | | | 1 | | |
| D | | SAMPLE INFORMATION | | | | STRATUM / SAMPLE DESCRIPTION | | | | | |
| E P | | | | | | | L GROUP NAME, other soil grou | | USCS | REMARKS | |
| Т | | | | <u> </u> | | moisture state [density, max particle size, angularity, and shape] or [consistend and plasticity] evidence of contamination (visual, olfactory), formation name, oth | | | | (e.g., Well Info) | |
| H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHI | S PEN/REC (inches) | PID/ FID | | bservations | riarrio, ourior | | | |
| | | | | | | | | | | | |
| | | | | | | Silty SAND 70% fine-medium | Silty SAND. 70% fine-medium sand. 30% fines. Brown. Dry. Some | | | | |
| 1.0 | 0-2" | S-1 | N/A | N/A | 0.0 | vegetation and roots present. No odors. No stains. | | | SM | Sample | at 1335 |
| _ | | | | | | · | | | | | |
| | | | | | 0.0 | Well graded SAND with Silt 80% | / well-graded fine-coarse sand | 1 10% fines | | | |
| 2.0 | 6-24" | S-2 | N/A | 48/26 | | 10% fine-coarse, sub-angular gr | Well graded SAND with Silt. 80% well-graded fine-coarse sand. 10% fines 10% fine-coarse, sub-angular gravel. Pieces of brick and coal observed. | | | Sample | at 1340 |
| | | | | | | . 5 5 | | | SW-SM | | |
| | | | | | | Wall graded SAND with Silt 900 | / well graded fine seems cons | 1 100/ finan | | | |
| 3.0 | 2-4' | S-3 | N/A | | 0.0 | Well graded SAND with Silt. 80% well-graded fine-coarse sand. 10% fine 10% fine-coarse, sub-angular gravel. Pieces of brick and coal observed. | | nhserved | SW-SM | Sample | at 1345 |
| J.U _ | | 00 | 14// (| | 0.0 | | | OVV OIVI | Campic | 10-10 | |
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| 4.0 | | | | | | | | | | | |
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Log Al3-106 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al3-107

 SHEET
 1
 of 1

 DATE STARTED
 5/11/2011

DATE COMPLETEL 5/11/2011

| Boring Co. | | | e Drilling | | | Boring Location West of Bldg. 610 (W of flag pole) | Groundwater Levels | | | |
|------------------|---|---------------|--------------------|---|-------------|---|--------------------|------------------------------|----|--|
| | | | e Bolger | | | Drilling Method Geoprobe | Date | Time Depth | 1 | |
| | ged By Emily Pratt ecked By Larry Pannell | | | Drilling Equipment Geoprobe 54LT TOC Elevation (feet) | | | 4 | | | |
| JIICON | Larry Farmen | | | | | 100 Lievation (leet) | | | _ | |
| D E P T | | | SAMPLE INFORM | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistence and plasticity] evidence of contamination (visual, olfactory), formation name, oth | | REMARKS (e.g., Well Info) | | |
| H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | | | |
| 1.0 _ | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND: 70% fine-medium sand. 30% fines. Brown. Dry. Some vegetation and roots present. No odors. No stains. | SM | Sample at 141 | 0 | |
| 2.0 _ | 0-4' | S-2 | N/A | 48/33 | 0.0 | Well graded Silty SAND. 75% well-graded fine-medium sand. 20% fines fine, sub-angular gravel. Brown. Moist. No odors, no stains. Pieces brick and coal observed. | | Sample at 141 | 5 | |
| 3.0 _ | ***** | | | | 0.0 | Silty SAND. 65% fine-medium sand. 35% fines (trace clay). Trace fine sub-rounded gravel. Brown. Moist. No odors, no stains. Pieces of coa observed. | | Sample at 142 | 0_ | |
| 4.0 | | | | | | | | | | |
| -1.0 | | | | | | | | | | |
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Log Al3-107

Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al3-108

 SHEET
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 of 1

 DATE STARTED
 5/10/2011

DATE COMPLETEL 5/10/2011

| Boring | | | mark Environmental | | | Boring Location East of Bldg. 610 | Groun | | |
|------------------|--|---|--------------------|--|---|---|-----------|------------------------------|----------|
| Oriller | gged By Larry Pannell Larry Pannell Larry Pannell Larry Pannell Katie Thomas | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | Date | Time | Depth | | |
| Logge Check | | | | TOC Elevation (feet) | | | | | |
| | | | | | | , <u>, </u> | | | |
| D E P T | | | SAMPLE INFORM | | ı | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consisten and plasticity] evidence of contamination (visual, olfactory), formation name, oti | | REM/ (e.g., W | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. (Descript begins below turf) | ion SM | Sample a Collected Al3 | d DUP- |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. Approximately 10% clay beginning at 18" bgs. Note: encountered rock 12" bgs that required a 12" lateral offset from S-1 location. | at SM | Sample a Collecte Al3 | d DUP |
| 1.5 _ | | | | | | | | | |
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Log Al3-108 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI3-109

 SHEET
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 DATE STARTED
 5/10/2011

 DATE COMPLETEL
 5/10/2011

| Boring | | | mark Environmental | | | Boring Location Top of slope east of Bldg. 610 | Groundwater Levels | | | |
|--|---------------------------------------|---------------|--------------------|---------------------|-------------|---|--------------------|---|--|--|
| Oriller Lar Logged By Lar Checked By Kat | | | Pannell | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | Date | Time | Depth | |
| | | Katie | Thomas | | | TOC Elevation (feet) | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | | | | |
| D E P T H | | 1 | SAMPLE INFORM | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | USCS Symbol | REM/ (e.g., W | | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | | | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. (Description begins below turf) | SM | Sample | at 1350 | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.1 | Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. Approximately 10% clay beginning at 18" bgs. | SM | Sample | at 1430 | |
| 1.5 _ | | | | | | | | | _ | |
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Log Al3-109 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI3-110

 SHEET
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 of
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 DATE STARTED
 5/11/2011

 DATE COMPLETEL
 5/11/2011

| Boring Co. Oriller Logged By Checked By | | | | | | Boring Location Drilling Method Drilling Equipment TOC Elevation (feet | Drilling Method Geoprobe | | | | |
|--|----------------------|---------------|--------------------|---------------------|-------------|--|--|----------|----|----------|----------|
| D E P T | | | SAMPLE INFORM | | | Grading term (if applicable | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, noisture state [density, max particle size, angularity, and shape] or [consistency | | | | |
| H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of col | observations | , outlot | | | |
| 1.0 _ | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND: 65% fine-m vegetation and | nedium sand. 35% fines. Brown. Dry. So roots present. No odors. No stains. | me | SM | Sample a | at 1445 |
| 2.0 _ | 6-24" | S-2 | N/A | 48/32 | 0.0 | | lium sand. 35% fines. Brown. Moist. No me roots. Pieces of brick observed. | odors, | SM | Sample a | at 1450 |
| 3.0 _ | 2-4' | S-3 | N/A | | 0.0 | | edium sand. 30% fines (trace clay). Trace lo odors, no stains. Pieces of coal observe | | SM | Sample a | at 1455 |
| 4.0 | | | | | | | | | | | |
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Log Al3-110 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI3-111

 SHEET
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 of
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 DATE STARTED
 5/10/2011

 DATE COMPLETEE
 5/10/2011

Last Update: 10/10/2007

| 3oring | g Co. | Water | mark Environmental | | | Boring Location | Boring Location Southwest of Bldg. 610 | | | | |
|-------------------------|----------------------|---------------|--------------------|---------------------|-------------|--|---|------------|----------------|-----------------------------|--------------------|
| Oriller | | | Pannell | | | Drilling Method | | | | Time | Depth |
| Logged By Checked By | | Larry F | Pannell | | | Drilling Equipment TOC Elevation (fee | | _ | | | |
| JIIECE | кей Бу | Naue | THOMas | | | TOC Elevation (lee | | _ | | | |
| D E P T | | | SAMPLE INFORM. | | | Grading term (if applicable moisture state [density, max | UM / SAMPLE DESCRIPTION e), SOIL GROUP NAME, other soil groups, particle size, angularity, and shape] or [cons ntamination (visual, olfactory), formation nam | sistency | USCS Symbol | | ARKS (ell Info) |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of co | observations | ie, otriei | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | Silty SAND. Trace (| coarse sand and fine gravel. Brown. Dr | y. | SM | Sample : | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Silty SAND. Trace | coarse sand and fine gravel. Brown. Dry | y. | SM | Sample a Collection MS/M | cted |
| _ | | | | | | | | | | | |
| 1.5 _ | | | | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | | | · | . — — • | | | | | | |

Log Al3-111



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al3-112

 SHEET
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 of 1

 DATE STARTED
 5/10/2011

 DATE COMPLETEE
 5/10/2011

| 3oring | | | mark Environmental | | | Boring Location South | Boring Location Southeast of Bldg. 610 | | | | | |
|------------------|--|---|----------------------|--|-------------|--|--|--------|--------|--------------|--|--|
| Oriller | iller Larry Pannell gged By Larry Pannell necked By Katie Thomas | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | | | | | | | | |
| Check | | | TOC Elevation (feet) | id Augei | | | | | | | | |
| | | | | | | | | | | | | |
| D E P T | | 1 _ | SAMPLE INFORM | | I | Grading term (if applicable), SOIL moisture state [density, max particle | STRATUM / SAMPLE DESCRIPTION ading term (if applicable), SOIL GROUP NAME, other soil groups, color, ure state [density, max particle size, angularity, and shape] or [consistency asticity] evidence of contamination (visual, olfactory), formation name, other | | | | | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | | servations | | | | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | | nd fine gravel. Brown. Dry. (Descript s below turf) | ion SM | Sample | at 1500 | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | | sand and fine gravel. Brown. Dry. 0% clay beginning at 18". | SM | Sample | at 1515 _ | | |
| 1.5 _ | | - | | | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | <u> </u> | <u> </u> | l | ! | | | | I | | | |
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Log Al3-112



Fort Totten Coast Guard Station

 BORING NO.
 Al4-101

 SHEET
 1
 of 1

 DATE STARTED
 5/9/2011

 DATE COMPLETED
 5/9/2011

| | | | | Project Number | 3 1 | | | DATE COM | MPLETED | 3/9/201 | <u> </u> |
|-------------|-------------------|---------------|--------------------|---------------------|-------------|---|---|---------------|---------|-------------|------------|
| oring | | | mark Environment | al | | | West of Bldg. 625 | | Groun | dwater Leve | ls |
| riller | | | Raimondi | | | Drilling Method | Hand Auger | | Date | Time | Depth |
| ogge | | Emily | | | | Drilling Equipment | Hand Auger | | | | |
| heck | ed By | Larry F | Pannell | | | TOC Elevation (feet) | | | | | |
| | | | | | | | | <u> </u> | 1 | | L |
| D | | | SAMPLE INFOR | RMATION | | | JM / SAMPLE DESCRIPTION | | | | |
| E P | | | | | | | OIL GROUP NAME, other soil groups, | | 0000 | | ARKS |
| Т | | | | | | | size, angularity, and shape] or [cons mination (visual, olfactory), formation | | Symbol | (e.g., v | Vell Info) |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | observations | | | | |
| | | | | | | | | | | | |
| | | | | | | SM: Silty SAND with grave | el. Approximately 60% well-graded | I fine-coarse | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | | ell graded, sub-angular gravel. Br | | SM | Sample | at 1720 |
| | | | | | | | | | | | |
| | | | | | | | el. Approximately 55% well-graded | | | | |
| | | | | | | | 15% well graded, sub-angular graded | | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | reddish brown. Dry to slig | htly moist. Pieces of brick and coa | al observed. | SM | Sample | at 1/45 |
| | | | | | | | | | | | |
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| 1.5 _ | | | | | | | | | | | |
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| otes: | 1) | ı | <u> </u> | | | I | | | 1 | <u> </u> | |
| | 2) 3) | | | | | | | | | | |
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Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-102

 SHEET
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 DATE STARTED
 5/12/2011

 DATE COMPLETEL
 5/12/2011

| | g Co. | | mark Environmental | | | Boring Location Northeast corner of Bldg. 625 | Ground | dwater Leve | ls |
|-----------------------|----------------------|------------------|--------------------|---------------|-------------|---|---------------|------------------|--------------------|
| riller | | | Raimondi | | | Drilling Method Hand Auger | Date | Time | Depth |
| | ed By ked By | Emily Larry I | | | | Drilling Equipment Hand Auger TOC Elevation (feet) | | | |
| | | | <u> </u> | | | | | | |
| D E P T H | DEPTH | Time | SAMPLE INFORM | ATION PEN/REC | DID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | | REM/ (e.g., W | ARKS (ell Info) |
| (feet) | (inches) | Type & No. | BLOWS PER 6 INCHES | (inches) | PID/ FID | observations | | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. 75% well-graded fine-coarse sand. 20% fines (trace clay 5% fine, sub-angular gravel. Brown. Dry. Pieces of brick and metal present | /). SM | Sample | at 1055 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | SM: Silty SAND. 60% well-graded fine-coarse sand. 35% fines (little clay 5% sub-angular fine gravel. Reddish brown. Dry to slightly moist. Piece of brick and metal observed. Possible ash. |). s SM | Sample | at 1100 |
| 1.5 _ | | | | | | | | | |
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Log Al4-102 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-103

 SHEET
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 of 1

 DATE STARTED
 5/12/2011

DATE COMPLETEL 5/12/2011

| Boring | Co. | | mark Environmental | | | Boring Location East of Bldg. 625 | Groun | dwater Level | S |
|-----------------------|----------------------|---------------|--------------------|---------------------|-------------|--|-------|------------------|---------|
| Oriller | | | Raimondi | | | Drilling Method Hand Auger | Date | Time | Depth |
| ogged | d By | Emily | Pratt Pannell | | | Drilling Equipment Hand Auger TOC Elevation (feet) | | | |
| HECK | ей Бу | Larry | rannen | | | TOC Elevation (leet) | | | |
| 1 | | | | | | | | | |
| D E P T H | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, othe | | REMA (e.g., W | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | observations | " | | |
| | | | | | | SM: Silty SAND. 80% well-graded fine-coarse sand. 20% fines (trace clay Trace fine gravel. Organic material present. Brown. Dry. Pieces of glass | 3 | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | present | SM | Sample | at 1030 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | ML: Sandy SILT: 65% fines with little to some clay. 35% poorly graded fine sand (trace medium-coarse sand). Trace fine gravel. Reddish brown Dry. | | Sample at 103 | |
| 1.5 | | | | | | | | | |
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| lotes: | 1) 2) 3) 4) | <u> </u> | | 1 | 1 | | | | |

Log Al4-103 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-104

 SHEET
 1
 of 1

 DATE STARTED
 5/12/2011

DATE COMPLETEE 5/12/2011

| Boring Driller | | | mark Environmental Raimondi | | | Boring Location South of Bidg. 625 Hand Auger | | dwater Levels |
|-----------------------|----------------------|-------|---|---|------|---|---|------------------------------|
| ogged By | | Emily | | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | Date | Time Depth |
| | ed By | | | | | TOC Elevation (feet) | | |
| | | | | | | | | |
| D E P T H | DEPTH | Туре | SAMPLE INFORM. BLOWS PER 6 INCHES | PENREC | PID/ | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other | | REMARKS (e.g., Well Info) |
| (feet) | (inches) | & No. | BEOWS FER UNIONES | (inches) | FID | observations | | |
| 0.5 _ | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. 75% well-graded fine-coarse sand. 25% fines. Trace fir gravel. Organic material present. Brown. Dry. | e SM | Sample at 1207 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | ML: Sandy SILT: 75% fines with little to some clay. 25% well graded fine coarse sand. Trace fine gravel. Reddish brown. Dry. | ÷ ML | Sample at 1215 |
| 1.5 _ | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | | | | | | | |

Log Al4-104

Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-105

 SHEET
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 DATE STARTED
 5/11/2011

 DATE COMPLETEL
 5/11/2011

| Boring | Co. | Water | mark Environmental | | | Boring Location southeast of Bldg 625 | | Ground | dwater Level | ls |
|------------------|---|---------------|--------------------|---------------------|---|---|---|----------------|------------------|--------------------|
| Driller | | | Raimondi | | | Drilling Method Hand Auger | Da | ate | Time | Depth |
| Logge | d By ed By | Larry F | Pannell Thomas | | | Drilling Equipment Hand Auger TOC Elevation (feet) | | | | |
| CHECK | eu by | Nalle | THOMAS | | | 100 Elevation (leet) | | | | |
| D E P T | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, colo moisture state [density, max particle size, angularity, and shape] or [consiste | ency S | USCS Symbol | REMA (e.g., W | ARKS (ell Info) |
| Н | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), formation name, observations | other | | | |
| (feet) | (inches) | & NO. | | (inches) | FID | 0030174110113 | | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. Trace coarse sand and fine gravel. Dark brown. | ry. | SM | Sample | at 1046 |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | SM: Silty SAND. Trace coarse sand and fine gravel. Brown. Dry | | SM | Sample | at 1055 _ |
| 1.5 | | | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | | | | | | | | | |

Log Al4-105



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al4-106

 SHEET
 1
 of 1

 DATE STARTED
 5/11/2011

DATE COMPLETEL 5/11/2011

| Drilling Equipment Hand Auger TOC Elevation (feet) SAMPLE INFORMATION STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other observations 0.5 0-2" S-1 N/A N/A 0.0 SM: Silty SAND. Trace coarse sand and fine gravel. Brown. Dry. SW-SM: Brown Silty SAND as above overlying and intermingled with angular crushed stone to 18" bgs. Clean fine-medium SAND beginning at | | g Location east of Bldg. 625 | | dwater Leve | |
|--|-------------|--|-------|-------------|---------------------|
| Decked By Katle Thomas TOC Elevation (feet) SAMPLE INFORMATION Conting term (feet) and plantacies, SOIL GROUP MAKE, other soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, cottor, micrown state (refered plantacies), SOIL GROUP MAKE, contert soil groups, | | g Method Hand Auger | Date | Time | Depth |
| SAMPLE INFORMATION STRATUM/SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, maisture latter (benety, mark particle size, impulativ), and shape of consistency of commissions (visual, dischard), formation name, other colors (including the control of the control o | | g Equipment Hand Auger | | - | - |
| Contact the contact of the contact o | | Elevation (leet) | | | - |
| Contact the contact of the contact o | | | | <u> </u> | |
| core served to the control of the co | | rm (if applicable), SOIL GROUP NAME, other soil groups, color, e [density, max particle size, angularity, and shape] or [consistency | | | IARKS Vell Info) |
| 0.5 | PID/ FID | | | | |
| SW-SM: Brown Silty SAND as above overlying and intermingled with angular crushed stone to 18° bgs. Clean fine-medium SAND beginning at 18° bgs (appears to represent a prepared bed for the crushed stone). SM/SW Sam Sm/S | | | | | |
| 1 6-24 S-2 N/A N/A 0.0 angular crushed stone to 16" bgs. Clean fine-medium SAND beginning at SM/SW Sam 1.5 Sam | 0.0 | SAND. Trace coarse sand and fine gravel. Brown. Dry. | SM | Sample | at 1113 |
| 2 | 0.0 | ned stone to 18" bgs. Clean fine-medium SAND beginning at | SM/SW | Sample | at 1130 |
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Log Al4-106 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 Al4-107

 SHEET
 1
 of 1

 DATE STARTED
 5/12/2011

DATE COMPLETEE 5/12/2011

| Boring | Co. | Water | mark Environmental | | | Boring Location East side of Bayside Street | Groundwater Levels | | | | |
|------------------|----------------|---------------|--------------------|---------------------|-------------|---|--------------------|---|---------|--|--|
| Driller | | Jason | Raimondi | | | Drilling Method Hand Auger | Date | Time | Depth | | |
| Logge | | Emily | | | | Drilling Equipment Hand Auger | | | | | |
| Cneck | ed By | Larry F | ranneii | | | TOC Elevation (feet) | | | | | |
| D E P | | | SAMPLE INFORMA | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, oisture state [density, max particle size, angularity, and shape] or [consistency | | | | | |
| T H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | | , | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. 75% well-graded fine-coarse sand. 25% fines (trace clay) Trace fine gravel. Pieces of brick present. Organic material present. Brown Dry. | SM | Sample | at 1115 | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | ML: Sandy SILT: 70% fines (with little to some clay). 30% poorly graded fine sand (trace medium to coarse). Trace fine gravel. Reddish brown. Dry. | ML | Sample | at 1125 | | |
| 1.5 | | | | | | | | | | | |
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| Notes: | 1) 2) 3) | | | | | | | | | | |
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Log AI4-107



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-108

 SHEET
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 DATE STARTED
 5/12/2011

 DATE COMPLETEL
 5/12/2011

| 3oring | g Co. | | mark Environmenta | l | | Boring Location Ctr | Ctr of field between Bldg 625 and Abbott | | ndwater Levels | | |
|------------------|----------------------|------------------------|--------------------|--------------------|-------------|--|--|-----------|----------------|----------|--|
| Driller | | | Raimondi | | | | and Auger | Date | Time | Depth | |
| -ogge | ed By ked By | Emily Larry F | Pratt | | | Drilling Equipment H | and Auger | | | | |
| JIICCI | ieu by | Larry | annen | | | TOC Elevation (leet) | | | | | |
| D E P | | | SAMPLE INFORM | ATION | | Grading term (if applicable), SO moisture state [density, max partic | STRATUM / SAMPLE DESCRIPTION rading term (if applicable), SOIL GROUP NAME, other soil groups, color, sture state [density, max particle size, angularity, and shape] or [consister | | | | |
| T H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEWREC (inches) | PID/ FID | | nation (visual, olfactory), formation name, ot observations | ner | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. 60% poorly gra fines. Trace f | aded fine sand (trace medium-coarse). 4 fine gravel. Brown. Dry. | .0% SM | Sample a | at 1231 | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | ML: Sandy SILT: 65% fines (with | h some clay). 35% poorly graded fine s e fine gravel. Brown. Dry. Pieces of bi present. | and | Sample a | | |
| 1.5 _ | | | | | | | | | | _ | |
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| Notes: | 1) 2) 3) 4) | <u> </u> | | l | ļ | | | ļ | | | |

Log Al4-108 Last Update: 10/10/2007



Project Name Fort Totten Coast Guard Station
Project Number

 BORING NO.
 AI4-109

 SHEET
 1
 of 1

 DATE STARTED
 5/12/2011

DATE COMPLETEL 5/12/2011

| Boring Co. Driller Logged By Checked By | | | | | Gr Date | ound | water Level Time | ls Depth | | | | |
|--|----------------------|----------------|--------------------|-----------------|-------------|--|---------------------|-------------|---|----------|---------|--|
| D E P T | | <u>Larry</u> | SAMPLE INFORM | ATION | | TOC Elevation (feet) STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, oisture state [density, max particle size, angularity, and shape] or [consistency Symbol (e.g., We | | | | | | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEWREC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), form observations | | | - | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. 75% well graded fine-coarse sand (most 25% fines (trace clay). Trace fine gravel. Organic material Dry. | | | 1 | Sample a | at 0908 | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | ML: Sandy SILT: 55% fines with little clay. 40% well grasand. 5% fine, sub-rounded gravel. Reddish-brow | | | | Sample : | | |
| 1.5 _ | | | | | | | | | | | _ | |
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| Notes: | 1) 2) 3) 4) | | <u> </u> | | | | | | | | | |

Log Al4-109 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-110

 SHEET
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 of
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 DATE STARTED
 5/12/2011

 DATE COMPLETEL
 5/12/2011

| 3oring | g Co. | | mark Environmenta | l | | Boring Location | Corner of Bayside and Abbott Streets | | ındwater Leve | | |
|-------------|-----------------|------------------|--------------------|----------|------|--|--|-----------|---------------|------------|--|
| Oriller | | | Raimondi | | | Drilling Method | Hand Auger | Date | Time | Depth | |
| -ogge | ed By ked By | Emily Larry I | Pratt | | | Drilling Equipment TOC Elevation (feet | Hand Auger | | | | |
| JIICCI | Neu by | Larry | annen | | | TOC Lievation (leet |) | | | | |
| | | | | | | | | | | <u> </u> | |
| D E | | | SAMPLE INFORM | IATION | | Grading term (if applicable | JM / SAMPLE DESCRIPTION e), SOIL GROUP NAME, other soil groups, colo | | REM | ARKS | |
| P T H | DEPTH | Туре | BLOWS PER 6 INCHES | PEWREC | PID/ | moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | | l (e.g., W | /ell Info) | |
| (feet) | (inches) | & No. | | (inches) | FID | | | | | | |
| | | | | | | | poorly graded fine sand (with some medium | | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | coarse). 30% fines. Trace | e fine gravel. Organic material present. Brov | vn. SM | Sample | ot 1225 | |
| 0.5 | 0-2 | 3-1 | IV/A | IN/A | 0.0 | | Dry. | SIVI | Sample | at 1335 | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | | s (with some clay). 20% poorly graded fine Trace fine gravel. Brown/reddish-brown. D | | Sample | at 1340 | |
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| 1.5 _ | | | | | | | | | | | |
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Log Al4-110 Last Update: 10/10/2007



Project Name
Project Number

| Fort T | otten Coast Guard Station | |
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 BORING NO.
 AI4-111

 SHEET
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 of
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 DATE STARTED
 5/12/2011

 DATE COMPLETEL
 5/12/2011

| Boring Co. Driller | | Water | mark Environmenta | Groundwater Levels | | | | |
|-----------------------|----------|----------|---|--------------------|----------|--|-----------|----------------|
| | | | Raimondi | | | Boring Location west of former Bldg. 609 Drilling Method Hand Auger | Date | Time Depth |
| Logge | d By | Emily | Pratt | | | Drilling Equipment Hand Auger | | |
| Check | ed By | Larry I | Pannell | | | TOC Elevation (feet) | | |
| | | | | | | | | |
| | | | | .=:0:: | | | | |
| D E | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color | uscs | REMARKS |
| Р | | | | | | moisture state [density, max particle size, angularity, and shape] or [consister | ncy Symbo | |
| T H | DEPTH | Туре | BLOWS PER 6 INCHES | PEN/REC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation name, or | her | |
| (feet) | (inches) | & No. | BEOWS FER 0 INCHES | (inches) | FID | observations | | |
| | | | | | | | | |
| | | | | | | SM: Silty SAND. 70% well graded fine-coarse sand. 30% fines. Trace | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | gravel. Brown. Dry. Pieces of coal observed. | SM | Sample at 1355 |
| | | | | | | | | |
| | | | | | | ML: Sandy SILT: 65% fines (with some clay). 35% poorly graded fine s | and | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | (some medium-coarse). Reddish-brown. Dry. | ML | Sample at 1400 |
| | | | | | | | | |
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| 1.5 | | | | | | | | |
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Log Al4-111



Project Name Fort Totten Coast Guard Station

 BORING NO.
 AI4-112

 SHEET
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 of 1

 DATE STARTED
 5/11/2011

| Project Number | | | | | | | DATE COMPLETEL 5/11/2011 | | | | | | |
|-----------------------|-------------------|--------------------|-----------------------------|-------------------|-------------|--|--|--------|--------------------------|--|--|--|--|
| oring riller | | Jason | mark Environmer Raimondi | ntal | | Boring Location northeast of Fmr Bldg. 609 Drilling Method Hand Auger | | Ground | dwater Levels Time Depth | | | | |
| ogged By hecked By | | | Pannell Thomas | | | Drilling Equipment Hand Auger TOC Elevation (feet) | TOC Elevation (feet) | | | | | | |
| | · | | | | | | | | | | | | |
| D E P T | | SAMPLE INFORMATION | | | | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, uscs listure state [density, max particle size, angularity, and shape] or [consistency symbol (e.g., Well | | | | | | |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHE | S PEWREC (inches) | PID/ FID | observations | | | | | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. Trace coarse sand and fine gravel. Brow | n. Dry. | SM | Sample at 1152 | | | | |
| | | | | | | SM-GP: Brown Silty SAND as above to 12" bgs. Coarse GRAV 18" bgs. Small black coarse GRAVEL from 18-24" bgs po | EL from 10- | | | | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | representing old asphalt. | | SM/GP | Sample at 1220 | | | | |
| 1.5 _ | | | | | | | | | | | | | |
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| otes: | 1) | | | | | | | | | | | | |
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Log Al4-112 Last Update: 10/10/2007



Project Name
Project Number

| Fort Totten Coast Guard Station |
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BORING NO. AI4-113

SHEET 1 of 1

DATE STARTED 5/12/2011

DATE COMPLETEE 5/12/2011

| Boring Driller | J Co. | | mark Environmental | | | Boring Location SW corner of former Bldg. 609 | | dwater Levels | |
|-------------------|----------|---------------|--------------------|----------|----------|---|--------|-------------------|--|
| Logge | | Emily | Raimondi Pratt | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | Date | Time Depth | |
| | | Larry F | | | | TOC Elevation (feet) | | | |
| OHECK | icu Dy | Larry | arricii | | | 100 Elevation (leet) | | | |
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| D | | | SAMPLE INFORMA | ATION | | STRATUM / SAMPLE DESCRIPTION | | | |
| E | | | | | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, | USCS | REMARKS | |
| P T | | | | | | moisture state [density, max particle size, angularity, and shape] or [consistency | Symbol | (e.g., Well Info) | |
| Н | DEPTH | Type & No. | BLOWS PER 6 INCHES | PEN/REC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | | |
| (feet) | (inches) | & No. | | (inches) | FID | ODSET VALIOTIS | | | |
| | | | | | | | | | |
| | | _ | | | | SM: Silty SAND. 80% poorly graded fine-medium sand. 20% fines (with | | | |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | little clay). Trace fine gravel. Brown. Dry. Organic materials present. | SM | Sample at 0840 | |
| | | | | | | | | | |
| | | | | | | ML: Sandy SILT: 60% fines (with little clay). 40% fine-medium sand. | | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | Trace coarse sand. Trace fine gravel. Reddish-brown. Dry. | ML | Sample at 0850 | |
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| Notes: | 1) | | | | <u> </u> | | I | | |
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Log Al4-113



ct Name Fort Totten Coast Guard Station

 BORING NO.
 AI4-114

 SHEET
 1
 of 1

 DATE STARTED
 5/12/2011

| Project Number DATE COM | | | | | | | | 1PLETEC | 5/12/2011 |
|-------------------------|---|--------------|---|-----------|----------|--|-------------|---|-------------------|
| oring | Co. | | mark Environme | ntal | | Boring Location SW corner of former Bldg. 609 | | | dwater Levels |
| riller | | Emily | Raimondi | | | Drilling Method Hand Auger Drilling Equipment Hand Auger | | Date | Time Depth |
| heck | d By ed By | Larry I | Pannell | | | TOC Elevation (feet) | | | |
| TICCH | icu Dy | Larry | armen | | | 100 Lievation (ieet) | _ | | |
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| D | | | SAMPLE INFO | RMATION | | STRATUM / SAMPLE DESCRIPTION | | | |
| E | | | | | | Grading term (if applicable), SOIL GROUP NAME, other soil group | | USCS | REMARKS |
| P T | | | | | | moisture state [density, max particle size, angularity, and shape] or [c | onsistency | Symbol | (e.g., Well Info) |
| Н | DEPTH | Туре | BLOWS PER 6 INCH | S PEN/REC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation nobservations | name, otner | | |
| (feet) | (inches) | & No. | | (inches) | FID | ODSCIVATIONS | | | |
| | | | | | | | | | |
| | | | | | | SM: Silty SAND. 80% poorly graded fine-medium sand. 20% fi | ines (with | | • |
| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | little clay). Brown. Dry. Organic materials present. | | SM | Sample at 0805 |
| | | | | | | | | | |
| | | | | | | IL: Sandy SILT: 65% fines (with some clay). 35% poorly graded fine- | | | |
| 1_ | 6-24" | S-2 | N/A | N/A | 0.0 | coarse sand. Trace fine gravel. Brown. Dry. | | ML | Sample at 0820 |
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Log AI4-114



Project Name Project Number

| Fort Totten Coast Guard Station |
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 BORING NO.
 AI4-115

 SHEET
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 DATE STARTED
 5/11/2011
 5/11/2011

| Boring | g Co. | | mark Environmental | | | Boring Location | Boring Location southeast corner of former Bldg. 609 | | | | |
|-------------|---|---------------|---|---|-------------|--------------------------------|---|----------------|--------------------|----------|------------|
| Oriller | | | Raimondi | | | Drilling Method | | | | Time | Depth |
| ogge | ged By Larry Pannell cked By Katie Thomas | | Drilling Equipment | Hand Auger | | | | | | | |
| Check | ed By | Katie | I homas | | | TOC Elevation (fee | t) | | | | |
| | ı | | | | | | | | | l | |
| D | | | SAMPLE INFORM | ATION | | STRAT | UM / SAMPLE DESCRIPTION | | | | |
| E P | | | | | | Grading term (if applicable | e), SOIL GROUP NAME, other soil of particle size, angularity, and shape | groups, color, | | | ARKS |
| Т | | | | 1 | 1 | and plasticityl evidence of co | ntamination (visual, olfactory), forma | tion name, ot | ncy Symbol ther | (e.g., W | /ell Info) |
| H (feet) | DEPTH (inches) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | , ,, | observations | <u> </u> | | | |
| | | | | | | | | | | | |
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| 0.5 | 0-2" | S-1 | N/A | N/A | 0.0 | SM: Silty SAND. Little co | arse sand and fine-coarse gravel | Brown. D | ry. SM | Sample | at 1215 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 1 | 6-24" | S-2 | N/A | N/A | 0.0 | SM: Silty SAND. Little co | arse sand and fine-coarse gravel | Brown. D | ry. SM | Sample | at 1230 |
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| 1.5 | | | | | | | | | | | |
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Log Al4-115



Project Number

| Fort Totten Coast Guard Station |
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BORING NO. AI5-101 SHEET 1 of 1 DATE STARTED 5/10/2011 DATE COMPLETED 5/10/2011

| Boring Co. | | Tristat | e Drilling | | | Boring Location northeast side of Bldg. 615 | Groun | dwater Leve | ls |
|------------|---|---------|-------------------|-----------|-------|--|---|---|-----------|
| Oriller | | Wayn | Date | Time | Depth | | | | |
| ogge | | Emily | | | | Drilling Equipment Geoprobe 54LT | | | |
| Check | Checked By Larry Pannell | | | | | TOC Elevation (feet) | | | |
| | | | | | | | | | |
| D | | | SAMPLE INFO | DMATION | | STRATUM / SAMPLE DESCRIPTION | | | |
| Е | | | SAMPLE INFO | RIVIATION | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, | USCS | REMA | ARKS |
| P T | | | | | | moisture state [density, max particle size, angularity, and shape] or [consistence | y Symbol | | ell Info) |
| Н | DEPTH | Туре | BLOWS PER 6 INCHE | S PENREC | PID/ | and plasticity] evidence of contamination (visual, olfactory), formation name, oth | er | | |
| (feet) | (feet) | & No. | | (inches) | FID | observations | | | |
| | | | | | | | | | |
| | 0.01 | 0.4 | N1/A | 04/40 | 0.0 | SM: Well graded Silty SAND with gravel: 70% fine-coarse sand. 15% fine | | 0 | -1.4440 |
| 1.0 | 0-6" | S-1 | N/A | 24/12 | 0.2 | 15% fine-coarse gravel. Black. Moist. No odor. | SM | Sample | at 1110 |
| | | | | | | | | | |
| | | | | | | ML: Sandy SILT. 60% fines (trace clay). 40% fine sand. Reddish-brow | | | |
| 2 _ | 6-24" | S-2 | N/A | | 0.0 | Moist. No odors, no stains. | ML | Sample | at 1115 |
| | | | | | | | | | |
| | | | | | | ML: Sandy SILT. 70% fines (little clay). 30% fine sand. Trace fine grav | | _ | |
| 3 _ | 2-6' | S-3 | N/A | 48/48 | 0.0 | Moist. Reddish-brown. No odors, no stains. | ML | Sample | at 1120 |
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Log A15-101 Last Update: 10/10/2007



Project Number

| Fort Totten Coast Guard Station |
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BORING NO. AI5-102 SHEET 1 of 1 DATE STARTED 5/10/2011

| | Project Number DATE C | | | | | | | | COMPLETEC 5/10/2011 | | | | | |
|------------------|-----------------------|---------------|--------------------|---|-------------|--|-----------|----------------|---------------------|---------|--|--|--|--|
| Boring Co. | | Tristat | | Groundwater Levels | | | | | | | | | | |
| Oriller | er Wayne Bolger | | | Boring Location northeast side of Bldg. 615 Drilling Method Geoprobe | | Date | Time | Depth | | | | | | |
| .ogge | d By | Emily | Pratt | | | Drilling Equipment Geoprobe 54LT | | | | | | | | |
| Check | ed By | Larry F | Pannell | | | TOC Elevation (feet) | _ | | | | | | | |
| | | | | | | | | | | | | | | |
| D E P | | | SAMPLE INFORI | MATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, of moisture state [density, max particle size, angularity, and shape] or [constant of the constant of the const | | USCS Symbol | REMA (e.g., W | | | | | |
| T H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | and plasticity] evidence of contamination (visual, olfactory), formation nam observations | ne, other | | | | | | | |
| 1.0 | 0-2" | S-1 | N/A | 24/19 | 0.3 | SW-SM: Well graded SAND with Silt. 85% fine-coarse sand. 10% 5% fine, sub-angular to sub-rounded gravel. Dry. Dark brown. No o | dor. | SW-SM | Sample a | at 1240 | | | | |
| | | | | | | SM: Poorly graded Silty SAND. 80% fine sand. 20% fines. Trace of Reddish-brown. Dry. No odors, no stains. | | | | | | | | |
| 2 _ | 6-24" | S-2 | N/A | | 0.1 | | | SM | Sample a | at 1245 | | | | |
| 3 _ | 2-6' | S-3 | N/A | 48/48 | 0.0 | SM: Poorly graded Silty SAND. 80% fine sand. 20% fines. Trace of Trace fine sub-rounded gravel. Reddish-brown. Moist. No odors, no stains. | | SM | Sample a | at 1300 | | | | |
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Log A15-102



Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

BORING NO. Al5-103
SHEET 1 of 1 DATE STARTED 5/10/2011 DATE COMPLETEC 5/10/2011

| Boring Co. | Tristate Drilling | Boring Location East of Bldg. 615 corner | Gro | undwater Leve | els |
|------------|-------------------|--|------|---------------|-------|
| Driller | Wayne Bolger | Drilling Method Geoprobe | Date | Time | Depth |
| Logged By | Emily Pratt | Drilling Equipment Geoprobe 54LT | | | |
| Checked By | Larry Pannell | TOC Elevation (feet) | | | |
| | | | | | |

| CHECK | | | | | | | | |
|-----------------------|----------------------|---------------|--------------------|---------------------|-------------|---|-------|-------------------|
| D E | | | SAMPLE INFORMA | ATION | | STRATUM / SAMPLE DESCRIPTION | USCS | REMARKS |
| P T H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | (e.g., Well Info) |
| 1.0 | 0-2" | S-1 | N/A | 24/11 | 0.3 | SW-SM: Well graded SAND with Silt. 85% fine-coarse sand. 10% fines. 5% sub-angular to sub-rounded fine gravel. Dry. Dark brown-black. No odor. | SW-SM | Sample at 1400 |
| | | 0.0 | | | | SM: Well graded Sity SAND. 80% fine-coarse sand. 15% fines. 5% sub-rounded fine gravel. Dry. Brown. No odor. No staining. Bits of coal | | |
| _ 2_ | 6-24" | S-2 | N/A | | 0.1 | observed. | SM | Sample at 1405 |
| _ 3 _ | 2-6' | S-3 | N/A | 48/48 | 0.0 | SM: Silty SAND. 65% well graded fine-coarse sand. 35% fines. Trace clay. Moist. Reddish-brown. No odors, no staining. | SM | Sample at 1415 |
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| Notes: | 1) 2) 3) 4) | | | | | | | |
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Log A15-103 Last Update: 10/10/2007



Fort Totten Coast Guard Station

 BORING NO.
 AI5-104

 SHEET
 1
 of 1

 DATE STARTED
 5/10/2011

 DATE COMPLETEL
 5/10/2011

Boring Co. Driller Wayne Bolger Drilling Boring Location Drilling Method Geoprobe
Logged By Emily Pratt Drilling Equipment TOC Elevation (feet)

Drillor Drilling East side between Bldg 615 and Bldg 614

Geoprobe Geoprobe 54LT

TOC Elevation (feet)

Project Name

Project Number

| Groundwater Levels | | | | | | | | | |
|--------------------|------|-------|--|--|--|--|--|--|--|
| Date | Time | Depth | | | | | | | |
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| Logge | | Emily I | | | | Drilling Equipment Geoprobe 54L1 | | |
|--------------------|----------------------|---------------|--------------------|---------------------|---|--|----|--|
| Check | ed By | Larry F | annell | | | TOC Elevation (feet) | | |
| D E P T | E P | | | | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, mois | | | |
| H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | state [density, max particle size, angularity, and shape] or [consistency and plasticity evidence of contamination (visual, olfactory), formation name, other observations | 1 | |
| 1.0 | 0-2" | S-1 | N/A | 24/17 | 0.5 | SM: Well graded Silty SAND with gravel: 70% fine-coarse sand. 15% fines 15% fine-coarse sub-rounded to sub-angular gravel. Black. Dry. No odor Bits of coal observed. | | Sample at 1510 |
| _ 2 _ | 6-24" | S-2 | N/A | | 0.2 | ML: Sandy SILT. 70% fines (with some clay). 30% fine-coarse sand. Trace fine gravel. Brown. Moist. No odors, no staining. | ML | Sample at 1515 |
| 3 _ | 2-6' | S-3 | N/A | 48/30 | 0.0 | ML: SILT with Sand. 75% fines (with some clay). 25% fine-coarse sand. Trace fine gravel. Moist. Brown. No odors, no staining. | ML | Sample at 1530 |
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Log A15-104 Last Update: 10/10/2007



| Fort Totten Coast Guard Station |
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BORING NO. Al5-105
SHEET 1 of 1 DATE STARTED 5/11/2011 DATE COMPLETED 5/11/2011

| | g Co. | | e Drilling | | | Boring Location | Groundwater Levels Date Time Dep | | | | | |
|------------------|-----------------|--------------------|-------------------|------------------|-------------|---|--|------------------------------|---------------|------------------|--------------|--|
| riller | ed By | Wayne Emily | e Bolger Brott | | | Drilling Method Drilling Equipment | Drilling Method Geoprobe Drilling Equipment Geoprobe 54LT | | | Time | Depth | |
| | ed By | Larry F | | | | TOC Elevation (feet) | | | | | | |
| <u> </u> | | | | | | | | | | | | |
| D E P | | SAMPLE INFORMATION | | | | Grading term (if applicable), SC state [density, max particle | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and Symbol.] | | | | | |
| T H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHE | PEN/REC (inches) | PID/ FID | plasticity] evidence of conta | amination (visual, olfactory), formation r observations | ame, other | | | | |
| 1.0 _ | 0-2" | S-1 | N/A | 24/24 | 0.0 | | . 80% fine-coarse sand. 15% fines. vel. Dark brown-black. No odor. P observed. | | | Sample Dup at | | |
| 2 _ | 6-24" | S-2 | N/A | | 0.0 | SM: Silty SAND. 65% wel clay. Trace fine subangula | Il graded fine-coarse sand. 35% fin ar-subrounded gravel. Brown. Mois brick observed. | es with littl st. Piece o | e of SM | Sample | at 1000 | |
| 3 _ | 2-6' | S-3 | N/A | 48/20 | 0.0 | ML: Sandy SILT. 55% fine: fine gravel. Moist. Reddish | s. 45% poorly graded fine-medium -brown. No odors, no staining. Pie material observed. | sand. Tra ce of orgar | nic ML | Sample | at 1005 | |
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Log A15-105 Last Update: 10/10/2007



Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

BORING NO. Al5-106
SHEET 1 of 1 DATE STARTED 5/11/2011 DATE COMPLETEC 5/11/2011

| Boring Co. | Tristate Drilling | Boring Location | between Bldg 615 and Bldg 614 | Groun | ndwater Leve | ls |
|------------|-------------------|--------------------|-------------------------------|-----------|--------------|-------|
| Driller | Wayne Bolger | Drilling Method | Geoprobe | Date | Time | Depth |
| Logged By | Emily Pratt | Drilling Equipment | Geoprobe 54LT | | | |
| Checked By | Larry Pannell | TOC Elevation (fee | t) | | | |
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| Check | ed By | Larry F | ranneli | | | TOC Elevation (feet) | | |
|------------------|----------------------|---------------|--------------------|---------------------|-------------|--|----------------|------------------------------|
| D E P | | | SAMPLE INFORMA | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture | USCS Symbol | REMARKS (e.g., Well Info) |
| T H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | state [density, max particle size, angularity, and shape] or [consistency and plasticity evidence of contamination (visual, olfactory), formation name, other observations | | |
| 1.0 | 0-6" | S-1 | N/A | 24/17 | 0.0 | SW-SM: Well graded SAND with silt. 75% fine-coarse sand, 15% fines, 10% fine subangular-subrounded gravel. Brown-dark brown. Dry. No odor. | SW-SM | Sample at 0855 |
| 2 _ | 6-24" | S-2 | N/A | | 0.0 | SM: Silty SAND. 75% well graded fine-coarse sand, 25% fines (trace clay), trace subrounded fine gravel. Brown. Moist. No odor, no staining. | SM | Sample at 0900 |
| _ 3 _ | 2-6' | S-3 | N/A | 48/36 | 0.0 | SM: Silty SAND. 70% well graded sand (fine-coarse), 30% fines (with little clay). Brown, Moist. No odor, no staining. | ML | Sample at 0920 |
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| Notes: | 1) 2) 3) 4) | | | | | | | |

Log A15-106 Last Update: 10/10/2007



Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

BORING NO. Al5-107
SHEET 1 of 1 DATE STARTED 5/11/2011 DATE COMPLETEC 5/11/2011

| | | <u> </u> | | | |
|------------|-------------------|--|------|--------------|-------|
| Boring Co. | Tristate Drilling | Boring Location southeast side of Bldg 614 | Grou | ndwater Leve | els |
| Driller | Wayne Bolger | Drilling Method Geoprobe | Date | Time | Depth |
| Logged By | Emily Pratt | Drilling Equipment Geoprobe 54LT | | | |
| Checked By | Larry Pannell | TOC Elevation (feet) | | | |
| | | . / | | | |

| Oncon | ea By | Larry | annon | | | TOC Elevation (feet) | | | |
|------------------|----------------------|---------------|--------------------|---------------------|-------------|--|----|-------------------|---------|
| D E P T | | | SAMPLE INFORM | ATION | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture | | REMA (e.g., We | |
| H (feet) | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | state [density, max particle size, angularity, and shape] or [consistency and plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | | |
| 1.0 _ | 0-2" | S-1 | N/A | 24/22 | 4.0 | SM: Well graded Silty SAND. 75% fine-coarse well graded sand, 15% fines, 10% fine subangular gravel. Black. Dry. No odor. Dense. | SM | Sample a | it 1120 |
| _ 2 _ | 6-24" | S-2 | N/A | | 0.0 | SM: Poorly graded Silty SAND. 75% poorly graded medium sand (trace fine-coarse). 20% fines (trace clay). 5% fine subrounded gravel. Reddish brown. Moist. | SM | Sample a | ıt 1125 |
| 3 _ | 2-6' | S-3 | N/A | 48/33 | 0.0 | SM: Well graded Silty SAND. 70% well graded fine-coarse sand, 25% fines (little clay). 5% fine, subrounded gravel. Brown. Moist. | SM | Sample a | it 1135 |
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Log A15-107 Last Update: 10/10/2007



Project Name Project Number

| Fort Totten Coast Guard Station |
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BORING NO. Al5-108 _<u>1</u> of <u>1</u> SHEET DATE STARTED 5/11/2011 DATE COMPLETED 5/11/2011

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|------------|-------------------|-------------|--------------|----------------------------------|-----|-------|--------------|-------|
| Boring Co. | Tristate Drilling | Boring Loc | cation | east wall btwn Bldg 614 and Bldg | 615 | Groun | dwater Level | ls |
| Driller | Wayne Bolger | Drilling Me | ethod | Geoprobe | | Date | Time | Depth |
| Logged By | Emily Pratt | Drilling Eq | quipment | Geoprobe 54LT | | | | |
| Checked By | Larry Pannell | TOC Elev | ation (feet) | | | | | |
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| D E P T | SAMPLE INFORMATION | | | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and | USCS Symbol | REMARKS (e.g., Well Info) | |
|------------------|--------------------|-------|--------------------|---------------------|-------------|--|----------------|-------------------------------|--|
| Н | DEPTH (foot) | Type | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | plasticity] evidence of contamination (visual, olfactory), formation name, other observations | | | |
| (feet) | (feet) | & No. | N/A | 24/12 | 0.2 | SW-SM: Well graded SAND with Silt. 80% fine-coarse well graded sand, 10% fines, 10% fine subangular-subrounded gravel. Brown. Moist. No odor, no staining. | SW-SM | Sample at 1145 with MS/MSD | |
| 2 | 6-24" | S-2 | N/A | | 0.0 | SM: Silty SAND. 70% well graded sand. 30% fines (little clay). Brown. Moist. No odor, no staining. | SM | Sample at 1155 with MS/MSD | |
| 3 _ | 2-6' | S-3 | N/A | 48/22 | 0.0 | SM: Silty SAND. 70% well graded sand. 30% fines (little clay), trace fine subrounded gravel. No odor, no staining. | SM | Sample at 1205 | |
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Log A15-108 Last Update: 10/10/2007



Project Name Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

 BORING NO.
 AI5-109

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 DATE STARTED
 5/10/2011
 DATE COMPLETEE
 5/10/2011

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|------------|-------------------|---|---------------------|------------------------------|---|-------|--------------|-------|
| Boring Co. | Tristate Drilling | | Boring Location | northeast corner of Bldg 614 | | Grour | ndwater Leve | ls |
| Driller | Wayne Bolger | | Drilling Method | Geoprobe | | Date | Time | Depth |
| Logged By | Emily Pratt | | Drilling Equipment | Geoprobe 54LT | | | | |
| Checked By | Larry Pannell | | TOC Elevation (feet |) | | | | |
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| Check | ed By | Larry F | Pannell | | | TOC Elevation (feet) | | |
|-------------|----------------------|---------------|--------------------|---------------------|-------------|--|-----------|-------------------|
| D E | | | SAMPLE INFORMA | ATION | | STRATUM / SAMPLE DESCRIPTION | USCS | REMARKS |
| P T H | DEPTH (feet) | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moistur state [density, max particle size, angularity, and shape] or [consistency and plasticit evidence of contamination (visual, olfactory), formation name, other observations | re Symbol | (e.g., Well Info) |
| (feet) | (reet) 0-2" | S-1 | N/A | 24/15 | 0.0 | SM: Well graded Silty SAND. 75% fine-coarse well graded sand, 15% fines, 10% fine subangular-subrounded gravel. Dark brown. Dry. No odor | | Sample at 1605 |
| 2 _ | 6-24" | S-2 | N/A | | 0.0 | SM: Silty SAND. 70% well graded fine-coarse sand. 30% fines (trace clay). Trace fine subrounded gravel. Brown. Moist. No odor, no staining. | SM | Sample at 1610 |
| _ 3 _ | 2-6' | S-3 | N/A | 48/36 | 0.0 | SM: Silty SAND. 65% well graded fine-coarse sand. 35% fines (with som clay). Brown. Moist. No odor, no staining. | e SM | Sample at 1625 |
| 4 _ | | | | | | | | |
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| Notes: | 1) 2) 3) 4) | | | | | | | |

Log A15-109 Last Update: 10/10/2007



Project Name

Project Number

PROJECT INFORMATION

Fort Totten Coast Guard Station

 BORING NO.
 AI5-110

 SHEET
 1
 of 1

 DATE STARTED
 5/11/2011

 DATE COMPLETEE
 5/11/2011

| Boring Co. | Tristate Drilling | Boring Location west of Bldg 614 | Groun | dwater Level | ls |
|------------|-------------------|----------------------------------|-------|--------------|-------|
| Driller | Wayne Bolger | Drilling Method Geoprobe | Date | Time | Depth |
| Logged By | Emily Pratt | Drilling Equipment Geoprobe 54LT | | | |
| Checked By | Larry Pannell | TOC Elevation (feet) | | | |
| | | · · · | | , | |

| Check | ea By | Larry | rannen | | | TOC Elevation (feet) | | | |
|-----------------------|----------------------|---------------|--------------------|------------------|-------------|---|-------|-------------------|--------|
| D E P T H | | | SAMPLE INFORM | | | STRATUM / SAMPLE DESCRIPTION Grading term (if applicable), SOIL GROUP NAME, other soil groups, color, moisture state [density, max particle size, angularity, and shape] or [consistency and plasticity] | | REMA (e.g., We | |
| (feet) | DEPTH (feet) 0-2" | Type & No. | BLOWS PER 6 INCHES | PEN/REC (inches) | PID/ FID | evidence of contamination (visual, olfactory), formation name, other observations SW-SM: Well graded SAND with Silt. 80% fine-coarse well graded sand, 10% fines, 10% fine subangular gravel. Dark brown-Black. Dry. No odor. Pieces of slag and coal observed. | | Sample a | t 1035 |
| - 2 _ | 6-24" | S-2 | N/A | | 0.0 | SM: Silty SAND. 75% well graded fine-coarse sand. 25% fines (trace clay). Trace fine gravel. Brown-reddish brown. Moist. No odor, no staining. Pieces of coal observed. | SM | Sample a | |
| 3 _ | 2-6' | S-3 | N/A | 48/36 | 0.0 | SP-SM: Poorly graded SAND with silt. 90% poorly graded medium sand. 10% fines. Trace fine gravel. No odor, no staining. Reddish-brown. Moist. | SP-SM | Sample a | t 1045 |
| . 4 _ | | | | | | | | | |
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Log A15-110 Last Update: 10/10/2007

APPENDIX C

2012 Low-flow Groundwater Sampling Forms



LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

| Static Wate (from T.O.C | (from T.O.C.) = r Level (WL) = C.) Vater in Well (T): | 12,75 | | soft botto | | Well Diamete Screen Depth Sampler(s): Pumpst | art 0820 | 180 21 | to Link nas toml/min | _ inches Feet below grade |
|----------------------------|--|--------------------|---|--------------------------------|---------------------------------------|---|-----------------------------|--------------------------|----------------------------|------------------------------|
| T = dep | th (ft) - Stati | c Water Level (ft) | Volume: | 3,5 | (gallons) | Sampling Dev | vice: (depth below TOC): | | iti e pump | Feet (Gallons) |
| Time: | Temp. (°C) (± 3%) | pH (SU) (± 0.1) | Specific Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if > 5) | D.O. (mg/l) (± 10% if > 0.5) | ORP (mV) (± 10) | Flow Rate (ml/min) | Static water Level | Color/ Clarity | Comments |
| 0935 | 15.35 | 6.68 | 5740 - | 9:73 | 4,55 | 105.2 98.8 | 180 m/min | 8:6 | clear | |
| 0840 | 15,63 | 6.67 | 5890 \$6069 | 5.35 | 3.65 | 99.5 | 180 | 8,8 | | |
| 6850 855 0 | 15.68 topped primp | | 6291 | 2,74 | 2,90 | 98.6 | | 9.0 | | , |
| 1115 | 15.81 | 6.71 | 4726 | 3,39 | 3,89 | 103,3 | u <u>e</u> | | | Y |
| 1120 | Begin s | ampling | | | | | | | | |
| | | | | | | | | | | |



LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

| Well I.D.: | MW-5 | | | | | Date: | 11/28/12 | - | | _ |
|---|--------------------------|--------------------|---|--------------------------------------|---|-----------------------------|--------------------|--------------------------|-------------------|--------------------|
| Well Depth (from T.O.C.) = 25.24 fi | | | | Well Diameter (d) = | | 2 | | inches | | |
| Static Water Level (WL) = $20_A 20_A$ | | | 2 <u>0</u> ft | | | Screen Depth Sampler(s): | | K.Thou | | _ Feet below grade |
| | | | | | | pumpstart | | 1230 260ml/mi | | |
| Height of Water in Well (T): $T = depth (ft) - Static Water Level (ft)$ $T = 25,24 - 20,20$ | | | . 5 | | Purging Device: Sampling Device: Pump Intake (depth below TOC): | | | |) Feet | |
| T = 5 | T = 5.04 ft Well Volume: | | 0.8 | (gallons) | Actual Purge Volume | | 1,5 | | (Gallons) | |
| Time | Temp. (°C) (± 3%) | pH (SU) (± 0.1) | Specific Conductance (umhos/cm) (± 3%) | Turbidity (NTUs) (±10% if > 5) | D.O. (mg/1) $(\pm 10\%$ if > 0.5) | ORP (mV) (± 10) | Flow Rate (ml/min) | Static water Level | Color/ Clarity | Comments |
| | 111 | | | | - | - | | | | |
| 1235 | 14.01 | 6,12 | 1003 | 2,12 | 6.19 | 121,2 | 200 | 20.38 | " rat | |
| 1240 | 13,92 | 6.11 | 980 | 2.67 | 5,77 | 113.4 | 200 | 20,38 | clear | |
| 1245 | 14,02 | 6,13 | 973 | 4.01 | 5.73 | 113.7 | 200 | 20:38 | clear | |
| 1250 | 13:92 | 6.16 | 966 | 1.38 | 5,63 | 111,4 | 200 | 20,38 | Clear | |
| | Paramete | rs Stabl. | و | | | | | | | |
| 1255 sample | | | | | | | | | | |
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