NYSDEC OHMS Document No. 201469232-00007

SIEVE AND HYDROMETER ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client

P.J. CAREY & ASSOCIATES

Client Reference Project No.

CMW / RMU-2 2009-296-01

Lab ID

2009-296-01-02

Boring No.

FAC POND Depth (ft) NA

Sample No. EAST

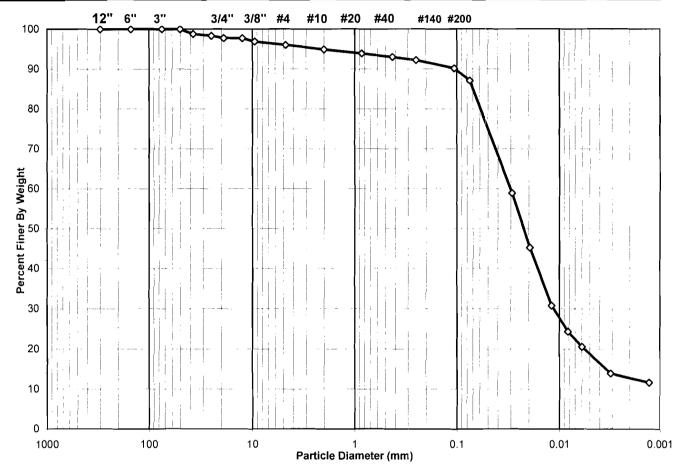
Soil Color

BROWN

eotechnics

INTEGRITY IN TESTING

| | | SIEVI | E ANALYSIS | HYDROMETER |
|------|---------|--------|------------|------------------------|
| USCS | cobbles | gravel | sand | silt and clay fraction |
| USDA | cobbles | gravel | sand | silt clay |



| USCS Summary | | | | | |
|------------------|-------------|------------|--|--|--|
| Sieve Sizes (mm) | | Percentage | | | |
| Greater Than #4 | Gravel | 3.96 | | | |
| #4 To #200 | Sand | 8.92 | | | |
| Finer Than #200 | Silt & Clay | 87.11 | | | |
| | | | | | |
| | | | | | |
| | | | | | |

USCS Symbol

ML, TESTED

USCS Classification

SILT (NON-PLASTIC FINES)

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DCN: CT-S3B DATE:2/20/08 REVISION: 8

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USDA CLASSIFICATION CHART

Client

Client Reference

Project No. Lab ID P.J. CAREY & ASSOCIATES

CMW / RMU-2 2009-296-01

2009-296-01-02

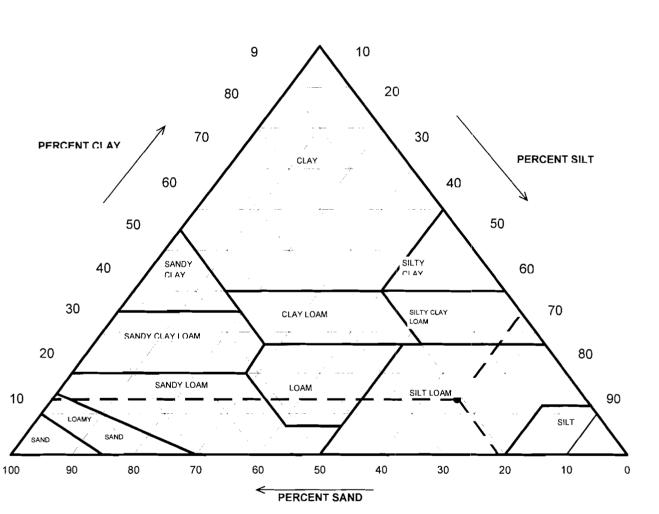
Boring No.

FAC POND 3

Depth (ft)

NA

Sample No. EAST Soil Color BROWN



| Particle Size (mm) | Percent Finer | USDA SUMMARY | Actual Percentage | Corrected % of Minus 2.0 mm material for USDA Classificat. |
|-----------------------|------------------|--------------------------|----------------------|--|
| | | Gravel | 5.12 | 0.00 |
| 2 | 94.88 | Sand | 19.88 | 20.96 |
| 0.05 | 74.99 | Silt | 62.15 | 65.51 |
| 0.002 | 12.84 | Clay | 12.84 | 13.53 |
| | us | SDA Classification: SILT | T LOAM | |

page 2 of 4

DCN: CT-S3B DATE:2/20/08 REVISION: 8

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WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client

P.J. CAREY & ASSOCIATES

Client Reference Project No.

CMW/RMU-2 2009-296-01

Lab ID

2009-296-01-02

Boring No.

FAC POND 3

Depth (ft) Sample No. EAST

NA

Soil Color

BROWN

| Moisture Content of Passing 3/4" N | laterial | Water Content of Retained 3/4" Material | | | |
|-------------------------------------|----------|---|--------|--|--|
| Tare No. | 2451 | Tare No. | 570 | | |
| Wgt.Tare + Wet Specimen (gm) | 1239.10 | Wgt.Tare + Wet Specimen (gm) | 562.70 | | |
| Wgt.Tare + Dry Specimen (gm) | 1054.30 | Wgt.Tare + Dry Specimen (gm) | 546.50 | | |
| Weight of Tare (gm) | 103.67 | Weight of Tare (gm) | 84.40 | | |
| Weight of Water (gm) | 184.80 | Weight of Water (gm) | 16.20 | | |
| Weight of Dry Soil (gm) | 950.63 | Weight of Dry Soil (gm) | 462.10 | | |
| Moisture Content (%) | 19.4 | Moisture Content (%) | 3.5 | | |
| Wet Weight -3/4" Sample (gm) | 24005 | Weight of the Dry Specimen (gm) | 950.63 | | |
| Dry Weight - 3/4" Sample (gm) | 20098.0 | Weight of minus #200 material (gm) | 847.18 | | |
| Wet Weight +3/4" Sample (gm) 478.34 | | Weight of plus #200 material (gm) | | | |
| Dry Weight + 3/4" Sample (gm) | 462.14 | | | | |
| Total Dry Weight Sample (gm) | 20560.1 | J - Factor (Percent Finer than 3/4") | 0.9775 | | |

| Sieve | Sieve | Wgt.of Soil | | Percent | Accumulated | Percent | Accumulated |
|--------|---------|-------------|------|----------|-------------|-------------|---------------|
| Size | Opening | Retained | | Retained | Percent | Finer | Percent |
| | (mm) | | | | Retained | , , | Finer |
| | () | (gm) | | (%) | (%) | (%) | (%) |
| 12" | 300 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 6" | 150 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 3" | 75 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 2" | 50 | 0.00 (| *) | 0.00 | 0.00 | 100.00 | 100.00 |
| 1 1/2" | 37.5 | 262.25 | ŕ | 1.23 | 1.23 | 98.77 | 98.77 |
| 1" | 25.0 | 89.93 | | 0.42 | 1.65 | 98.35 | 98.35 |
| 3/4" | 19.0 | 126.16 | | 0.59 | 2.25 | 97.75 | 97.75 |
| 1/2" | 12.5 | 0.00 | | 0.00 | 0.00 | 100.00 | 97.75 |
| 3/8" | 9.50 | 8.24 | | 0.87 | 0.87 | 99.13 | 96.90 |
| #4 | 4.75 | 8.45 | | 0.89 | 1.76 | 98.24 | 96.04 |
| #10 | 2.00 | 11.28 | | 1.19 | 2.94 | 97.06 | 94.88 |
| #20 | 0.85 | 9.69 (| **) | 1.02 | 3.96 | 96.04 | 93.88 |
| #40 | 0.425 | 8.95 | | 0.94 | 4.90 | 95.10 | 92.96 |
| #60 | 0.250 | 7.18 | | 0.76 | 5.66 | 94.34 | 92.22 |
| #140 | 0.106 | 20.57 | | 2.16 | 7.82 | 92.18 | 90.11 |
| #200 | 0.075 | 29.09 | | 3.06 | 10.88 | 89.12 | <u>8</u> 7.11 |
| Pan | - | 847.18 | | 89.12 | 100.00 | _ | - |

Notes:

(*) The + 3/4" sieve analysis is based on the Total Dry Weight of the Sample

(**) The - 3/4" sieve analysis is based on the Weight of the Dry Specimen

Tested By JΡ 7/16/09 Checked By Date page 3 of 4 DCN: CT-S3B DATE:2/20/08 REVISION: 8

HYDROMETER ANALYSIS





Client

P.J. CAREY & ASSOCIATES

Client Reference Project No. Lab ID

CMW/RMU-2 2009-296-01 2009-296-01-02 Boring No.

FAC POND 3

Depth (ft) Sample No. EAST

NA

| Soil Color BROWN |
|-------------------------|
|-------------------------|

| R | Temp. | Composite | R | N | K | Diameter | N' |
|----------|--|---|---|--|---|--|--|
| Measured | (°C) | Correction | Corrected | (%) | Factor | (mm) | (%) |
| | | | | | | | |
| NA | NA | NA | NA | NA | NA | NA | NA |
| 38.0 | 22.9 | 5.57 | 32.4 | 67.6 | 0.01299 | 0.0291 | 58.9 |
| 30.5 | 22.9 | 5.57 | 24.9 | 51.9 | 0.01299 | 0.0195 | 45.2 |
| 22.5 | 22.9 | 5.57 | 16.9 | 35.3 | 0.01299 | 0.0119 | 30.7 |
| 19.0 | 22.9 | 5.57 | 13.4 | 28.0 | 0.01299 | 0.0082 | 24.4 |
| 17.0 | 22.7 | 5.66 | 11.3 | 23.6 | 0.01302 | 0.0060 | 20.6 |
| 13.5 | 22.4 | 5.79 | 7.7 | 16.1 | 0.01307 | 0.0031 | 14.0 |
| 11.5 | 24 | 5.06 | 6.4 | 13.4 | 0.01282 | 0.0013 | 11.7 |
| | NA 38.0 30.5 22.5 19.0 17.0 13.5 | NA NA 38.0 22.9 30.5 22.9 22.5 22.9 19.0 22.9 17.0 22.7 13.5 22.4 | Measured (°C) Correction NA NA NA 38.0 22.9 5.57 30.5 22.9 5.57 22.5 22.9 5.57 19.0 22.9 5.57 17.0 22.7 5.66 13.5 22.4 5.79 | NA NA NA NA 38.0 22.9 5.57 32.4 30.5 22.9 5.57 24.9 22.5 22.9 5.57 16.9 19.0 22.9 5.57 13.4 17.0 22.7 5.66 11.3 13.5 22.4 5.79 7.7 | NA 38.0 22.9 5.57 32.4 67.6 67.6 30.5 22.9 5.57 24.9 51.9 22.5 22.9 5.57 16.9 35.3 19.0 22.9 5.57 13.4 28.0 17.0 22.7 5.66 11.3 23.6 13.5 22.4 5.79 7.7 16.1 | NA NA< | NA NA< |

| Soil Specimen Data | | Other Corrections | | |
|-----------------------------|--------|--------------------------|-------------|--|
| Tare No. | 1221 | | | |
| Tare + Dry Material (gm) | 148.71 | a - Factor | 0.99 | |
| Weight of Tare (gm) | 96.18 | | | |
| Weight of Deflocculant (gm) | 5.0 | Percent Finer than # 200 | 87.11 | |
| Weight of Dry Material (gm) | 47.53 | | | |
| , , , | | Specific Gravity | 2.7 Assumed | |

Hydrometer test is performed on - # 200 sieve material. Note:

> Tested By TO

Date

7/20/09 Checked By



ASTM D 4318-00 (SOP - S4)



Client

Client Reference

Project No.

Lab ID

P.J. CAREY & ASSOCIATES

CMW / RMU-2

2009-296-01

2009-296-01-02

Boring No.

Depth (ft)

Sample No.

Visual Description

FAC POND 3

NA

EAST

BROWN SILT

(MInus No. 40 sieve material, Airdried)

NON - PLASTIC MATERIAL

Tested By

JP

Date

7/22/09

Checked By

KP

Date 7-23-(79)



SPECIFIC GRAVITY

ASTM D 854-06, AASHTO T100-06 (SOP - S5)

Client Reference Project No.

Lab ID

P.J. Carey & Associates CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No. Depth (ft) Sample No. FAC POND 3

NA EAST

Visual Description BRO

BROWN SILTY CLAY

(MInus No.4 sieve material, airdried)

| 1 | 2 |
|--------|---|
| G 1156 | G 1253 |
| 741.67 | 729.79 |
| 26.7 | 26.5 |
| 680.88 | 670.51 |
| 2341 | 301 |
| 194.79 | 204.17 |
| 97.44 | 108.38 |
| 97.35 | 95.79 |
| 2.663 | 2.624 |
| 0.9966 | 0.9967 |
| 0.9984 | 0.9985 |
| 2.667 | 2.628 |
| | G 1156 741.67 26.7 680.88 2341 194.79 97.44 97.35 2.663 0.9966 0.9984 |

| Average Specific Gravity @ 20° Celsius 2.6 | Average Specific Gravity @ 20° Celsius | 2.65 |
|--|--|------|
|--|--|------|

Tested By

TO

7/20/09

Checked By

MB

Date 7-121-0

Date



MOISTURE DENSITY RELATIONSHIP

ASTM D698-07 SOP-S12

Client

Client Reference

Project No.

Lab ID

P.J. CAREY & ASSOCIATES

CMW / RMU-2

2009-296-01

2009-296-01-02

Boring No.

Depth (ft)

Sample No.

Test Method

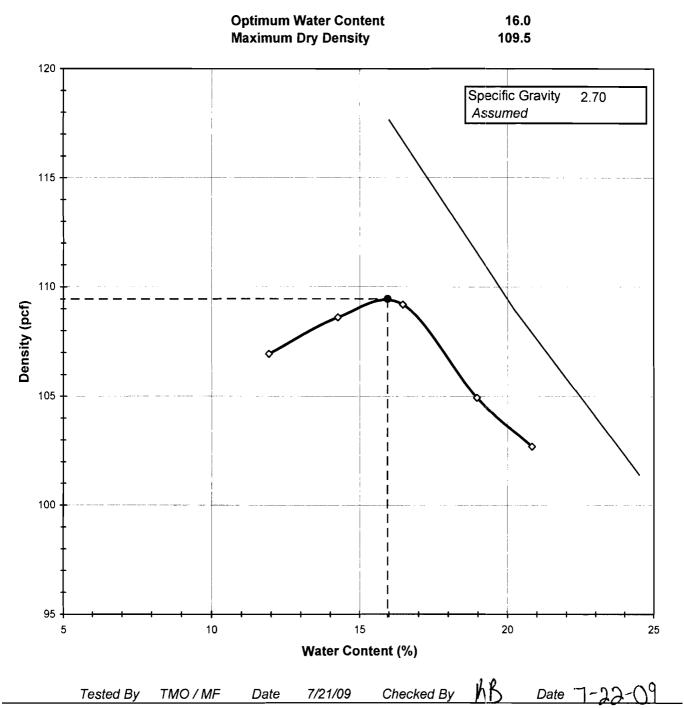
FAC POND 3

NA EAST

STANDARD

Visual Description

BROWN SILTY CLAY WITH SOME ROCK FRAGMENTS



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MOISTURE - DENSITY RELATIONSHIP

ASTM D698-07 SOP-S12

Client

P.J. CAREY & ASSOCIATES

Boring No.

FAC POND 3

Client Reference

CMW / RMU-2

Depth (ft)

NA

Project No.

2009-296-01

Sample No.

Lab ID

2009-296-01-02

EAST

Visual Description

BROWN SILTY CLAY WITH SOME ROCK FRAGMENTS

| Total Weight of the Sample (gm) | NA |
|---------------------------------|--------------|
| As Received Water Content(%) | NA |
| Assumed Specific Gravity | 2.70 |
| Percent Retained on 3/4" | NA |
| Percent Retained on 3/8" | NA |
| Percent Retained on #4 | NA |
| Oversize Material | Not included |
| Procedure Used | С |

| TestType | į. | STANDARD |
|-----------------------|----|-----------|
| Rammer Weight (lbs) | | 5.5 |
| Rammer Drop (in) | | 12 |
| Rammer Type | ME | ECHANICAL |
| Machine ID | G | 774 |
| Mold ID | G | 1154 |
| Mold diameter | | 6" |
| Weight of the Mold | | 6368 |
| Volume of the Mold(co | ;) | 2128 |

Mold / Specimen

| Point No. | 1 | 2 | 3 | 4 | 5 |
|-----------------------|-------|-------|-------|-------|-------|
| Wt. of Mold & WS (gm) | 10450 | 10600 | 10705 | 10626 | 10600 |
| Wt.of Mold (gm) | 6368 | 6368 | 6368 | 6368 | 6368 |
| Wt. of WS | 4082 | 4232 | 4337 | 4258 | 4232 |
| Moid Volume (cc) | 2128 | 2128 | 2128 | 2128 | 2128 |

Moisture Content / Density

| Tare Number | 725 | 542 | 729 | 589 | 591 |
|-----------------------|--------|--------|--------|--------|--------|
| Wt. of Tare & WS (gm) | 505.00 | 509.20 | 508.10 | 475.00 | 499.30 |
| Wt. of Tare & DS (gm) | 460.40 | 455.90 | 448.50 | 412.50 | 428.30 |
| Wt. of Tare (gm) | 86.50 | 82.15 | 86.58 | 83.04 | 87.35 |
| Wt. of Water (gm) | 44.60 | 53.30 | 59.60 | 62.50 | 71.00 |
| Wt. of DS (gm) | 373.90 | 373.75 | 361.92 | 329.46 | 340.95 |

| Wet Density (gm/cc) | 1.92 | 1.99 | 2.04 | 2.00 | 1.99 |
|----------------------|-------|-------|-------|-------|-------|
| Wet Density (pcf) | 119.7 | 124.1 | 127.2 | 124.9 | 124.1 |
| Moisture Content (%) | 11.9 | 14.3 | 16.5 | 19.0 | 20.8 |
| Dry Density (pcf) | 106.9 | 108.6 | 109.2 | 104.9 | 102.7 |

Zero Air Voids

| Moisture Content (%) | 16.0 | 20.2 | 24.5 |
|-----------------------|-------|-------|-------|
| Dry Unit Weight (pcf) | 117.7 | 108.9 | 101.4 |

Tested By

TMO / MF

Date

7/21/09 Checked By

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DCN:CT-S12 DATE:10/27/08 REVISION 9



ASTM D2850-95 (SOP S-29)

Client Client Reference Project No.

Lab ID

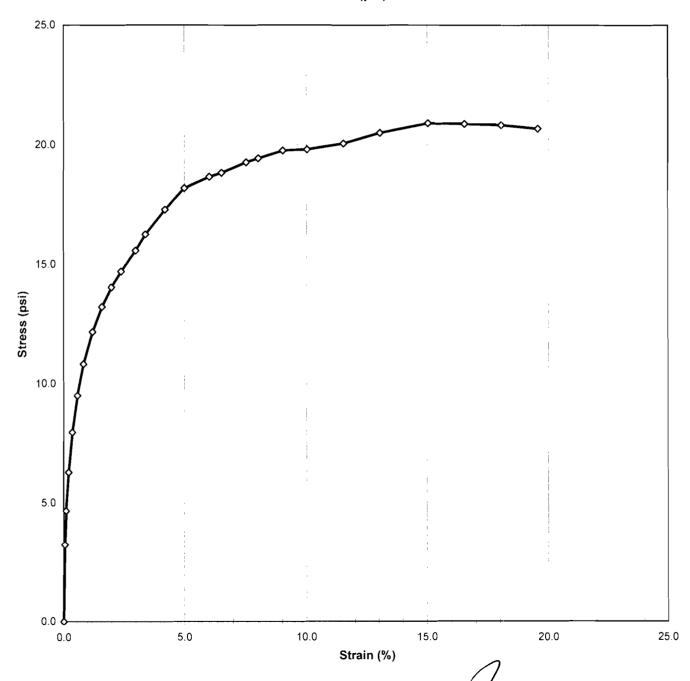
P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No. FAC POND 3 Depth (ft.) NA

Sample No. EAST

Visual BROWN SILT

CONFINING STRESS (psi)

6.9



page 1 of 2

Tested By

DCN: CT-S29 DATE: 3-20-06 REVISION 1

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Date

Date 8/14/09 Approved By

ASTM D2850-95 (SOP S-29)



Client

P.J. CAREY & ASSOCIATES

Client Reference Project No. Lab ID

CMW / RMU-2 2009-296-01

2009-296-01-02

Boring No. FAC POND 3

Depth (ft.) NA Sample No. EAST

Visual **BROWN SILT**

| INITIAL SA | MPLE DIMEN | SIONS | |
|-----------------|------------|----------------|-------|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 |
| Avg.Length (in) | 6.011 | Area (in².) | 6.456 |

JW

| WATER CONTENT (AFTER TEST) | | | | | |
|----------------------------|---------|--|--|--|--|
| Total Wt. of Sample | 1255.01 | | | | |
| Tare No. | 1327 | | | | |
| Wt. Tare + WS.(gms) | 1355.14 | | | | |
| Wt. Tare + DS.(gms) | 1180.80 | | | | |
| Wt. of Tare(gms) 100.43 | | | | | |
| % Moisture | 16.1 | | | | |

| | UNIT | WEIGHT | |
|----------------------|-------------------|-----------------------------|--------|
| R | temolded Specimen | | |
| Wt. Tube & WS.(gms.) | 3240.9 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 1.96 |
| Wt. Of WS.(gms.) | 1246.1 | Unit Wet Wt.(pcf.) | 122.28 |
| Diameter (in.) | 2.87 | Moisture Content, % | 16.1 |
| Length (in.) | 6.01 | Unit Dry Wt.(pcf.) | 105.3 |
| Length (cm.) | _ 15.27 | | |
| | | Initial Dial Reading , mils | 28 |

| CONFINING STRESS (psi) | CONFINING STRESS (psi) 6.9 | | , mis e Shearing, mils | 32 |
|------------------------|----------------------------|--------------|---------------------------|--------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| (in) | (lbs) | (min.) | (%) | (psi) |
| 0.000 | 2.6 | 0.0 | 0.00 | 0.00 |
| 0.003 | 23.4 | 0.05 | 0.05 | 3.21 |
| 0.006 | 32.8 | 0.10 | 0.10 | 4.67 |
| 0.012 | 43.3 | 0.22 | 0.20 | 6.28 |
| 0.022 | 54.2 | 0.37 | 0.36 | 7.96 |
| 0.034 | 64.3 | 0.57 | 0.57 | 9.50 |
| 0.049 | 73.2 | 0.83 | 0.82 | 10.84 |
| 0.072 | 82.2 | 1.20 | 1.20 | 12.18 |
| 0.096 | 89.4 | 1.60 | 1.60 | 13.22 |
| 0.120 | 95.1 | 2.00 | 2.00 | 14.04 |
| 0.144 | 99.9 | 2.40 | 2.40 | 14.70 |
| 0.180 | 106.3 | 3.00 | 3.00 | 15.57 |
| 0.205 | 111.3 | 3.42 | 3.41 | 16.26 |
| 0.252 | 119.2 | 4.22 | 4.20 | 17.30 |
| 0.300 | 126.3 | 5.02 | 5.00 | 18.20 |
| 0.361 | 131.0 | 6.02 | 6.02 | 18.68 |
| 0.392 | 132.8 | 6.52 | 6.52 | 18.84 |
| 0.452 | 137.2 | 7.52 | 7.52 | 19.28 |
| 0.482 | 139.1 | 8.02 | 8.02 | 19.44 |
| 0.542 | 142.9 | 9.02 | 9.03 | 19.77 |
| 0.603 | 144.8 | 10.03 | 10.03 | 19.82 |
| 0.693 | 149.0 | 11.53 | 11.54 | 20.05 |
| 0.783 | 154.9 | 13.03 | 13.04 | 20.51 |
| 0.904 | 161.5 | 15.03 | 15.05 | 20.91 |
| 0.994 | 164.1 | 16.55 | 16.55 | 20.87 |
| 1.085 | 166.7 | 18.05 | 18.06 | 20.83 |
| 1.175 | 168.7 | 19.55 | 19.56 | 20.69 |
| | | | .1 . | |

Date 8/14/09 Input Checked By



ASTM D2850-95 (SOP S-29)

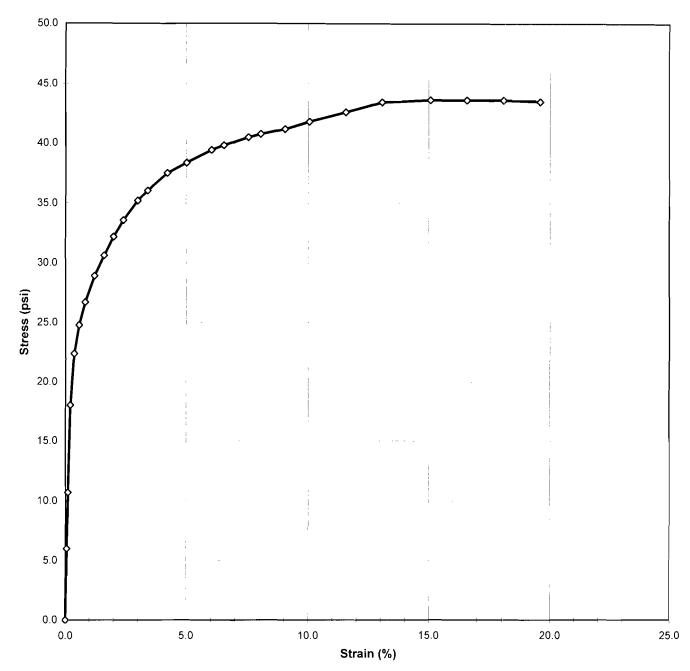
Client Client Reference Project No. Lab ID P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No. FAC POND 3
Depth (ft.) NA

Sample No. EAST

Visual BROWN SILT

CONFINING STRESS (psi)

20.8



page 1 of 2

Tested By

DCN: CT-S29 DATE: 3-20-06 REVISION: 1

JW

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Date 8/14/09 Approved By

ASTM D2850-95 (SOP S-29)



Client Reference

P.J. CAREY & ASSOCIATES

 Client Reference
 CMW / RMU-2

 Project No.
 2009-296-01

 Lab ID
 2009-296-01-02

Boring No. FAC POND 3

Depth (ft.) NA Sample No. EAST

Visual BROWN SILT

| INITIAL SA | MPLE DIMEN | SIONS | |
|-----------------|------------|--------------------------|-------|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 |
| Avg.Length (in) | 6.011 | Area (in ² .) | 6.456 |

| WATER CONTENT (AFTER TEST) | | | | | |
|-----------------------------|---------|--|--|--|--|
| Total Wt. of Sample 1252.31 | | | | | |
| Tare No. | 654 | | | | |
| Wt. Tare + WS.(gms) | 1346.46 | | | | |
| Wt. Tare + DS.(gms) | 1173.40 | | | | |
| Wt. of Tare(gms) 95.16 | | | | | |
| % Moisture | 16.1 | | | | |

Date

| | UNIT | WEIGHT | |
|----------------------|-------------------|---------------------------|--------|
| I | Remolded Specimen | | |
| Wt. Tube & WS (gms.) | 3240.5 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 1.96 |
| Wt. Of WS.(gms.) | 1245.7 | Unit Wet Wt.(pcf.) | 122.24 |
| Diameter (in.) | 2.87 | Moisture Content, % | 16.1 |
| Length (in.) | 6.00 | Unit Dry Wt.(pcf.) | 105.3 |
| Length (cm.) | 15.27 | , , , | |
| <u> </u> | | Initial Dial Reading mils | 25 |

| CONFINING STRESS (psi) | 20.8 | Initial Dial Reading , Dial Reading Before | | 25 40 |
|------------------------|-------|---|--------------|----------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| (in) | (lbs) | (min.) | (%) | (psi) |
| 0.000 | 23.7 | 0.0 | 0.00 | 0.00 |
| 0.003 | 62.2 | 0.05 | 0.05 | 5.96 |
| 0.006 | 92.8 | 0.10 | 0.10 | 10.70 |
| 0.012 | 140.3 | 0.22 | 0.21 | 18.03 |
| 0.021 | 168.7 | 0.37 | 0.36 | 22.38 |
| 0.034 | 184.4 | 0.57 | 0.56 | 24.75 |
| 0.050 | 197.3 | 0.83 | 0.83 | 26.67 |
| 0.073 | 212.4 | 1.22 | 1.21 | 28.88 |
| 0.097 | 224.5 | 1.62 | 1.61 | 30.60 |
| 0.120 | 235.8 | 2.02 | 2.01 | 32.20 |
| 0.145 | 245.9 | 2.42 | 2.42 | 33.58 |
| 0.181 | 258.1 | 3.02 | 3.02 | 35.22 |
| 0.205 | 264.6 | 3.42 | 3.42 | 36.04 |
| 0.253 | 276.5 | 4.22 | 4.22 | 37.51 |
| 0.301 | 284.6 | 5.02 | 5.02 | 38.39 |
| 0.362 | 294.7 | 6.03 | 6.04 | 39.45 |
| 0.392 | 298.8 | 6.53 | 6.54 | 39.83 |
| 0.452 | 306.5 | 7.53 | 7.54 | 40.51 |
| 0.482 | 310.0 | 8.03 | 8.05 | 40.78 |
| 0.543 | 316.1 | 9.03 | 9.05 | 41.20 |
| 0.603 | 323.9 | 10.03 | 10.06 | 41.82 |
| 0.693 | 334.7 | 11.53 | 11.57 | 42.61 |
| 0.783 | 346.2 | 13.03 | 13.07 | 43.44 |
| 0.904 | 355.4 | 15.03 | 15.08 | 43.63 |
| 0.994 | 361.3 | 16.55 | 16.58 | 43.63 |
| 1.085 | 367.4 | 18.05 | 18.09 | 43.62 |
| 1.175 | 372.8 | 19.55 | 19.60 | 43.49 |
| | | | u 1 • | - 0 |

Date 8/14/09 Input Checked By

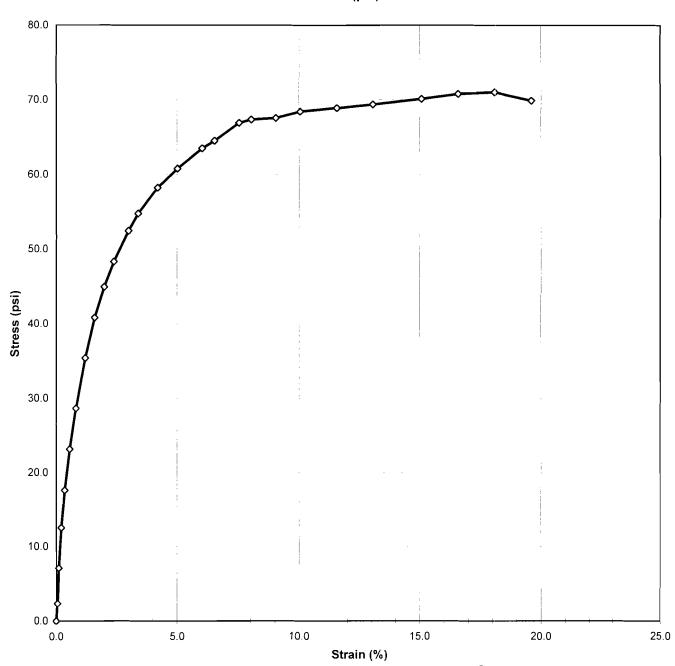


ASTM D2850-95 (SOP S-29)

Client Client Reference Project No. Lab ID P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No. FAC POND 3
Depth (ft.) NA
Sample No. EAST
Visual BROWN SILT

CONFINING STRESS (psi)

34.7



page 1 of 2

Tested By

DCN, CT-S29 DATE, 3-20-06 REVISION, 1

JW

Bate 27 17 = 1

Date 8/14/09 Approved By

ASTM D2850-95 (SOP S-29)



Client

P.J. CAREY & ASSOCIATES

Client Reference Project No. Lab ID CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No.

FAC POND 3

Depth (ft.) NA Sample No. EAST

Visual

BROWN SILT

| INITIAL SAMPLE DIMENSIONS | | | | |
|---------------------------|-------|--------------------------|-------|--|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 | |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 | |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 | |
| Avg.Length (in) | 6.011 | Area (in ² .) | 6.456 | |

| WATER CONTENT (AFTER TEST) | | | | | | |
|----------------------------|---------|--|--|--|--|--|
| Total Wt. of Sample | 1248.94 | | | | | |
| Tare No. | 680 | | | | | |
| Wt. Tare + WS.(gms) | 1343.55 | | | | | |
| Wt. Tare + DS.(gms) | 1171.10 | | | | | |
| Wt. of Tare(gms) | 95.03 | | | | | |
| % Moisture | 16.0 | | | | | |

| | UNIT | WEIGHT | - |
|----------------------|-----------------|-----------------------------|--------|
| Rer | nolded Specimen | | |
| Wt. Tube & WS.(gms.) | 3237.5 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 1.95 |
| Wt. Of WS.(gms.) | 1242.7 | Unit Wet Wt.(pcf.) | 121.94 |
| Diameter (in.) | 2.87 | Moisture Content, % | 16.0 |
| Length (in.) | 5.99 | Unit Dry Wt.(pcf.) | 105.1 |
| Length (cm.) | 15.27 | | |
| | | Initial Dial Reading , mils | 30 |

| CONFINING STRESS (psi) | 34.7 | Initial Dial Reading , Dial Reading Before | 30 49 | |
|------------------------|-------|---|----------|--------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| (in) | (lbs) | (min.) | (%) | (psi) |
| 0.000 | 4.6 | 0.0 | 0.00 | 0.00 |
| 0.003 | 19.8 | 0.05 | 0.05 | 2.37 |
| 0.006 | 50.4 | 0.10 | 0.10 | 7.10 |
| 0.012 | 85.9 | 0.20 | 0.20 | 12.57 |
| 0.021 | 119.0 | 0.35 | 0.35 | 17.66 |
| 0.034 | 154.9 | 0.57 | 0.56 | 23.15 |
| 0.049 | 191.0 | 0.82 | 0.82 | 28.64 |
| 0.072 | 235.9 | 1.20 | 1.20 | 35.41 |
| 0.096 | 272.3 | 1.60 | 1.60 | 40.81 |
| 0.120 | 300.8 | 2.00 | 2.00 | 44.97 |
| 0.144 | 324.3 | 2.40 | 2.40 | 48.33 |
| 0.181 | 353.7 | 3.00 | 3.01 | 52.45 |
| 0.205 | 370.5 | 3.40 | 3.41 | 54.75 |
| 0.252 | 397.0 | 4.20 | 4.21 | 58.22 |
| 0.301 | 417.6 | 5.02 | 5.03 | 60.76 |
| 0.362 | 440.7 | 6.02 | 6.03 | 63.48 |
| 0.392 | 449.9 | 6.52 | 6.54 | 64.47 |
| 0.452 | 471.5 | 7.52 | 7.54 | 66.88 |
| 0.482 | 477.3 | 8.02 | 8.04 | 67.34 |
| 0.542 | 484.0 | 9.02 | 9.05 | 67.54 |
| 0.603 | 495.4 | 10.02 | 10.06 | 68.38 |
| 0.693 | 507.3 | 11.53 | 11.57 | 68.86 |
| 0.783 | 519.8 | 13.03 | 13.07 | 69.38 |
| 0.904 | 537.8 | 15.03 | 15.09 | 70.14 |
| 0.994 | 552.6 | 16.55 | 16.60 | 70.80 |
| 1.085 | 564.2 | 18.05 | 18.10 | 71.00 |
| 1.175 | 565.9 | 19.55 | 19.61 | 69.90 |

Date 8/14/09 Input Checked By



ASTM D2850-95 (SOP S-29)

Client

Client Reference Project No. Lab ID

P.J. CAREY & ASSOCIATES

CMW / RMU-2 2009-296-01 2009-296-01-02 Boring No.

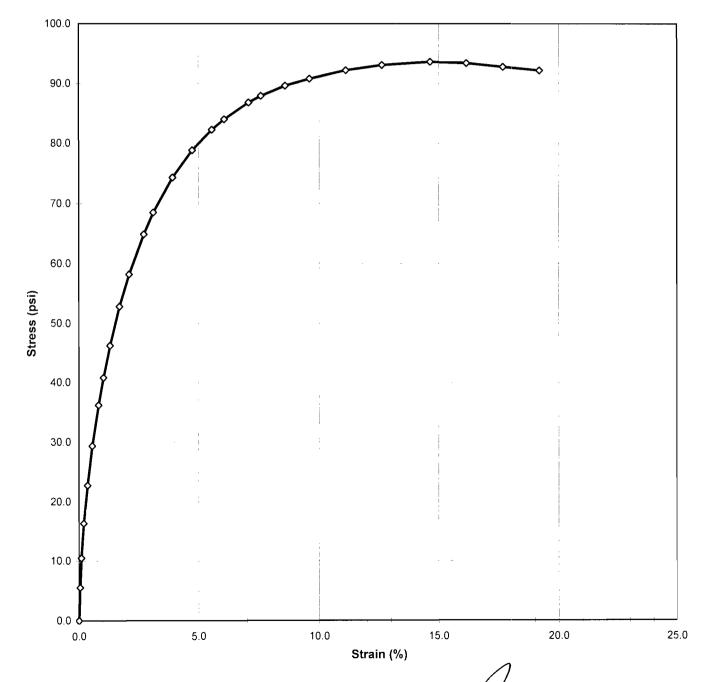
48.6

FAC POND 3

Depth (ft.) NA Sample No. **EAST**

Visual **BROWN SILT**

CONFINING STRESS (psi)



page 1 of 2

Tested By

DCN. CT-S29 DATE. 3-20-06 REVISION: 1

JW

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Date 8/14/09 Approved By

ASTM D2850-95 (SOP S-29)



Client

Lab ID

P.J. CAREY & ASSOCIATES

Client Reference Project No.

CMW / RMU-2 2009-296-01

2009-296-01-02

Boring No. FAC POND 3

Depth (ft.) NA Sample No. EAST

Visual **BROWN SILT**

| INITIAL SAMPLE DIMENSIONS | | | | |
|---------------------------|-------|----------------|-------|--|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 | |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 | |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 | |
| Avg.Length (in) | 6.011 | Area (in².) | 6.456 | |

Tested By

JW

| WATER CONTENT (AFTER TEST) | | | | | |
|----------------------------|---------|--|--|--|--|
| Total Wt. of Sample | 1244.79 | | | | |
| Tare No. | 2353 | | | | |
| Wt. Tare + WS.(gms) | 1340.55 | | | | |
| Wt. Tare + DS.(gms) | 1168.60 | | | | |
| Wt. of Tare(gms) | 97.29 | | | | |
| % Moisture | 16.1 | | | | |

| 635.9 |
|--------|
| 1.95 |
| 121.70 |
| 16.1 |
| 104.9 |
| |
| |

| | | Initial Dial Reading , | mils | 60 108 |
|------------------------|-------|------------------------|-------------------------------|-----------|
| CONFINING STRESS (psi) | 48.6 | Dial Reading Before | Reading Before Shearing, mils | |
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| (in) | (Ibs) | (min.) | (%) | (psi) |
| 0.000 | 9.1 | 0.0 | 0.00 | 0.00 |
| 0.003 | 44.9 | 0.05 | 0.05 | 5.55 |
| 0.006 | 76.8 | 0.10 | 0.10 | 10.48 |
| 0.012 | 114.8 | 0.20 | 0.20 | 16.33 |
| 0.022 | 156.6 | 0.35 | 0.36 | 22.77 |
| 0.034 | 199.7 | 0.57 | 0.56 | 29.36 |
| 0.049 | 244.8 | 0.82 | 0.83 | 36.21 |
| 0.062 | 275.4 | 1.03 | 1.04 | 40.82 |
| 0.078 | 311.6 | 1.30 | 1.31 | 46.24 |
| 0.102 | 356.0 | 1.70 | 1.71 | 52.81 |
| 0.126 | 393.0 | 2.10 | 2.11 | 58.22 |
| 0.163 | 439.6 | 2.70 | 2.73 | 64.87 |
| 0.187 | 465.7 | 3.10 | 3.13 | 68.52 |
| 0.234 | 508.5 | 3.90 | 3.93 | 74.32 |
| 0.283 | 543.5 | 4.70 | 4.75 | 78.84 |
| 0.331 | 571.5 | 5.52 | 5.56 | 82.27 |
| 0.362 | 586.5 | 6.02 | 6.06 | 84.02 |
| 0.422 | 612.3 | 7.02 | 7.07 | 86.83 |
| 0.452 | 623.4 | 7.52 | 7.58 | 87.95 |
| 0.512 | 642.1 | 8.52 | 8.59 | 89.63 |
| 0.573 | 657.7 | 9.52 | 9.60 | 90.81 |
| 0.663 | 679.0 | 11.03 | 11.12 | 92.23 |
| 0.753 | 697.1 | 12.53 | 12.64 | 93.10 |
| 0.874 | 717.4 | 14.53 | 14.65 | 93.63 |
| 0.964 | 728.5 | 16.03 | 16.17 | 93.41 |
| 1.055 | 736.9 | 17.55 | 17.69 | 92.80 |
| 1.145 | 745.8 | 19.05 | 19.20 | 92.21 |
| | | | 1. | |

Date 8/14/09 Input Checked By

NYSDEC OHMS Document No. 201469232-00007

SIEVE AND HYDROMETER ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client

P.J. CAREY & ASSOCIATES

Client Reference Project No.

CMW / RMU-2 2009-296-01

Lab ID

2009-296-01-03

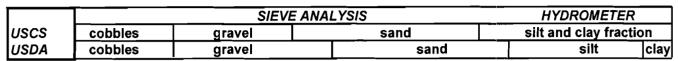
Boring No.

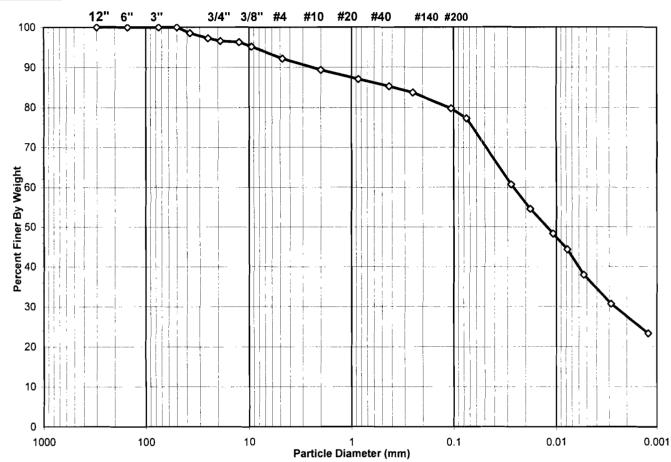
NA Depth (ft) NA

Sample No. SULLY'S SAMPLE

INTEGRITY IN TESTING

Soil Color **BROWN**





| | USCS Summary | | |
|------------------|---------------|-------------------|--|
| Sieve Sizes (mm) | | <u>Percentage</u> | |
| Greater Than #4 | Gravel | 7.81 | |
| #4 To #200 | Sand | 14.94 | |
| Finer Than #200 | Silt & Clay | 77.25 | |
| | - | | |
| USCS Symbol | CL, TESTED | | |

page 1 of 4

USCS Classification

DCN: CT-S3B DATE:2/20/08 REVISION: 8

LEAN CLAY WITH SAND

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USDA CLASSIFICATION CHART

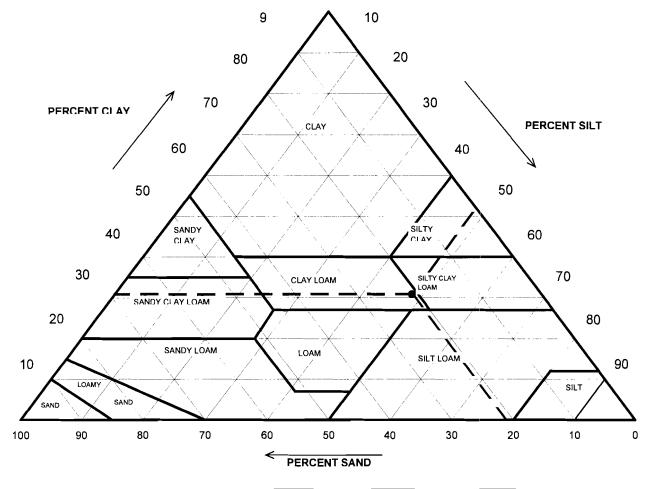
Client Client Reference Project No.

Lab ID

P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft) NA

Sample No. SULLY'S SAMPLE

Soil Color BROWN



| Particle Size (mm) | Percent Finer | USDA SUMMAR | Y Actual Percentage | Corrected % of Minus 2.0 mm material for USDA Classificat. |
|-----------------------|------------------|----------------------|------------------------|--|
| | | Gravel | 10.67 | 0.00 |
| 2 | 89.33 | Sand | 18.77 | 21.01 |
| 0.05 | 70.56 | Silt | 42.97 | 48.11 |
| 0.002 | 27.59 | Clay | 27.59 | 30.89 |
| | | USDA Classification: | CLAYLOAM | |
| | | | | |

page 2 of 4

DCN: CT-S3B DATE:2/20/08 REVISION: 8

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WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client

P.J. CAREY & ASSOCIATES

Client Reference

CMW / RMU-2

Project No. Lab ID

2009-296-01

2009-296-01-03

Boring No. NA

Depth (ft)

NA Sample No. SULLY'S SAMPLE

Soil Color

BROWN

| Moisture Content of Passing 3/4" N | laterial | Water Content of Retained 3/4" Material | | | |
|-------------------------------------|----------|---|---------|--|--|
| Tare No. | 1092 | Tare No. | 885 | | |
| Wgt.Tare + Wet Specimen (gm) | 1333.70 | Wgt.Tare + Wet Specimen (gm) | 816.50 | | |
| Wgt.Tare + Dry Specimen (gm) | 1191.30 | Wgt.Tare + Dry Specimen (gm) | 801.50 | | |
| Weight of Tare (gm) | 101.64 | Weight of Tare (gm) | 110.04 | | |
| Weight of Water (gm) | 142.40 | Weight of Water (gm) | 15.00 | | |
| Weight of Dry Soil (gm) | 1089.66 | Weight of Dry Soil (gm) | 691.46 | | |
| Moisture Content (%) | 13.1 | Moisture Content (%) | 2.2 | | |
| Wet Weight -3/4" Sample (gm) | 22151 | Weight of the Dry Specimen (gm) | 1089.66 | | |
| Dry Weight - 3/4" Sample (gm) | 19590.8 | Weight of minus #200 material (gm) | 871.50 | | |
| Wet Weight +3/4" Sample (gm) 706.66 | | Weight of plus #200 material (gm) | 218.16 | | |
| Dry Weight + 3/4" Sample (gm) | 691.66 | | | | |
| Total Dry Weight Sample (gm) | 20282.5 | J - Factor (Percent Finer than 3/4") | 0.9659 | | |

| Sieve | Sieve | Wgt.of Soil | | Percent | Accumulated | Percent | Accumulated |
|--------|---------|-------------|------|----------|-------------|---------|-------------|
| Size | Opening | Retained | | Retained | Percent | Finer | Percent |
| | (mm) | | | | Retained | | Finer |
| | | (gm) | | (%) | (%) | (%) | (%) |
| 12" | 300 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 6" | 150 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 3" | 75 | 0.00 | | 0.00 | 0.00 | 100.00 | 100.00 |
| 2" | 50 | 0.00 (| *) | 0.00 | 0.00 | 100.00 | 100.00 |
| 1 1/2" | 37.5 | 308.45 | • | 1.49 | 1.49 | 98.51 | 98.51 |
| 1" | 25.0 | 258.83 | | 1.25 | 2.74 | 97.26 | 97.26 |
| 3/4" | 19.0 | 139.38 | | 0.67 | 3.41 | 96.59 | 96.59 |
| 1/2" | 12.5 | 3.25 | | 0.30 | 0.30 | 99.70 | 96.30 |
| 3/8" | 9.50 | 12.88 | | 1.18 | 1.48 | 98.52 | 95.16 |
| #4 | 4.75 | 33.49 | | 3.07 | 4.55 | 95.45 | 92.19 |
| #10 | 2.00 | 32.30 | | 2.96 | 7.52 | 92.48 | 89.33 |
| #20 | 0.85 | 25.76 (| **) | 2.36 | 9.88 | 90.12 | 87.04 |
| #40 | 0.425 | 20.73 | | 1.90 | 11.78 | 88.22 | 85.21 |
| #60 | 0.250 | 17.26 | | 1.58 | 13.37 | 86.63 | 83.68 |
| #140 | 0.106 | 43.73 | | 4.01 | 17.38 | 82.62 | 79.80 |
| #200 | 0.075 | 28.76 | | 2.64 | 20.02 | 79.98 | 77.25 |
| Pan | - | 871.50 | | 79.98 | 100.00 | | - |

Notes:

(*) The + 3/4" sieve analysis is based on the Total Dry Weight of the Sample

(**) The - 3/4" sieve analysis is based on the Weight of the Dry Specimen

JΡ Tested By Date 7/16/09 Checked By page 3 of 4 DCN: CT-S3B DATE:2/20/08 REVISION: 8 C:\MSOFFICE\Excel\PrintQ\[T199.xls]Sheet1

HYDROMETER ANALYSIS





Client

P.J. CAREY & ASSOCIATES

Client Reference

CMW / RMU-2

Project No. Lab ID

2009-296-01 2009-296-01-03 Boring No.

NA NA

Depth (ft)

Sample No. SULLY'S SAMPLE

Soil Color

BROWN

| Elapsed | R | Temp. | Composite | R | N | <u>к</u> | Diameter | N' |
|---------|----------|-------|------------|-----------|------|----------|----------|------|
| Time | Measured | (°C) | Correction | Corrected | (%) | Factor | (mm) | (%) |
| (min) | | | | | | | | |
| 0 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2 | 44.5 | 22.9 | 5.57 | 38.9 | 78.6 | 0.01299 | 0.0276 | 60.7 |
| 5 | 40.5 | 22.9 | 5.57 | 34.9 | 70.5 | 0.01299 | 0.0181 | 54.5 |
| 15 | 36.5 | 22.9 | 5.57 | 30.9 | 62.5 | 0.01299 | 0.0108 | 48.3 |
| 30 | 34.0 | 22.9 | 5.57 | 28.4 | 57.4 | 0.01299 | 0.0078 | 44.4 |
| 67 | 30.0 | 22.7 | 5.66 | 24.3 | 49.2 | 0.01302 | 0.0054 | 38.0 |
| 250 | 25.5 | 22.4 | 5.79 | 19.7 | 39.8 | 0.01307 | 0.0029 | 30.7 |
| 1440 | 20.0 | 24 | 5.06 | 14.9 | 30.2 | 0.01282 | 0.0012 | 23.3 |

| Soil Specimen Data | | Other Corrections | |
|-----------------------------|--------|--------------------------|-------------|
| Tare No. | 693 | | |
| Tare + Dry Material (gm) | 147.68 | a - Factor | 0.99 |
| Weight of Tare (gm) | 93.65 | | |
| Weight of Deflocculant (gm) | 5.0 | Percent Finer than # 200 | 77.25 |
| Weight of Dry Material (gm) | 49.03 | | |
| • | | Specific Gravity | 2.7 Assumed |

Hydrometer test is performed on - # 200 sieve material. Note:

> TO Tested By

Date

7/20/09 Checked By

page 4 of 4

DCN: CT-S3B DATE:2/20/08 REVISION: 8

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ATTERBERG LIMITS

ASTM D 4318-05 / AASHTO T89 (SOP - S4A)

Client

P.J. CAREY & ASSOCIATES

Boring No.

NA

Client Reference

CMW / RMU-2

Depth (ft)

NA SULLY'S SAMPLE

Project No.

2009-296-01

Sample No.

BROWN LEAN CLAY

Lab ID

2009-296-01-03

Soil Description

NO VICE LEAN OLA

Note: The USCS symbol used with this test refers only to the minus No. 40

(Minus No. 40 sieve material, Airdried)

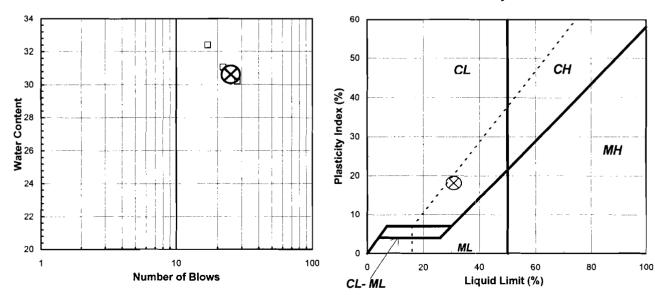
sieve material. See the "Sieve and Hydrometer Analysis" graph page for the complete material description.

| Liquid Limit Test | 1 | 2 | 3 | |
|-----------------------|-------|-------|-------|-------------|
| | | | | M |
| Tare Number | 259 | 355 | 2319 | U |
| Wt. of Tare & WS (gm) | 39.82 | 40.92 | 43.64 | L |
| Wt. of Tare & DS (gm) | 34.61 | 35.53 | 37.39 | Т |
| Wt. of Tare (gm) | 17.35 | 18.17 | 18.08 | I |
| Wt. of Water (gm) | 5.2 | 5.4 | 6.3 | Р |
| Wt. of DS (gm) | 17.3 | 17.4 | 19.3 | 0 |
| - ' | | | | 1 |
| Moisture Content (%) | 30.2 | 31.0 | 32.4 | N |
| Number of Blows | 28 | 22 | 17 | Т |

| Plastic Limit Test | 1 | 2 | Range | Test Results | |
|-------------------------------|------------------|------------|-------------|----------------------|----|
| Tare Number | 33 | 337 | | Liquid Limit (%) | 31 |
| Wt. of Tare & WS (gm) | 26.07 | 26.82 | | | |
| Wt. of Tare & DS (gm) | 25.36 | 26.08 | | Plastic Limit (%) | 13 |
| Wt. of Tare (gm) | 19.85 | 20.45 | | | |
| Wt. of Water (gm) | 0.7 | 0.7 | | Plasticity Index (%) | 18 |
| Wt. of DS (gm) | 5.5 | 5.6 | | | |
| , | | | | USCS Symbol | CL |
| Moisture Content (%) | 12.9 | 13.1 | -0.3 | | |
| Note: The acceptable range of | of the two Moist | ure conten | ts is ± 2.6 | | |

Flow Curve

Plasticity Chart



 Tested By
 JP
 Date
 7/22/09
 Checked By
 AB
 Date
 7-33-09

 page 1 of 1
 DCN:
 CT-S4B
 DATE:
 12/20/06
 REVISION:
 3



SPECIFIC GRAVITY

ASTM D 854-06, AASHTO T100-06 (SOP - S5)

Client Reference Project No.

Lab ID

P.J. Carey & Associates CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No.
Depth (ft)
Sample No.

NA NA

Visual Description

SULLY'S SAMPLE BROWN CLAY

(Mlnus No.4 sieve material, airdried)

| Replicate Number | 1 | 2 |
|--|--------|--------|
| Pycnometer ID | G 1156 | G 1253 |
| Weight of Pycnometer + Soil + Water (gm) | 742.04 | 731.55 |
| Temperature, T (°Celsius) | 26.1 | 26.3 |
| Weight of Pycnometer + Water (gm) | 680.96 | 670.53 |
| Tare Number | 1321 | 700 |
| Weight of Tare + Dry Soil (gm) | 197.03 | 192.6 |
| Weight of Tare (gm) | 100.26 | 94.84 |
| Weight of Dry Soil (gm) | 96.77 | 97.76 |
| Specific Gravity of Soil @ T | 2.711 | 2.661 |
| Specific Gravity of Water @ T | 0.9968 | 0.9967 |
| Conversion Factor for Temperature T | 0.9986 | 0.9985 |
| Specific Gravity @ 20° Celsius | 2.715 | 2.665 |

| Average Specific Gravity @ 20° Celsius | 2.69 |
|--|------|
| 5 1 | |

Tested By

TO Date

7/20/09

Checked By

KB

Date 7-21-00



MOISTURE DENSITY RELATIONSHIP

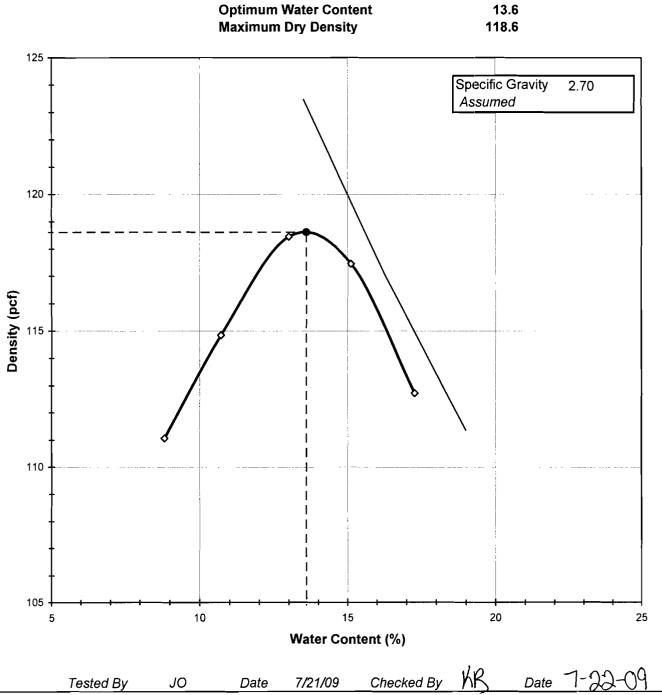
ASTM D698-07 SOP-S12

Client Client Reference Project No. Lab ID P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. Depth (ft) Sample No. Test Method

NA NA SULLY'S SAMPLE **STANDARD**

Visual Description

BROWN CLAY WITH ROCK FRAGMENTS



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MOISTURE - DENSITY RELATIONSHIP

ASTM D698-07 SOP-S12

Client

P.J. CAREY & ASSOCIATES

Client Reference Project No.

2009-296-01

Lab ID

page 2 of 2

2009-296-01-03

CMW / RMU-2

Boring No. Depth (ft) Sample No. NA NA

SULLY'S SAMPLE

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Visual Description

BROWN CLAY WITH ROCK FRAGMENTS

| Total Weight of the Sample (gm) | NA |
|---------------------------------|--------------|
| As Received Water Content(%) | NA |
| Assumed Specific Gravity | 2.70 |
| Percent Retained on 3/4" | NA |
| Percent Retained on 3/8" | NA |
| Percent Retained on #4 | NA |
| Oversize Material | Not included |
| Procedure Used | С |

| TestType | ; | STANDARD |
|-----------------------|----|-----------|
| Rammer Weight (lbs) | | 5.5 |
| Rammer Drop (in) | | 12 |
| Rammer Type | ME | ECHANICAL |
| Machine ID | G | 774 |
| Mold ID | G | 1188 |
| Mold diameter | | 6" |
| Weight of the Mold | | 6434 |
| Volume of the Mold(co | ;) | 2126 |

Mold / Specimen

| Point No. | 1 | 2 | 3 | 4 | 5 |
|-----------------------|-------|-------|-------|-------|-------|
| Wt. of Mold & WS (gm) | 10552 | 10766 | 10995 | 11041 | 10938 |
| Wt.of Mold (gm) | 6434 | 6434 | 6434 | 6434 | 6434 |
| Wt. of WS | 4118 | 4332 | 4561 | 4607 | 4504 |
| Mold Volume (cc) | 2126 | 2126 | 2126 | 2126 | 2126 |

Moisture Content / Density

| Tare Number | 568 | 1720 | 1126 | 898 | 1719 |
|-----------------------|--------|--------|--------|--------|--------|
| Wt. of Tare & WS (gm) | 504.90 | 508.00 | 508.10 | 507.50 | 509.80 |
| Wt. of Tare & DS (gm) | 470.80 | 466.70 | 459.30 | 455.30 | 447.10 |
| Wt. of Tare (gm) | 84.41 | 81.15 | 84.15 | 109.96 | 84.16 |
| Wt. of Water (gm) | 34.10 | 41.30 | 48.80 | 52.20 | 62.70 |
| Wt. of DS (gm) | 386.39 | 385.55 | 375.15 | 345.34 | 362.94 |

| Wet Density (gm/cc) | 1.94 | 2.04 | 2.15 | 2.17 | 2.12 |
|----------------------|-------|-------|-------|-------|-------|
| Wet Density (pcf) | 120.9 | 127.1 | 133.9 | 135.2 | 132.2 |
| Moisture Content (%) | 8.8 | 10.7 | 13.0 | 15.1 | 17.3 |
| Dry Density (pcf) | 111.1 | 114.8 | 118.5 | 117.5 | 112.7 |

Zero Air Voids

| Moisture Content (%) | 13.5 | 16.2 | 19.0 | |
|-----------------------|-------|---------------|-------|--|
| Dry Unit Weight (pcf) | 123.5 | 117. <u>1</u> | 111.4 | |

DCN:CT-S12 DATE:10/27/08 REVISION 9

7/21/09 Checked By Tested By JO Date



ASTM D2850-95 (SOP S-29)

Client Client Reference Project No.

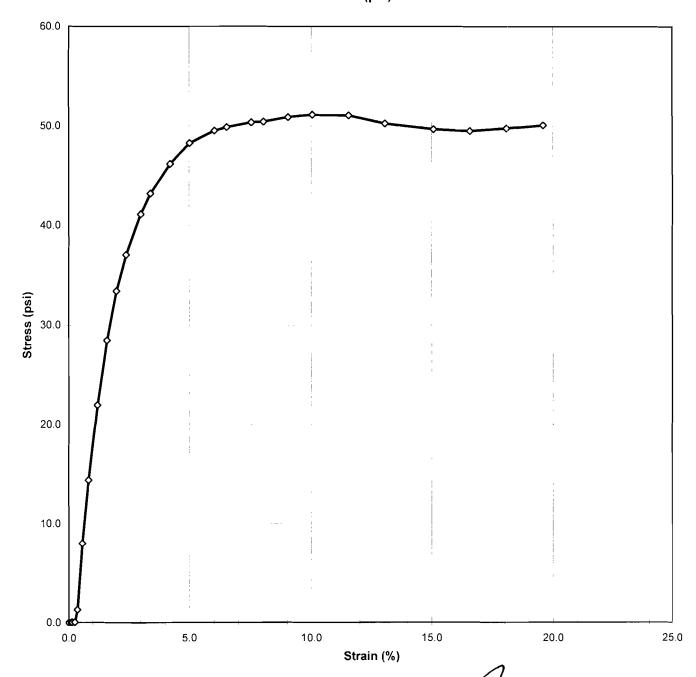
Lab ID

P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

CONFINING STRESS (psi)

6.9



page 1 of 2

Tested By

DCN, CT-S29 DATE: 3-20-06 REVISION 1

JW

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Date 8/12/09 Approved By

ASTM D2850-95 (SOP S-29)



13.7

Client

P.J. CAREY & ASSOCIATES

Client Reference Project No. Lab ID

CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft.) NA

% Moisture

Sample No. SULLY'S SAMPLE **BROWN SANDY CLAY** Visual

INITIAL SAMPLE DIMENSIONS Top Dia. (in) 2.867

WATER CONTENT (AFTER TEST) Total Wt. of Sample 1293.40 Tare No. 1913 Wt. Tare + WS.(gms) 1393.40 Wt. Tare + DS.(gms) 1237.20 Wt. of Tare(gms) 100.37

Length 1 (in) 6.011 Length 2 (in) Mid. Dia. (in) 6.011 2.867 Length 3 (in) 6.011 Bot. Dia. (in) 2.867 Area (in².) Avg.Length (in) 6.456 6.011

Tested By

| | UNIT WE | IGHT | |
|----------------------|----------------|---------------------------|--------|
| Remo | olded Specimen | | |
| Wt. Tube & WS.(gms.) | 3292.2 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 2.04 |
| Wt. Of WS.(gms.) | 1297.4 | Unit Wet Wt.(pcf.) | 127.31 |
| Diameter (in.) | 2.87 | Moisture Content, % | 13.7 |
| Length (in.) | 6.00 | Unit Dry Wt.(pcf.) | 111.9 |
| Length (cm.) | 15.27 | - · · · / | |
| | | Initial Dial Reading mile | 20 |

| CONFINING STRESS (psi) | Initial Dial Reading , mils 6.9 Dial Reading Before Shearing, mils | | | 29 41 |
|------------------------|---|--------------|--------|----------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| (in) | (lbs) | (min.) | (%) | (psi) |
| 0.000 | 1.9 | 0.0 | 0.00 | 0.00 |
| 0.006 | 2.0 | 0.12 | 0.10 | 0.02 |
| 0.009 | 2.1 | 0.17 | 0.15 | 0.03 |
| 0.015 | 2.3 | 0.27 | 0.25 | 0.05 |
| 0.022 | 10.4 | 0.37 | 0.36 | 1.31 |
| 0.034 | 53.9 | 0.58 | 0.57 | 8.00 |
| 0.050 | 95.6 | 0.83 | 0.83 | 14.38 |
| 0.072 | 145.5 | 1.22 | 1.21 | 21.97 |
| 0.096 | 188.7 | 1.62 | 1.60 | 28.47 |
| 0.120 | 222.1 | 2.02 | 2.00 | 33.42 |
| 0.144 | 246.9 | 2.42 | 2.40 | 37.03 |
| 0.181 | 275.7 | 3.02 | 3.01 | 41.12 |
| 0.205 | 290.7 | 3.42 | 3.41 | 43.21 |
| 0.253 | 313.2 | 4.22 | 4.22 | 46.18 |
| 0.301 | 330.1 | 5.02 | 5.01 | 48.28 |
| 0.362 | 342.3 | 6.03 | 6.03 | 49.54 |
| 0.392 | 346.6 | 6.53 | 6.53 | 49.90 |
| 0.452 | 353.8 | 7.53 | 7.54 | 50.40 |
| 0.482 | 356.2 | 8.03 | 8.04 | 50.46 |
| 0.543 | 363.3 | 9.03 | 9.05 | 50.92 |
| 0.603 | 369.0 | 10.03 | 10.05 | 51.15 |
| 0.693 | 374.9 | 11.55 | 11.56 | 51.10 |
| 0.784 | 375.3 | 13.05 | 13.07 | 50.28 |
| 0.904 | 379.8 | 15.05 | 15.08 | 49.71 |
| 0.995 | 385.0 | 16.55 | 16.58 | 49.50 |
| 1.085 | 394.2 | 18.07 | 18.09 | 49.78 |
| 1.176 | 404.1 | 19.57 | 19.60 | 50.09 |
| | | | م ار | 0 |

Date 8/12/09 Input Checked By

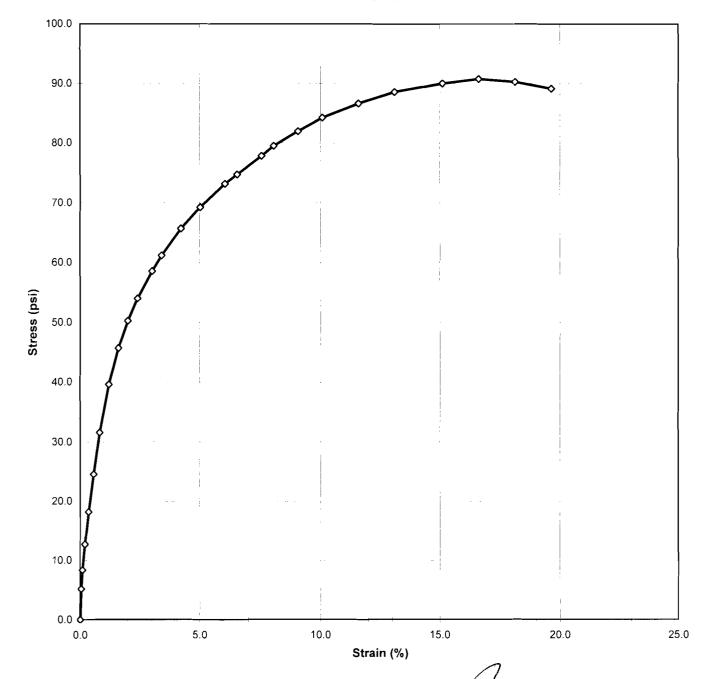


ASTM D2850-95 (SOP S-29)

Client Client Reference Project No. Lab ID P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

CONFINING STRESS (psi) 20.8



page 1 of 2

Tested By

DCN: CT-S29 DATE: 3-20-06 REVISION, 1

JW

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Date 8/12/09 Approved By

ASTM D2850-95 (SOP S-29)



Client Client Reference P.J. CAREY & ASSOCIATES

 Client Reference
 CMW / RMU-2

 Project No.
 2009-296-01

 Lab ID
 2009-296-01-03

Boring No. NA
Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

| INITIAL SAMPLE DIMENSIONS | | | - |
|---------------------------|-------|--------------------------|-------|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 |
| Avg.Length (in) | 6.011 | Area (in ² .) | 6.456 |

| WATER CONTENT (AFTER TEST) | | | | |
|----------------------------|---------|--|--|--|
| Total Wt. of Sample | 1310.75 | | | |
| Tare No. | 704 | | | |
| Wt. Tare + WS.(gms) | 1407.78 | | | |
| Wt. Tare + DS.(gms) | 1248.40 | | | |
| Wt. of Tare(gms) | 97.19 | | | |
| % Moisture | 13.8 | | | |

| | UNIT | WEIGHT | |
|----------------------|------------------|-----------------------------|--------|
| Re | emolded Specimen | | |
| Wt. Tube & WS.(gms.) | 3298.3 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 2.05 |
| Wt. Of WS (gms.) | 1303.5 | Unit Wet Wt.(pcf.) | 127.91 |
| Diameter (in.) | 2.87 | Moisture Content, % | 13.8 |
| Length (in.) | 5.99 | Unit Dry Wt.(pcf.) | 112.4 |
| Length (cm.) | 15.27 | | |
| | | Initial Dial Reading , mils | 12 |

| CONFINING STRESS (psi) | 20.8 Dial Reading Before Shearing, mils | | 38 | |
|------------------------|---|--------------|--------|--------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | STRESS |
| | | | | |
| (in) | (lbs) | (min.) | (%) | (psi) |
| 0.000 | 3.6 | 0.0 | 0.00 | 0.00 |
| 0.003 | 36.9 | 0.05 | 0.05 | 5.15 |
| 0.006 | 57.6 | 0.12 | 0.10 | 8.36 |
| 0.012 | 85.8 | 0.22 | 0.20 | 12.71 |
| 0.021 | 121.7 | 0.37 | 0.36 | 18.23 |
| 0.034 | 163.4 | 0.57 | 0.57 | 24.61 |
| 0.050 | 209.2 | 0.83 | 0.83 | 31.59 |
| 0.073 | 262.5 | 1.22 | 1.22 | 39.62 |
| 0.097 | 303.6 | 1.62 | 1.61 | 45.72 |
| 0.120 | 334.9 | 2.02 | 2.01 | 50.29 |
| 0.144 | 361.1 | 2.42 | 2.41 | 54.04 |
| 0.181 | 393.6 | 3.02 | 3.02 | 58.59 |
| 0.205 | 412.8 | 3.42 | 3.42 | 61.21 |
| 0.253 | 446.6 | 4.22 | 4.23 | 65.72 |
| 0.301 | 474.5 | 5.02 | 5.03 | 69.28 |
| 0.362 | 506.5 | 6.03 | 6.05 | 73.19 |
| 0.392 | 519.9 | 6.53 | 6.55 | 74.74 |
| 0.452 | 547.2 | 7.53 | 7.56 | 77.83 |
| 0.483 | 561.9 | 8.03 | 8.06 | 79.51 |
| 0.543 | 585.6 | 9.03 | 9.07 | 81.98 |
| 0.603 | 608.7 | 10.03 | 10.08 | 84.28 |
| 0.694 | 636.2 | 11.55 | 11.59 | 86.64 |
| 0.784 | 661.4 | 13.05 | 13.10 | 88.55 |
| 0.905 | 687.9 | 15.05 | 15.12 | 89.98 |
| 0.995 | 706.3 | 16.57 | 16.63 | 90.76 |
| 1.085 | 715.5 | 18.07 | 18.14 | 90.27 |
| 1.176 | 719.5 | 19.57 | 19.65 | 89.11 |
| | | | 1 - | - 4 |

Date 8/12/09 Input Checked By



ASTM D2850-95 (SOP S-29)

Client Client Reference Project No.

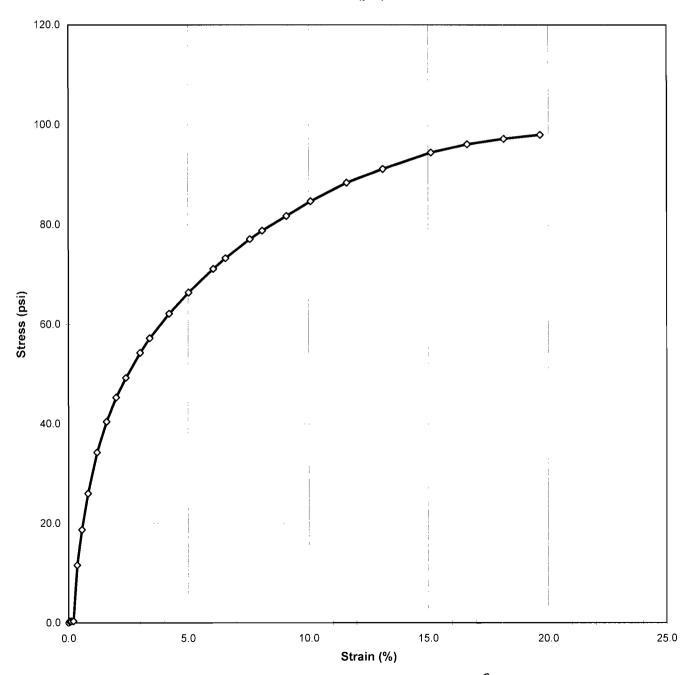
Lab ID

P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

CONFINING STRESS (psi)

34.7



Tested By JW Date 8/12/09 Approved By
page 1 of 2 DCN: CT-S29 DATE: 3-20-06 REVISION: 1

Date 8-/3-09

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ASTM D2850-95 (SOP S-29)



Client Client Reference P.J. CAREY & ASSOCIATES

CMW/RMU-2 Project No. 2009-296-01 Lab ID 2009-296-01-03 Boring No. NA Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual **BROWN SANDY CLAY**

| INITIAL SA | MPLE DIMEN | ISIONS | |
|-----------------|------------|----------------|-------|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 |
| Avg.Length (in) | 6.011 | Area (in².) | 6.456 |

| WATER CONTENT (AFTER TEST) | | | | |
|----------------------------|---------|--|--|--|
| Total Wt. of Sample | 1305.42 | | | |
| Tare No. | 684 | | | |
| Wt. Tare + WS.(gms) | 1402.72 | | | |
| Wt. Tare + DS.(gms) | 1244.00 | | | |
| Wt. of Tare(gms) | 97.73 | | | |
| % Moisture | 13.8 | | | |

| | UNIT W | /EIGHT | |
|----------------------|-------------------|----------------------|--------|
| | Remolded Specimen | | |
| Wt. Tube & WS.(gms.) | 3292.7 | Sample Volume(cc.) | 635.9 |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 2.04 |
| Wt. Of WS.(gms.) | 1297.9 | Unit Wet Wt.(pcf.) | 127.36 |
| Diameter (in.) | 2.87 | Moisture Content, % | 13.8 |
| Length (in.) | 5.98 | Unit Dry Wt.(pcf.) | 111.9 |
| Length (cm.) | 15.27 | | |

| CONFINING STRESS (psi) | 34.7 | Initial Dial Reading Dial Reading Before | | 25 57 |
|------------------------|-------|---|---------------|-----------------|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | |
| DEFORMATION (in) | (lbs) | ELAPSED TIME (min.) | STRAIN (%) | STRESS (psi) |
| 0.000 | 5.8 | 0.0 | 0.00 | 0.00 |
| 0.000 | 8.1 | 0.05 | 0.05 | |
| 0.003 | 7.9 | 0.00 | 0.03 | 0.34 |
| 0.008 | | 0.10 | | 0.33 |
| 0.012 | 8.3 | 0.20 | 0.20 | 0.37 |
| | 81.0 | | 0.36 | 11.60 |
| 0.034 | 127.6 | 0.57 | 0.56 | 18.75 |
| 0.049 | 175.0 | 0.82 | 0.82 | 25.99 |
| 0.072 | 229.3 | 1.22 | 1.21 | 34.20 |
| 0.096 | 271.5 | 1.62 | 1.61 | 40.48 |
| 0.120 | 304.6 | 2.02 | 2.01 | 45.34 |
| 0.144 | 332.1 | 2.42 | 2.41 | 49.31 |
| 0.180 | 367.5 | 3.02 | 3.02 | 54.33 |
| 0.204 | 388.5 | 3.42 | 3.42 | 57.25 |
| 0.252 | 424.8 | 4.22 | 4.22 | 62.15 |
| 0.301 | 457.1 | 5.02 | 5.03 | 66.39 |
| 0.362 | 494.7 | 6.02 | 6.05 | 71.15 |
| 0.392 | 512.3 | 6.52 | 6.55 | 73.31 |
| 0.452 | 544.6 | 7.52 | 7.56 | 77.15 |
| 0.482 | 559.5 | 8.02 | 8.06 | 78.85 |
| 0.542 | 586.6 | 9.03 | 9.07 | 81.80 |
| 0.603 | 614.1 | 10.03 | 10.08 | 84.73 |
| 0.693 | 652.0 | 11.53 | 11.59 | 88.49 |
| 0.784 | 683.8 | 13.03 | 13.10 | 91.25 |
| 0.904 | 725.1 | 15.05 | 15.12 | 94.57 |
| 0.995 | 751.0 | 16.55 | 16.63 | 96.22 |
| 1.085 | 773.6 | 18.05 | 18.15 | 97.34 |
| 1.175 | 794.5 | 19.55 | 19.66 | 98.15 |
| | | | 1 - | 0 |

Date 8/12/09 Input Checked By



ASTM D2850-95 (SOP S-29)

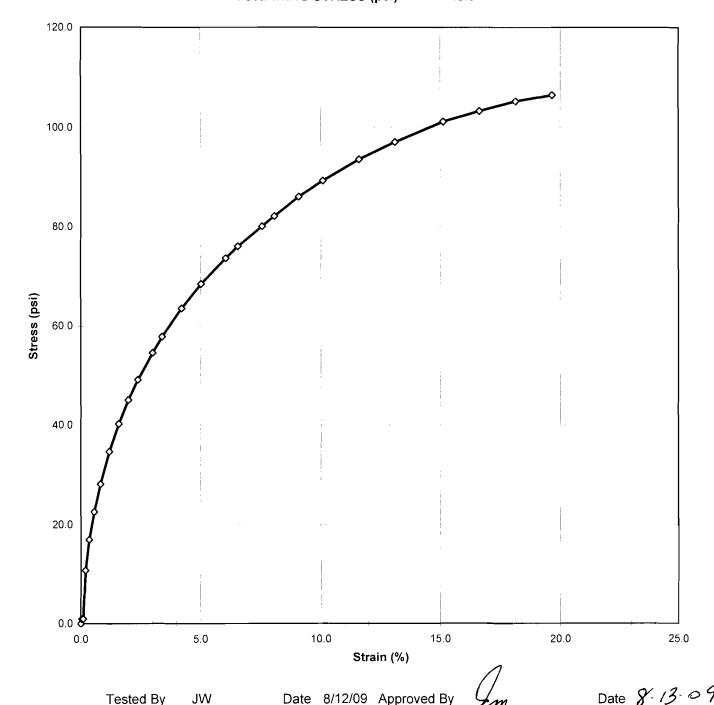
Client Client Reference Project No.

Lab ID

P.J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03 Boring No. NA Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

CONFINING STRESS (psi) 48.6



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DCN: CT-S29 DATE: 3-20-06 REVISION 1

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ASTM D2850-95 (SOP S-29)



Client Reference

P.J. CAREY & ASSOCIATES

 Client Reference
 CMW / RMU-2

 Project No.
 2009-296-01

 Lab ID
 2009-296-01-03

Boring No. NA
Depth (ft.) NA

Sample No. SULLY'S SAMPLE Visual BROWN SANDY CLAY

| INITIAL SA | MPLE DIMEN | SIONS | |
|-----------------|------------|--------------------------|-------|
| Length 1 (in) | 6.011 | Top Dia. (in) | 2.867 |
| Length 2 (in) | 6.011 | Mid. Dia. (in) | 2.867 |
| Length 3 (in) | 6.011 | Bot. Dia. (in) | 2.867 |
| Avg.Length (in) | 6.011 | Area (in ² .) | 6.456 |

| WATER CONTENT (AFTER TEST) | | | | |
|----------------------------|---------|--|--|--|
| Total Wt. of Sample | 1305.58 | | | |
| Tare No. | 697 | | | |
| Wt. Tare + WS.(gms) | 1405.41 | | | |
| Wt. Tare + DS.(gms) | 1246.50 | | | |
| Wt. of Tare(gms) | 99.97 | | | |
| % Moisture | 13.9 | | | |

| UNIT WEIGHT | | | | | | |
|----------------------|-------------------|----------------------------|--------|--|--|--|
| F | Remolded Specimen | | | | | |
| Wt. Tube & WS.(gms.) | 3300.9 | Sample Volume(cc.) | 635.9 | | | |
| Wt. Of Tube(gms.) | 1994.80 | Unit Wet Wt.(gms/cc) | 2.05 | | | |
| Wt. Of WS.(gms.) | 1306.1 | Unit Wet Wt.(pcf.) | 128.16 | | | |
| Diameter (in.) | 2.87 | Moisture Content, % | 13.9 | | | |
| Length (in.) | 5.98 | Unit Dry Wt.(pcf.) | 112.6 | | | |
| Length (cm.) | 15.27 | • " | | | | |
| | | Initial Dial Reading, mils | 18 | | | |

| CONFINING STRESS (psi) | 48.6 | • | Dial Reading , mils Dial Reading Before Shearing, mils | | |
|------------------------|-------|--------------|---|--------------|--|
| DEFORMATION | LOAD | ELAPSED TIME | STRAIN | 54 STRESS | |
| (in) | (Ibs) | (min.) | (%) | (psi) | |
| 0.000 | 8.3 | 0.0 | 0.00 | 0.00 | |
| 0.003 | 14.1 | 0.05 | 0.05 | 0.90 | |
| 0.006 | 14.5 | 0.10 | 0.10 | 0.96 | |
| 0.012 | 78.1 | 0.20 | 0.20 | 10.80 | |
| 0.021 | 118.3 | 0.35 | 0.36 | 16.99 | |
| 0.034 | 155.1 | 0.57 | 0.57 | 22.62 | |
| 0.050 | 191.8 | 0.82 | 0.83 | 28.20 | |
| 0.072 | 235.1 | 1.20 | 1.21 | 34.71 | |
| 0.096 | 272.6 | 1.60 | 1.61 | 40.28 | |
| 0.120 | 305.1 | 2.00 | 2.01 | 45.06 | |
| 0.144 | 333.5 | 2.40 | 2.41 | 49.17 | |
| 0.181 | 372.1 | 3.00 | 3.02 | 54.65 | |
| 0.205 | 395.1 | 3.40 | 3.42 | 57.87 | |
| 0.253 | 436.3 | 4.20 | 4.23 | 63.51 | |
| 0.301 | 473.4 | 5.00 | 5.03 | 68.42 | |
| 0.362 | 514.1 | 6.02 | 6.05 | 73.61 | |
| 0.392 | 533.3 | 6.52 | 6.56 | 76.00 | |
| 0.452 | 567.7 | 7.52 | 7.57 | 80.10 | |
| 0.482 | 585.5 | 8.02 | 8.07 | 82.19 | |
| 0.542 | 619.6 | 9.02 | 9.08 | 86.09 | |
| 0.603 | 649.2 | 10.02 | 10.09 | 89.27 | |
| 0.693 | 691.4 | 11.53 | 11.60 | 93.54 | |
| 0.783 | 729.4 | 13.03 | 13.11 | 97.06 | |
| 0.904 | 777.5 | 15.03 | 15.13 | 101.13 | |
| 0.994 | 808.0 | 16.53 | 16.64 | 103.27 | |
| 1.084 | 837.8 | 18.03 | 18.15 | 105.17 | |
| 1.175 | 863.7 | 19.53 | 19.66 | 106.46 | |
| | | | 1.0 | . ^ | |

Date 8/12/09 Input Checked By



CONSOLIDATED UNDRAINED TRIAXIAL TEST WITH PORE PRESSURE READINGS

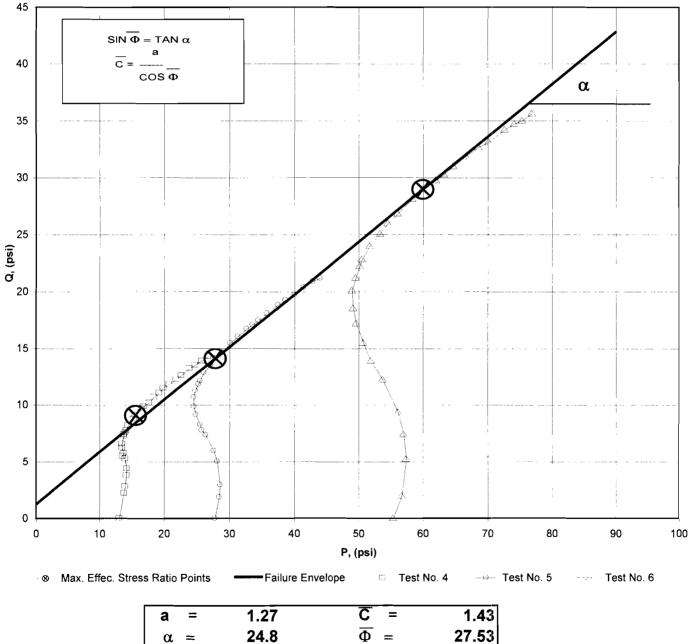
ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

Client Client Reference Project No. Lab ID

P. J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 2009-296-01-03

Boring No. Depth(ft.) Sample No. NA NA SULLY'S SAMPLE

Consolidated Undrained Triaxial Test with Pore Pressure



Date 8/17/09 8/8/2009 Approved By Tested By **JCM** Date



CONSOLIDATED UNDRAINED TRIAXIAL TEST WITH PORE PRESSURE READINGS

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

Client Client Reference Project No. P. J. CAREY & ASSOCIATES CMW / RMU-2 2009-296-01 Boring No.
Depth(ft.)
Sample No.

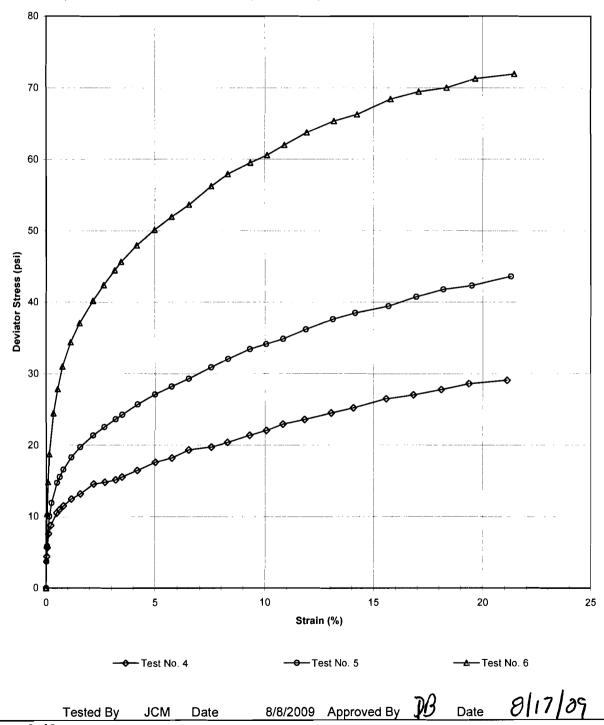
NA NA SULLY'S SAMPLE

Lab ID

2009-296-01-03

Visual Description:

BROWN SANDY CLAY (REMOLDED)



page 2 of 8

CONSOLIDATED UNDRAINED TRIAXIAL TEST WITH PORE PRESSURE READINGS

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)



Client Reference

P. J. CAREY & ASSOCIATES

CMW / RMU-2

Project No. 2009-296-01 Lab ID 2009-296-01-03 Boring No. NA Depth(ft.) NA

Sample No. SULLY'S SAMPLE

Visual Description: BROWN SANDY CLAY (REMOLDED)

| Stage No. | 1 | INITIAL SAMPLE DIMENSIONS (in) | | | |
|---------------------|-------------|-----------------------------------|-------|--|--|
| Test No | 4 | | | | |
| | | Length 1 6.011 Diameter 1 | 2.867 | | |
| PRESSURES (psi |) | Length 2 6.011 Diameter 2 | 2.867 | | |
| | | Length 3 6.011 Diameter 3 | 2.867 | | |
| Cell Pressure(psi) | 54.2 | Avg Leng.= 6.011 Avg. Diam.= | 2.867 | | |
| Back Pressure(psi |) 41.1 | | | | |
| Eff. Cons. Pressure | e(psi) 13.1 | VOLUME CHANGE | | | |
| Pore Pressure | | Initial Burette Reading (ml) | 72.0 | | |
| Response (%) | 98 | Final Burette Reading (ml) | 51.0 | | |
| | | Final Change (ml) | 21.0 | | |
| MAXIMUM OBLIQ | UITY POINTS | | | | |
| | | Initial Dial Reading (D.R.), mils | 63 | | |
| <u>P</u> = | 15.53 | D.R. After Saturation, mils | 59 | | |
| Q = | 9.10 | D.R. After Consolidation, mils | 87 | | |

| Q = 9.10 | | | U | D.R. After Consolidation, mils | | | | |
|----------|-------------|----------|------|--------------------------------|------------------|-------------|---------|---------------|
| | LOAD | <u>-</u> | | DEFORMAT | ION | PORE | PRESSUI | RE |
| | (LBS) | | | (INCHES) |) | | (PSI) | |
| | 10.9 | | | 0.000 | | | 41.1 | |
| | 38.8 | | | 0.002 | | | 42.6 | |
| | 46.5 | | | 0.003 | | | 43.1 | |
| | 58.8 | | | 0.007 | | | 43.8 | |
| | 66.1 | | | 0.013 | | | 44.4 | |
| | 77.4 | | | 0.029 | | | 45.5 | |
| | 80.2 | | | 0.037 | | | 46.1 | |
| | 83.8 | | | 0.048 | | | 46.3 | |
| | 90.1 | | | 0.070 | | | 46.9 | |
| | 95.1 | | | 0.095 | | | 47.3 | |
| | 104.4 | | | 0.132 | | | 47.7 | |
| | 106.5 | | | 0.163 | | | 47.9 | |
| | 109.2 | | | 0.192 | | | 47.8 | |
| | 112.0 | | | 0.210 | | | 47.8 | |
| | 118.6 | | | 0.252 | | | 48.0 | |
| | 127.1 | | | 0.300 | | | 47.7 | |
| | 132.2 | | | 0.346 | | | 47.8 | |
| | 140.6 | | | 0.391 | | | 47.3 | |
| | 144.9 | | | 0.453 | | | 47.3 | |
| | 150.5 | | | 0.496 | | | 46.7 | |
| | 159.0 | | | 0.557 | | | 46.4 | |
| | 165.1 | | | 0.603 | | | 46.0 | |
| | 172.6 | | | 0.648 | | | 45.8 | |
| | 179.1 | | | 0.708 | | | 45.3 | |
| | 187.9 | | | 0.781 | | | 44.6 | |
| | 195.1 | | | 0.842 | | | 44.2 | |
| | 207.9 | | | 0.933 | | | 43.6 | |
| | 215.1 | | | 1.008 | | | 43.0 | |
| | 223.9 | | | 1.084 | | | 42.4 | |
| | 233.6 | | | 1.160 | | | 41.8 | |
| | 242.4 | | | 1.264 | | | 41.0 | |
| | Tested By | JCM | Date | 8/8/2009 | Input Checked By | MB | Date | 8-17-0 |
| | A LOSIGUIDY | - JOIVI | Date | 0/0/2003 | input Oncored by | <u> ハリノ</u> | Date | <u>0 11 0</u> |

CONSOLIDATED UNDRAINED TRIAXIAL TEST WITH PORE PRESSURE READINGS

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)



Client

Client Reference

P. J. CAREY & ASSOCIATES

CMW / RMU-2

Project No.

2009-296-01

Boring No. Depth(ft.)

Sample No.

NA NA

SULLY'S SAMPLE

Lab ID 2009-296-01-03

Visual Description: **BROWN SANDY CLAY (REMOLDED)**

| Effective (| Confining Pres | sure (psi) | 13.1 | - | Stage No. Test No | | 1 4 | |
|---|---------------------|-------------------------------|-------------------------|---|-------------------------------------|------------------------|--------------------------|----------------|
| INITIAL DIMENSIONS | | | | | VOLUME CHANGE | | | |
| Initial Sample Length (in.) Initial Sample Diameter (in.) Initial Sample Area (in^2) Initial Sample Volume (in^3) | | 6.01 2.87 6.46 38.81 | | Volume After Consol Length After Consolida Area After Consolida |) | 37.60 5.99 6.281 | | |
| Strain (%) | Deviation Stress | ΔU | $\overline{\sigma}_{l}$ | $\overline{\sigma}_3$ | Effective Principle Stress Ratio | Ā | P | Q |
| | | | | | | | | |
| 0.03 0.05 | 4.44 5.66 | 1.51 1.98 | 16.03 16.78 | 11.6 11.1 | 1.383 1.509 | 0.35 0.36 | 13.81 13.95 | 2.22 2.83 |
| 0.12 | 7.61 | 2.74 | 17.97 | 10.4 | 1.735 | 0.37 | 14.16 | 3.81 |
| 0.22 | 8.77 10.54 | 3.29 | 18.58 19.24 | 9.8 9.7 | 1.894 2.212 | 0.38 | 14.20 13.97 | 4.39 5.27 |
| 0.49 0.61 | 10.54 | 4.40 5.02 | 19.24 | 8.7 8.1 | 2.357 | 0.43 0.47 | 13.56 | 5.27 5.48 |
| 0.80 | 11.51 | 5.15 | 19.46 | 7.9 | 2.448 | 0.46 | 13.70 | 5.75 |
| 1.17 | 12.47 | 5.84 | 19.73 | 7.3 | 2.716 | 0.48 | 13.50 | 6.23 |
| 1.59 2.20 | 13.19 14.56 | 6.24 6.59 | 20.05 21.07 | 6.9 6.5 | 2.923 3.238 | 0.48 0.46 | 13.46 13.79 | 6.60 7.28 |
| 2.72 | 14.81 | 6.80 | 21.07 | 6.3 | 3.351 | 0.47 | 13.79 | 7.20 7.40 |
| 3.21 | 15.15 | 6.71 | 21.54 | 6.4 | 3.370 | 0.45 | 13.96 | 7.57 |
| 3.51 | 15.54 | 6.73 | 21.90 | 6.4 | 3.439 | 0.44 | 14.14 | 7.77 |
| 4.20 5.02 | 16.43 17.58 | 6.92 6.62 | 22.62 24.06 | 6.2 6.5 | 3.659 3.714 | 0.43 0.38 | 14.40 15.27 | 8.22 8.79 |
| 5.77 | 18.19 | 6.67 | 24.62 | 6.4 | 3.830 | 0.37 | 15.53 | 9.10 |
| 6.53 | 19.31 | 6.24 | 26.17 | 6.9 | 3.815 | 0.33 | 16.51 | 9.65 |
| 7.56 8.29 | 19.73 20.39 | 6.16 5.64 | 26.67 27.84 | 6.9 7.5 | 3.842 3.734 | 0.32 0.28 | 16.81 17.65 | 9.87 10.19 |
| 9.30 | 21.39 | 5.34 | 29.15 | 7.3 7.8 | 3.757 | 0.25 | 18.46 | 10.19 |
| 10.06 | 22.08 | 4.92 | 30.26 | 8.2 | 3.701 | 0.23 | 19.22 | 11.04 |
| 10.83 | 22.96 | 4.71 | 31.35 | 8.4 | 3.736 | 0.21 | 19.87 | 11.48 |
| 11.82 13.05 | 23.61 24.50 | 4.17 3.50 | 32.54 34.10 | 8.9 9.6 | 3.645 3.553 | 0.18 0.15 | 20.73 21.85 | 11.81 12.25 |
| 14.07 | 25.21 | 3.10 | 35.21 | 10.0 | 3.521 | 0.13 | 22.60 | 12.60 |
| 15.59 | 26.48 | 2.46 | 37.12 | 10.6 | 3.490 | 0.09 | 23.88 | 13.24 |
| 16.83 | 27.03 | 1.90 | 38.24 | 11.2 | 3.413 | 0.07 | 24.72 | 13.52 |
| 18.10 | 27.78 | 1.27 | 39.61 | 11.8 | 3.348 | 0.05 | 25.72 | 13.89 |
| 19.37 | 28.59 | 0.66 | 41.03 | 12.4 13.2 | 3.299 3.209 | 0.02 0.00 | 26.73 27.70 | 14.30 14.54 |
| 21.12 | 29.07 | -0.06 | 42.23 | | 3.209 Input Checked By | LR U.UU | 27.70 Date % ~ | |
| nage 4 of 6 | Tested By | JCM | Date | 8/8/2009 | пригопескеа ву | | Date 2 | |

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)



Client Client Reference

Project No.

Lab ID

P. J. CAREY & ASSOCIATES

CMW / RMU-2 2009-296-01 Boring No. NA
Depth(ft.) NA

Sample No. SULLY'S SAMPLE

2009-296-01-03

Visual Description: BROWN SANDY CLAY (REMOLDED)

| Stage No. | 1 | INITIAL SAMPLE DIMENSIONS (in) |
|------------------------|--------|--------------------------------------|
| Test No | 5 | |
| | | Length 1 6.011 Diameter 1 2.867 |
| PRESSURES (psi) | | Length 2 6.011 Diameter 2 2.867 |
| | | Length 3 6.011 Diameter 3 2.867 |
| Cell Pressure(psi) | 69.1 | Avg Leng.= 6.011 Avg. Diam.= 2.867 |
| Back Pressure(psi) | 41.3 | • |
| Eff. Cons. Pressure(ps | 27.8 | VOLUME CHANGE |
| Pore Pressure | | Initial Burette Reading (ml) 96.0 |
| Response (%) | 99 | Final Burette Reading (ml) 58.4 |
| | | Final Change (ml) 37.6 |
| MAXIMUM OBLIQUITY | POINTS | |
| | | Initial Dial Reading (D.R.), mils 70 |
| P = | 27.78 | D.R. After Saturation, mils 70 |
| Q = | 14.11 | D.R. After Consolidation, mils 145 |

| LOAD | | | DEFORMAT | ION | PORE PRES | SSURE |
|-----------|-----|------|----------|------------------|-----------|-------------|
| (LBS) | | | (INCHES | | (PSI) | |
| 12.1 | | | 0.000 | | 41.3 | |
| 35.0 | | | 0.001 | | 42.5 | |
| 48.5 | | | 0.003 | | 43.5 | |
| 74.0 | | | 0.009 | | 46.0 | |
| 85.6 | | | 0.014 | | 47.4 | |
| 103.2 | | | 0.030 | | 50.1 | |
| 108.4 | | | 0.037 | | 51.2 | |
| 114.9 | | | 0.047 | | 51.9 | |
| 126.1 | | | 0.069 | | 53.4 | |
| 135.3 | | | 0.093 | | 54.4 | |
| 146.5 | | | 0.129 | | 55.3 | |
| 154.6 | | | 0.159 | | 55.6 | |
| 162.4 | | | 0.190 | | 55.7 | |
| 166.7 | | | 0.208 | | 55.7 | |
| 177.2 | | | 0.250 | | 55.9 | |
| 187.4 | | | 0.297 | | 55.5 | |
| 196.3 | | | 0.342 | | 55.4 | |
| 204.8 | | | 0.388 | | 54.8 | |
| 217.5 | | | 0.448 | | 54.4 | |
| 227.0 | | | 0.494 | | 53.8 | |
| 238.8 | | | 0.552 | | 53.2 | |
| 245.6 | | | 0.597 | | 52.6 | |
| 252.6 | | | 0.643 | | 52.1 | |
| 264.7 | | | 0.705 | | 51.4 | |
| 278.6 | | | 0.779 | | 50.5 | |
| 287.9 | | | 0.840 | | 49.8 | |
| 299.9 | | | 0.931 | | 48.8 | |
| 313.9 | | | 1.007 | | 48.1 | |
| 326.3 | | | 1.081 | | 47.2 | |
| 335.3 | | | 1.158 | | 46.3 | |
| 353.0 | | | 1.265 | | 44.5 | |
| Tested By | JCM | Date | 8/8/2009 | Input Checked By | KB D | ate 8-17-0° |

page 5 of 8

DCN: CT-S28 DATE 6-25-98 REVISION 1

NYSDEC OHMS Document No. 201469232-00007

CONSOLIDATED UNDRAINED TRIAXIAL TEST WITH PORE PRESSURE READINGS

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

INTEGRITY IN TESTING

Client

Project No. Lab ID

P. J. CAREY & ASSOCIATES

CMW / RMU-2

2009-296-01 2009-296-01-03 Boring No. Depth(ft.) Sample No. NA NA

SULLY'S SAMPLE

Visual Description:

Client Reference

BROWN SANDY CLAY (REMOLDED)

| Effective (| Confining Pres | ssure (psi | 27.8 | _ | Stage No. Test No | · | 1 5 | |
|----------------------------|---|--------------|-------------------------------|-----------------------|---|--------------|----------------|------------------------|
| INITIAL D | IMENSIONS | | | | VOLUME CHANGE | | | |
| Initial San Initial San | nple Length (in nple Diameter nple Area (in^2 nple Volume (i | (in.) 2) | 6.01 2.87 6.46 38.81 | | Volume After Consolid Length After Consolid Area After Consolidat | lation (in) |) | 36.51 5.94 6.151 |
| Strain (%) | Deviation Stress | ΔU | $\overline{\sigma}_1$ | $\overline{\sigma}_3$ | Effective Principle Stress Ratio | Ā | P | Q |
| | | | | | | | | |
| 0.02 | 3.73 | 1.23 | 30.30 | 26.6 | 1.140 | 0.33 | 28.44 | 1.86 |
| 0.04 | 5.92 | 2.17 | 31.55 | 25.6 | 1.231 | 0.37 | 28.59 | 2.96 |
| 0.15 | 10.05 | 4.67 | 33.18 | 23.1 | 1.435 | 0.47 | 28.15 | 5.03 |
| 0.24 0.50 | 11.92 14.73 | 6.13 8.83 | 33.59 33.69 | 21.7 19.0 | 1.550 1.777 | 0.52 0.61 | 27.63 26.33 | 5.96 7.36 |
| 0.63 | 15.56 | 9.86 | 33.50 | 17.9 | 1.867 | 0.61 | 25.72 | 7.38 7.78 |
| 0.79 | 16.58 | 10.60 | 33.78 | 17.3 | 1.964 | 0.65 | 25.72 | 8.29 |
| 1.17 | 18.31 | 12.09 | 34.03 | 15.7 | 2.165 | 0.67 | 24.87 | 9.16 |
| 1.57 | 19.72 | 13.14 | 34.38 | 14.7 | 2.345 | 0.67 | 24.52 | 9.86 |
| 2.17 | 21.37 | 13.97 | 35.20 | 13.8 | 2.545 | 0.66 | 24.52 | 10.69 |
| 2.68 | 22.55 | 14.30 | 36.04 | 13.5 | 2.671 | 0.64 | 24.77 | 11,27 |
| 3.20 | 23.66 | 14.41 | 37.05 | 13.4 | 2.767 | 0.62 | 25.22 | 11.83 |
| 3.50 | 24.26 | 14.45 | 37.61 | 13.4 | 2.817 | 0.60 | 25.48 | 12.13 |
| 4.21 | 25.71 | 14.57 | 38.94 | 13.2 | 2.943 | 0.57 | 26.09 | 12.85 |
| 5.00 | 27.08 | 14.22 | 40.65 | 13.6 | 2.995 | 0.53 | 27.12 | 13.54 |
| 5.76 | 28.22 | 14.13 | 41.89 | 13.7 | 3.064 | 0.51 | 27.78 | 14.11 |
| 6.53 | 29.28 | 13.54 | 43.54 | 14.3 | 3.054 | 0.47 | 28.90 | 14.64 |
| 7.55 | 30.88 | 13.15 | 45.53 | 14.7 | 3.108 | 0.43 | 30.09 | 15.44 |
| 8.31 | 32.04 | 12.54 | 47.30 | 15.3 | 3.100 | 0.40 | 31.28 | 16.02 |
| 9.31 | 33.43 | 11.89 | 49.34 | 15.9 | 3.101 | 0.36 | 32.63 | 16.72 |
| 10.06 | 34.14 | 11.34 | 50.60 | 16.5 | 3.075 | 0.34 | 33.53 | 17.07 |
| 10.84 | 34.87 | 10.83 | 51.84 | 17.0 | 3.055 | 0.31 | 34.40 | 17.43 |
| 11.88 | 36.18 | 10.14 | 53.84 | 17.7 | 3.049 | 0.28 | 35.75 | 18.09 |
| 13.13 | 37.63 | 9.17 | 56.26 | 18.6 | 3.020 | 0.25 | 37.45 | 18.82 |
| 14.15 | 38.50 | 8.47 | 57.83 50.73 | 19.3 | 2.992 | 0.22 | 38.58 | 19.25 |
| 15.69 | 39.44 40.74 | 7.52 6.75 | 59.73 | 20.3 | 2.945 2.936 | 0.19 | 40.01 | 19.72 |
| 16.97 | 40.74 41.78 | 6.75 5.87 | 61.79 63.72 | 21.0 21.9 | 2.905 | 0.17 0.14 | 41.42 42.82 | 20.37 20.89 |
| 18.20 19.50 | 41.78 42.30 | 5.87 4.99 | 65.72 65.11 | 21.9 | 2.855 2.855 | 0.14 | 42.62 43.96 | 20.69 |
| 21.30 | 42.30 43.61 | 4.99 3.16 | 68.25 | 22.6 24.6 | 2.835 2.770 | 0.12 | 43.96 46.45 | 21.15 |
| £ 1.30 | Tested By | JCM | Date | 8/8/2009 | Input Checked By | KB."_ | Date \$ | 17-09 |

NA

eotechnics Integrity In testing

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

Client Reference

Project No.

Lab ID

P. J. CAREY & ASSOCIATES

CMW / RMU-2

2009-296-01

Boring No. Depth(ft.)

Depth(ft.) NA
Sample No. SULLY'S SAMPLE

2009-296-01-03

Visual Description:

BROWN SANDY CLAY (REMOLDED)

| Stage No. | 1 | INITIAL SAMPLE DIMENSIONS (in) | | | |
|------------------------|-------------|-----------------------------------|-------|--|--|
| Test No | 6 | | | | |
| | | Length 1 6.011 Diameter 1 | 2.867 | | |
| PRESSURES (psi) | | Length 2 6.011 Diameter 2 | 2.867 | | |
| | | Length 3 6.011 Diameter 3 | 2.867 | | |
| Cell Pressure(psi) | 97.2 | Avg Leng.= 6.011 Avg. Diam.= | 2.867 | | |
| Back Pressure(psi) | 41.8 | | | | |
| Eff. Cons. Pressure(ps | 55.4 | VOLUME CHANGE | | | |
| Pore Pressure | | Initial Burette Reading (ml) | 120.0 | | |
| Response (%) | 99 | Final Burette Reading (ml) | 69.4 | | |
| | | Final Change (ml) | 50.6 | | |
| MAXIMUM OBLIQUITY | POINTS | | | | |
| | | Initial Dial Reading (D.R.), mils | 60 | | |
| P = | 59.93 | D.R. After Saturation, mils | 60 | | |
| Q = | 28.97 | D.R. After Consolidation, mils | 174 | | |

| LOAD | | | DEFORMATI | ON | PORE PRESSU | RE | | |
|-----------|-----|------|-----------|------------------|-------------|-------|--|--|
| (LBS) | | | (INCHES) | | (PSI) | | | |
| 19.8 | | | 0.000 | | 41.8 | | | |
| 43.8 | | | 0.001 | | 42.5 | | | |
| 83.0 | | | 0.002 | | 45.0 | | | |
| 109.7 | | | 0.005 | | 47.6 | | | |
| 133.5 | | | 0.008 | | 50.4 | | | |
| 168.7 | | | 0.020 | | 55.7 | | | |
| 189.3 | | | 0.031 | | 59.2 | | | |
| 208.9 | | | 0.044 | | 62.0 | | | |
| 230.4 | | | 0.067 | | 64.8 | | | |
| 247.8 | | | 0.091 | | 66.6 | | | |
| 268.7 | | | 0.128 | | 68.4 | | | |
| 283.6 | | | 0.157 | | 68.9 | | | |
| 298.0 | | | 0.187 | | 69.3 | | | |
| 306.2 | | | 0.204 | | 69.5 | | | |
| 322.8 | | | 0.247 | | 69.5 | | | |
| 339.3 | | | 0.294 | | 68.9 | | | |
| 353.7 | | | 0.340 | | 68.7 | | | |
| 367.5 | | | 0.386 | | 67.9 | | | |
| 388.3 | | | 0.445 | | 67.0 | | | |
| 402.5 | | | 0.490 | | 66.2 | | | |
| 417.5 | | | 0.551 | | 64.9 | | | |
| 428.0 | | | 0.596 | | 64.2 | | | |
| 441.3 | | | 0.642 | | 63.5 | | | |
| 458.4 | | | 0.703 | | 62.4 | | | |
| 475.6 | | | 0.777 | | 61.3 | | | |
| 487.8 | | | 0.840 | | 60.2 | | | |
| 512.1 | | | 0.931 | | 58.8 | | | |
| 527.1 | | | 1.007 | | 57.8 | | | |
| 539.2 | | | 1.082 | | 56.9 | | | |
| 557.3 | | | 1.159 | | 56.0 | | | |
| 574.4 | | | 1.265 | | , 54.6 | | | |
| Tested By | JCM | Date | 8/8/2009 | Input Checked By | hR Date | 8-17- | | |

page 7 of 8

DCN: CT-S28 DATE 6-25-98 REVISION 1

Cotechnics INTEGRITY IN TESTING

ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

Client Reference

P. J. CAREY & ASSOCIATES CMW / RMU-2

Boring No. Depth(ft.) NA NA

Project No.

Lab ID

2009-296-01 2009-296-01-03 Sample No.

SULLY'S SAMPLE

Visual Description:

BROWN SANDY CLAY (REMOLDED)

| Effective (| Confining Pres | ssure (psi) | 55.4 | | Stage No. Test No | | 1 6 | |
|----------------------------|---|----------------|-------------------------------|-----------------------|---|--------------|--------------------------|----------------------------|
| INITIAL D | IMENSIONS | | | | VOLUME CHANGE | , | | |
| Initial San Initial San | nple Length (ir nple Diameter nple Area (in^2 nple Volume (i | (in.) 2) | 6.01 2.87 6.46 38.81 | | Volume After Conso Length After Consol Area After Consolida | idation (in) | | 35.72 5.90 6.057 |
| Strain (%) | Deviation Stress | ΔU | $\overline{\sigma}_1$ | $\overline{\sigma}_3$ | Effective Principle Stress Ratio | Ā | P | Q |
| | | | | | | | | |
| 0.01 | 3.96 | 0.66 | 58.71 | 54.7 | 1.072 | 0.17 | 56.72 | 1.98 |
| 0.04 | 10.44 | 3.21 | 62.62 | 52.2 | 1.200 | 0.31 | 57.41 | 5.22 |
| 0.08 | 14.84 | 5.80 | 64.44 | 49.6 | 1.299 | 0.39 | 57.02 | 7.42 |
| 0.14 | 18.74 | 8.63 | 65.52 | 46.8 | 1.401 | 0.46 | 56.14 | 9.37 |
| 0.33 | 24.49 | 13.91 | 65.99 | 41.5 | 1.590 | 0.57 | 53.74 | 12.25 |
| 0.53 | 27.84 | 17.40 | 65.84 | 38.0 | 1.733 | 0.63 | 51.92 | 13.92 |
| 0.75 | 30.98 | 20.18 | 66.20 | 35.2 | 1.880 | 0.66 | 50.71 | 15.49 |
| 1.14 | 34.38 | 23.01 | 66.78 | 32.4 | 2.061 | 0.68 | 49.58 | 17.19 |
| 1.55 | 37.07 | 24.82 | 67.64 | 30.6 | 2.212 2.394 | 0.68 | 49.11 | 18.53 |
| 2.16 2.66 | 40.20 42.39 | 26.57 27.09 | 69.03 70.70 | 28.8 28.3 | 2.39 4 2.497 | 0.67 0.65 | 48.93 49.51 | 20.10 21.20 |
| 3.17 | 42.3 9 44.47 | 27.09 | 70.70 72.40 | 20.3 27.9 | 2.497 | 0.62 | 50.16 | 22.24 |
| 3.46 | 45.65 | 27.71 | 73.34 | 27.7 | 2.648 | 0.61 | 50.51 | 22.82 |
| 4.18 | 47.93 | 27.67 | 75.67 | 27.7 | 2.728 | 0.58 | 51.70 | 23.97 |
| 4.99 | 50.11 | 27.13 | 78.39 | 28.3 | 2.772 | 0.55 | 53.33 | 25.06 |
| 5.76 | 51.95 | 26.86 | 80.49 | 28.5 | 2.820 | 0.52 | 54.52 | 25.97 |
| 6.55 | 53.64 | 26.12 | 82.92 | 29.3 | 2.832 | 0.49 | 56.10 | 26.82 |
| 7.55 | 56.25 | 25.16 | 86.48 | 30.2 | 2.860 | 0.45 | 58.36 | 28.12 |
| 8.31 | 57.93 | 24.44 | 88.90 | 31.0 | 2.871 | 0.43 | 59.93 | 28.97 |
| 9.34 | 59.53 | 23.14 | 91.79 | 32.3 | 2.845 | 0.39 | 62.03 | 29.76 |
| 10.11 | 60.59 | 22.43 | 93.56 | 33.0 | 2.837 | 0.37 | 63.27 | 30.29 |
| 10.89 | 62.01 | 21.72 | 95.69 | 33.7 | 2.841 | 0.35 | 64.69 | 31.00 |
| 11.93 | 63.77 | 20.65 | 98.53 | 34.8 | 2.835 | 0.33 | 66.64 | 31.89 |
| 13.18 | 65.33 | 19.48 | 101.25 | 35.9 | 2.819 | 0.30 | 68.59 | 32.67 |
| 14.24 | 66.27 | 18.37 | 103.30 | 37.0 | 2.790 | 0.28 | 70.17 | 33.14 |
| 15.79 | 68.44 | 16.99 | 106.85 | 38.4 | 2.782 | 0.25 | 72.63 | 34.22 |
| 17.07 | 69.45 | 16.01 | 108.84 | 39.4 | 2.763 | 0.23 0.22 | 74.12 75.32 | 34.73 35.00 |
| 18.35 | 70.01 | 15.09 | 110.32 112.48 | 40.3 41.2 | 2.737 2.731 | 0.22 | 75.32 76.84 | 35.00 35.64 |
| 19.66 21.45 | 71.29 71.92 | 14.21 12.80 | 112.48 114.52 | 41.2 42.6 | 2.731 | 0.20 | 76.64 78.56 | 35.6 4 35.96 |
| 21.40 | Tested By | JCM | Date | 8/8/2009 | Input Checked By | 112 | 76.50 Date ≶ - | |

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ASTM D4767-95 / AASHTO T297-94 (SOP-S28)

Client P. J. CAREY & ASSOCIATES

Client Reference CMW / RMU-2 Project No. 2009-296-01

Lab ID 2009-296-01-03 Specific Gravity (assumed) 2.7

Visual Description: BROWN SANDY CLAY (REMOLDED)

SAMPLE CONDITION SUMMARY

| Boring No. | NA | NA | NA |
|----------------------------|----------------|----------------|----------------|
| Depth (ft) | NA | NA | NA |
| Sample No. | SULLY'S SAMPLE | SULLY'S SAMPLE | SULLY'S SAMPLE |
| Test No. | T4 | T5 | Т6 |
| Deformation Rate (in/min) | 0.002 | 0.002 | 0.0012 |
| Back Pressure (psi) | 41.1 | 41.3 | 41.8 |
| Consolidation Time (days) | 1 | 1 | 1 |
| Initial State (w%) | 13.7 | 13.7 | 13.7 |
| Total Unit Weight (pcf) | 128.4 | 128.3 | 128.1 |
| Dry Unit Weight (pcf) | 112.9 | 112.8 | 112.7 |
| Final State (w%) | 17.4 | 16.4 | 15.4 |
| Initial State Void Ratio,e | 0.493 | 0.494 | 0.496 |
| Void Ratio at Shear, e | 0.447 | 0.406 | 0.377 |

Tested By JCM Date 8/8/2009 Input Checked By 1/8 Date 3-17-09
page 1 of 1 DCN: CT-\$28 DATE 12-9-08 REVISION: 2 C:MSOFFICE\EXCELIPrintQ\[F1014.xis]Sheet1

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Appendix A-4

Report Entitled Landfill Footprint Analytical data Study and Western Boundary Relocation Investigation, Residuals Management Unit Number 2 (Golder, August 2009)





LANDFILL FOOTPRINT ANALYTICAL DATA STUDY AND WESTERN BOUNDARY RELOCATION INVESTIGATION RESIDUALS MANAGEMENT UNIT NUMBER 2, MODEL CITY TSD FACILITY, MODEL CITY, NEW YORK

Submitted To: CWM Chemical Services, L.L.C.

Model City TSD Facility 1550 Balmer Road

Youngstown, New York 14174

Submitted By: Golder Associates Inc.

2221 Niagara Falls Boulevard, Suite 9 Niagara Falls, NY 14304 USA

Distribution:

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1 Copy Golder Associates Inc.

August 31, 2009

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083-89111

EXECUTIVE SUMMARY

Golder Associates Inc. (Golder) developed a preliminary groundwater monitoring plan (PGWMP) for a proposed hazardous and industrial non-hazardous waste landfill designated Residuals Management Unit 2 (RMU-2) in April 2003 (Golder, April 2003) for the CWM Chemical Services, L.L.C. (CWM) Model City Treatment, Storage, and Disposal Facility (TSDF) situated on the boundary between the Towns of Lewiston and Porter in Niagara County, New York. In May 2003, CWM subsequently submitted the PGWMP and the design for RMU-2 to the New York State Department of Environmental Conservation (NYSDEC) as part of the permit application for RMU-2. CWM received verbal approval from the NYSDEC for the well locations and procedures for the installation of the wells for RMU-2. Following approval of the Monitoring Plan for RMU-2 Groundwater Well Installations (CWM, April 2005) by the NYSDEC on August 24, 2007, Golder installed fourteen shallow and deep groundwater monitoring well pairs for the initial RMU-2 Ground Water Monitoring System from October to December, 2007. In addition, two Upper Tills and Detection Zone well pairs (W1003S/D and W1004S/D) were installed north of SLF-10 to monitor the downgradient portion of this unit when Fac. Pond 8 is taken out of service. Finally, URS Corporation (URS) conducted a subsurface investigation of potential chemical and radiological contamination in all areas affected by the RMU-2 project from August to November, 2008 (URS, April 2009).

During the 2008 URS subsurface investigation, Volatile Organic Compounds (VOCs) were identified at six borings (#15, #64, #83, #89, #99 and #108) using a field meter. However, subsequent laboratory testing of soils from these borings revealed no VOCs. CWM requested Golder to repeat the borings and sampling at these locations to determine if contamination was present. Results of the Golder work confirmed that there was no VOC contamination at these locations.

However, groundwater and soil results from other locations within the planned RMU-2 footprint did identify some chemical impacts that could pose an issue during the RMU-2 construction. Analyses of samples from some groundwater monitoring wells (i.e., R201 and R202, Golder, March 2009) and direct push (geoprobe) soil sample points (i.e., #43 and #61, Golder, March 2009) on the western side of the planned RMU-2 footprint confirmed chemical impacts, and subsequent investigations to determine the extent of the impacts caused CWM to reevaluate the western boundary for RMU-2.

In early 2009, CWM retained Golder to develop a historic data summary, which involved the assimilation of available soil and groundwater chemical data (from the historic RCRA facility investigation [RFI] summary report prepared by Golder, January 1993) into a comprehensive data table and plotting the results and sample locations on color-coded, concentration maps. Using the data summary and concentration maps, CWM decided to relocate approximately 1000 feet of the western boundary (alternative western boundary alignment) of the planned landfill footprint to avoid the impacted areas altogether and manage the impacted areas separately under the facility's Resource Conservation and Recovery Act (RCRA) Corrective Action Program (CAP).



To investigate the proposed alternative western boundary alignment, Golder advanced several borings to sample the groundwater and subsurface soils along the revised alignment in February 2009 (i.e., the Phase I boring investigation). Analyses of samples from one of the soil sample points (i.e., #W-19) on the eastern side of the facility truck wash building indicated petroleum-related impacts and a subsequent investigation was conducted to determine the extent of the petroleum-related impacts. In addition, several other borings (i.e., #W-14, W-15 and W-16) indicated chemical impacts to the groundwater, with low concentrations of VOCs. Based upon this information, CWM again elected to relocate the western boundary (further to the east), utilizing the data summary and concentration maps prepared by Golder, so as to avoid these impacted areas and manage the contamination under the site's CAP program. A new, proposed alternative alignment of the western boundary for the RMU-2 footprint was selected and Golder advanced an additional round of exploratory borings (i.e., the Phase II boring investigation) in April 2009.

Based on acceptable results for the Phase II boring investigation, the western boundary for RMU-2 has been relocated to the alignment defined in April 2009. An updated RMU-2 permit application will be submitted for this revised footprint. Justification for the realigned boundary is provided within this report which describes the activities and results of the investigations listed above. Golder will prepare a revision to the RMU-2 PGWMP as part of the updated RMU-2 permit application.



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1.0 INTRODUCTION

The Model City TSD Facility, situated on the boundary between the Towns of Lewiston and Porter in Niagara County (see Figure 1), has been a waste, treatment, storage, and disposal facility since 1972. Prior to that time, the site was extensively utilized by the U.S. government for a variety of industrial purposes, including the manufacture of trinitrotoluene (TNT), storage and disposal of Manhattan Project radioactive materials, storage of chemical warfare chemicals and ammunition, and research and production of high energy fuels. Since 1972, the site has been used for the management of hazardous wastes.

In May 2003, CWM submitted a permit application and design for a proposed hazardous and industrial non-hazardous waste landfill, designated Residuals Management Unit 2 (RMU-2), to the New York State Department of Environmental Conservation (NYSDEC). Recent groundwater and soil investigations have been performed by URS Corporation (URS) and Golder Associates Inc. (Golder) within the planned RMU-2 footprint to identify potential radiological or chemical impacts that could pose an issue during the RMU-2 construction (R201S and R202S Well Investigation Report, Golder, March 2009, and RMU-2 Footprint Investigation Report, Golder, March 2009). Analyses of samples from groundwater monitoring wells (R201S and R202S) and soil sample points (#43 and #61) on the western side of the planned RMU-2 footprint indicated chemical impacts, and subsequent investigations to confirm and determine the extent of the impacts indicated the lateral extents were greater than that which CWM desired to remediate as part of the RMU-2 project. Instead, CWM decided to relocate approximately 1000 feet of the west boundary of the planned landfill footprint to avoid the impacted areas altogether and deal with the impacted areas separately under the facility' RCRA Corrective Action Program.

To facilitate designing around these newly discovered impacted areas, CWM requested Golder to summarize available chemical data sample locations (e.g. from the facility RCRA Facility Investigation [RFI], the RMU-2 footprint investigations, and additional well data provided by CWM). This data has been used to develop an alternate western boundary for RMU-2 and a soil boring program has been performed to collect information to evaluate this alternate boundary.

This report contains Golder's evaluation of the following components as they relate to RMU-2:

- Confirmation of no Volatile Organic Compound (VOC) contamination for 6 borings previously identified as suspect during subsurface investigations by URS (Section 2.0).
- Compilation of a comprehensive historical data summary (Section 3.0).
- Investigation of an alternative western boundary, i.e., Phase I borings W1 through W23 (Section 4.0).



■ Subsequent investigation of petroleum containination found in Phase I boring W19 (Section 6.0).



2.0 CONFIRMATORY BOREHOLE INVESTIGATION PROGRAM

Recent soil investigations using a direct-push soil sampler have been performed by URS within the proposed RMU-2 footprint to identify any possible radiological or chemical impacts that could pose a problem during the RMU-2 construction. Six areas had organic vapor meter (OVM) readings collected from soil samples (and/or boreholes) at over 10 parts per million (ppm), but which laboratory analysis of soil samples indicated no detections. CWM requested that Golder collect six additional soil samples from the same locations as the original URS samples to confirm these organic vapor readings and soil chemistry results.

The work performed from October to November, 2008 (originally under Golder project number 083-89101) involved the installation of six temporary borings in the Upper Tills aquifer and their sampling for soils as described below.

2.1 Boring Layout

Six borings were advanced in the immediate vicinity of the original borings:

- 1 east of SLF-12 (15R),
- 1 north of SLF-6 (89R),
- 1 northeast of the Leachate Tank Farm (108R),
- 1 northwest of Fac. Pond 3 (83R),
- 1 north of Emergency Response Garage (64R), and
- 1 southwest of SLF-10 (99R).

The original 6 boring locations were marked out by CWM using stakes and/or pin flags, based on GPS coordinates CWM obtained during the original boring investigation program performed by URS in the summer of 2008. All boring locations were approved by CWM prior to the commencement of drilling to obtain utility clearance from CWM. See Figure 2 for actual boring locations.

2.2 Boring Installation and Sampling

The borings were located immediately adjacent to the original URS borings (offset by no more than approximately 1-foot). The borings were advanced using direct-push drilling techniques using a small-diameter soil sampling tool (Geoprobe® Macrocore® sampler) to the approximate same total borehole depth in each area as the original boring (CWM provided logs of the original borings), and continuous soil samples were collected.



Air monitoring and screening of soil for volatile organic compounds (VOCs) were performed using a photoionization detector (PID) during drilling. Golder screened the soil cores and monitored the breathing zone for indications of VOCs. The soil segment with the highest PID reading in each borehole (if detected) was collected for laboratory VOC analysis. If there were no detectable VOCs in a borehole, the sample was collected from the segment near the water table interface. Results of air monitoring can be found in the field boring logs in Appendix A.

Prior to and during boring installation procedures, EnSol (under contract to CWM) performed radiological surveying and screening according to the "Radiological Characterization at CWM Model City Subsurface and Pond Sampling", which was provided to the NYSDEC in July 2008 prior to implementation. This plan is in general accordance with the "Radiological Survey Plan for RMU-2 Groundwater Well Installation", dated April 2005 (revised March 2006), and the "Generic Small Project Soil Excavation Monitoring and Management Plan", dated September 2005 (revised November 2006), which were approved by the NYSDEC on August 24, 2007. An area survey was performed prior to boring installation and radiation surveying was performed during boring installation. The survey and soil screening was performed using a Ludlum Model 2221 rate meter with Ludlum Model 44-10 probe, serial # 218587, last calibrated 8/7/08 and a Ludlum Survey Meter Model 2 with HP-260 Pancake Probe detector, serial # 40811, last calibrated 8/7/08. The results were submitted to Golder by Ensol and are presented in Appendix B. Site survey radiation screening results were well below CWM's site investigation value of 16,000 counts per minute (cpm) and soil core readings were less than two times background with the background levels ranging from approximately 4361 cpm to 8862 cpm, as previously determined by URS ("Results of Gamma Walkover Survey, Soil Sampling and Legacy Building Surveys", December 2008).

2.3 Laboratory Analysis

Golder coordinated with the CWM Environmental Monitoring Group for ordering of the appropriate sample containers and supplies. All field samples collected were placed in coolers with ice. The samples were hand-delivered by Golder to Test America in Amherst, NY for analytical testing. Test America was subcontracted directly to CWM and laboratory test results were received by CWM management and forwarded to Golder for summarizing. A total of six soil samples were analyzed for United States Environmental Protection Agency (USEPA) Method 624 for VOCs and 8260 for Select VOCs, and one sample (64R) was inadvertently submitted and analyzed for Method 625 Priority Pollutant Base Neutral/Acid Extractables (PP BNAs) and Method 8270 for Semi-Volatile Organic Compounds (SVOCs) in addition to VOCs. The results are presented in Table 1 and the raw laboratory data as reported by Test America are included as Appendix G.



2.4 Results of Confirmatory Borehole Investigation Program

A review of the soils analytical data indicates that there were no VOCs detected at five of the six borings, with the exception being boring 99R, which had very low (less than 1 ppm) detections of trichloroethene (230 ug/kg) and chloroform (73 J ug/kg). No SVOCs were detected in the one analyzed sample (i.e. boring 64R). There were no PID readings detected at any of the borings except at 64R, where a reading of 132 ppm in the 8-10 foot below ground surface (bgs) interval may have been attributed to wind direction near the drill rig and/or damp/cold weather conditions affecting the function of the PID meter at the time of drilling.



3.0 COMPREHENSIVE HISTORICAL DATA SUMMARY

The development of a historical data summary involved the assimilation of available soil and groundwater chemical data into a comprehensive data table and plotting the results and sample locations on a color-coded concentration map to aid CWM in the realignment of approximately 1000 feet of the RMU-2 footprint western boundary. The available soil data (historic and recent) were condensed and included in this report as Table 2, and the groundwater data (where reported) are included as Table 3.

3.1 Data Source Evaluation-RFI Program and Other Investigations

Numerous site investigations have been performed at the Model City TSD Facility, generally in the form of an extensive RCRA corrective action program. This corrective action program at the facility was originally implemented in a phased manner approach, including a RCRA Facility Assessment (RFA) prepared by URS in 1986, the RFI, performed by Golder from 1988 through 1992, followed by a Corrective Measures Study (CMS) and future Corrective Measures Implementation (CMI). A comprehensive RFI Summary report was produced in January 1993 (Golder, 1993) from these various site investigations summarizing the results of each individual investigation area. It was reported that throughout the RFI program, over eighty (80) Solid Waste Management Units (SWMUs) were investigated at the facility and these units were placed into nine (9) groups (A through I) plus twenty (20) individual designated areas (DA), to consolidate the investigation where possible. For the purposes of this data summary project, only those investigation areas that are situated primarily in the vicinity of the western border of the proposed RMU-2 footprint realignment (see Figure 3) were utilized (including the recent R201 & R202 Investigation [Golder, March 2009] and RMU-2 Footprint Investigation Boring Program [Golder, March 2009]).

The RFI consisted of well investigations, the Initial RFI program and Phase II Investigations. Generally, well investigations were implemented as far back as 1986 at the facility when volatile organic compounds (VOCs) were reported in several monitoring wells sampled as part of the site's groundwater monitoring program. These well investigations were initiated to identify the likely source(s) and extent (vertical and horizontal) of the VOC detections, which were reported at several wells at concentrations that typically exceeded the site statistical trigger limits. This approach was most recently used during the R201S & R202S Well Investigation (Golder, March 2009).

The Initial RFI program was carried out based on a historic review of existing groundwater and leachate data, along with additional soil and groundwater sampling from locations proposed in the original RFI Work Plan for the site. Typically, near surface soil samples were collected for most SWMUs and analyzed for Priority Pollutant analytes, including VOCs, SVOCs, polychlorinated biphenyls (PCBs) and metals. Finally, the Phase II RFI investigations were initiated to define the vertical and horizontal extent of detections first reported during the Initial RFI programs.



3.2 Data Usage and Plotting

In preparing the soil and groundwater data tables, and subsequently the concentration maps, Golder utilized the reported chemical data included in the site-wide RFI Summary Report for selected areas, as well as the most recent investigations performed in the western portion of the proposed RMU-2 area (R201S & R202S Well Investigation and RMU-2 Footprint Investigation, Golder, March 2009). Primarily, soil and groundwater total VOCs (TVOCs), total SVOCs (TSVOCs) and PCBs were summarized from the RFI Summary report and recent investigations. These data included soil Total Petroleum Hydrocarbons (TPHs) generated during the boring programs for this project and are plotted on each respective map. Figure 4 presents the reported historic and recent soil TVOCs, TSVOCs, PCBs and TPHs for the *entire* proposed RMU-2 footprint boundary area. Figure 4A presents an enlarged view of the sample point #43 & #61 areas, the R201 & R202 investigation areas, the point #W19 investigation area, the eastern Process Area, the Tank Farm E area, and the Tank 42 investigation area (i.e., east of the Process Area). Figure 5 presents historic and recently reported groundwater TVOCs and TSVOCs for the proposed RMU-2 footprint boundary area. As with the soil sample maps, Figure 5A presents an enlarged view of the same area of the site east of the Process Area.

Historically, the RFI investigations primarily utilized the field gas chromatograph (field GC) analytical method, which allowed for the more timely identification and quantification of a select group of VOCs in soil samples collected from the historic investigative borings. Occasionally, split samples were sent to off-site analytical laboratories for confirmation of select field GC results. For the purpose of this data summary project, Golder utilized reported laboratory results for soils and groundwater as often as possible based on the data presented in the RFI Summary report. In some cases, field GC results were reported alongside laboratory analytical results and the lab data was incorporated into the historic data summary for this project in place of the field GC data, since the lab data was typically more precise. In the absence of laboratory generated data, Golder relied on the reported field GC data for certain historic investigations.

For this data review project, Golder used existing chemical data provided in the Site RFI Summary Report and the aforementioned investigations recently performed in the general project area of the facility. Data for metals analyses, where reported, was not used in this data summary report, since common metals concentrations identified by laboratory analyses were not detected above method detection limits or were considered typical for metals concentrations for site-wide soils. In certain instances, groundwater results were not always available from certain RFI Investigation areas presented in the RFI summary report (e.g., the Tank Farm E [DA-10] area). Typically, if organic compounds were detected below the method detection limits for certain constituents, the results were not included in the RFI investigation summary.

Of the wells investigated during the historic RFI program, the groundwater data from several wells around Facultative Ponds 3 & 8 (F301S, F302S and F801S) were included in this data summary, since they fall



within or near the southern portion of the proposed RMU-2 footprint (Figures 3, 4 and 5). Additionally, CWM provided groundwater sampling data for monitoring wells TW24S, W1001S and W1002S, all situated along the southeast portion of the proposed RMU-2 border, and the most recent sampling events were used for these wells.



4.0 EVALUATION OF ALTERNATIVE WESTERN BOUNDARY - PHASE I BORINGS

4.1 Boring Layout

Upon review of the historic data summary and constituent concentration maps, CWM requested Golder to collect additional chemical data by proceeding with the RMU-2 Western Boundary Investigation Boring Program in February, 2009. The work performed initially involved the installation of twenty direct-push borings in the Upper Tills aquifer (based on a spacing of approximately 25 to 50-linear feet) along the newly proposed alternative alignment of the Western Boundary (based on the data summary evaluation and oriented in a northwest to southeast transect) for the RMU-2 footprint. Most borings were sampled for soils and groundwater, as described below. During these Phase I drilling activities, it was determined by CWM that, due to initial visually impacted soils found in boring RMU2-W19 (east of the truck wash building), additional "tracking" borings would need to be installed in an attempt to delineate the extent of the affected area. A total of forty borings were installed during the Phase I Boring Program as described below. A detailed evaluation of the W19 area borings is discussed separately in section 6.0 of this report.

Ten borings were advanced north of the Full Trailer Parking lot along the northern portion (north of FAC Pond 3) of the newly proposed alternative alignment for the RMU-2 Western Boundary, with a spacing of approximately 50 feet. Twenty-four borings were advanced south of the Full Trailer Parking lot (fifteen along the same alignment, including re-sampling of boring locations W18 and W19, and nine W19 "tracking" borings along an east to west trend with a spacing of between approximately 10 to 25 feet (see section 6.0 for discussion of the W19 borings). In addition, 6 borings were advanced immediately east of the truck wash building (2 each on the north, east and south sides of URS boring #63) for radiation screening purposes (sampled by EnSol), with a spacing of approximately 5-feet each further distant from the center of boring #63. The installation details and results for these 6 borings are provided in the report entitled *Results of Subsurface Soil and Sediment Sampling for RMU-2* (URS, April 2009). See Figure 3 for actual boring locations.

The 40 borings were staked out by Golder using a measuring wheel and stakes. Boring locations, as staked out by Golder, were approved by CWM prior to the commencement of drilling to obtain utility clearance from CWM. A layout survey was performed by Wendel Duchscherer following the initial drilling program, as requested by CWM. It should be noted that some W19 tracking borings (W19-E2, W19-E3, W19-W3, W19-W4, W19-W4-N1 and W19-W4-S1) were not surveyed and the placement of these borings were approximated on the sample location maps, provided as Figures 3 through 5A.

4.2 Boring Installation and Sampling

The borings were advanced along the alternate Western Boundary alignment using direct-push drilling techniques using a small-diameter soil sampling tool (Geoprobe® Macrocore® sampler) advanced to the top of the Glaciolacustrine Clay (GC) horizon, and continuous soil samples were collected. The



investigation determined that the depth of the GC was variable at each boring location, but typically was encountered between approximately 10 to 14 feet below ground surface (bgs) along the investigated portion of the alignment. Additionally, at sampling location W22, the boring was drilled to a depth of approximately 28 feet bgs., in an attempt to find the GC horizon. The GC horizon did not appear to be encountered in this boring, and as such, the depth to the GC at this location could not be accurately determined.

The ten borings (W1, W2, W3, W4, W5, W6, W7, W8, W9 and W10) along approximately 625 linear feet of the proposed alternate alignment for the RMU-2 Western Boundary (north of the Full Trailer Parking lot), were typically installed with a spacing of approximately 50 feet. In some locations, it was necessary to modify the spacing of borings along the alignment in order to avoid obstacles in the field at the time of drilling activities (e.g., snow piles, concrete pads, etc.).

The fifteen borings (W11, W12, W13, W14, W15, W16, W17, W18, W18R, W19, W19R, W20, W21, W22 and W23) along approximately 275 linear feet of the proposed alternate alignment south of the Full Trailer Parking lot (including through a portion of the abandoned railroad bed area previously investigated [RMU-2 Footprint Investigation Boring Program Report, Golder, March 2009]), consisted of a spacing of approximately 25 feet in order to identify any unknown or potentially impacted media in this general area. Again, in some locations, it was necessary to modify the spacing of borings along the alignment in order to avoid obstacles in the field at the time of drilling activities (e.g., surface waterway and standing water, uneven terrain and snow bank immediately south of Full Trailer parking lot). For details of the W19 area borings, see Section 6.0.

It should be noted that during drilling of boring W18, an abandoned process line (according to CWM personnel) was encountered at shallow depth and, as such, CWM requested Golder to offset the boring and attempt to complete drilling activities at this boring location. Shallow geoprobe refusal was encountered on at least three additional drilling attempts at this location and the fourth attempt represents boring W18R (approximately 10-feet to the east of original boring W18).

Borings to the north and south of the Full Trailer Parking lot were relatively free of visually impacted soils and there were little to no organic vapor detections, with the exception of borings W14, W15, W16 and W22. Boring locations W14 and W16 had some ash-like staining in the 0 to 6 feet bgs depth range and low (0 to 5 ppm) PID readings, which could have been attributed to wind direction near the drill rig and/or damp/cold weather conditions affecting the function of the PID meter at the time of drilling. Boring W15 contained slightly discolored soil media in the 2 to 3 feet bgs range, but no detectable PID readings. These three borings are in the same vicinity as the abandoned railroad bed area. Further south, boring W22 contained discolored soil media in the 8 to 12 foot depth bgs interval, coupled with a slight chemical odor and PID readings in the 10 to 15 ppm range.



A temporary screen-point sampler was to be inserted and driven to the bottom of the borehole (e.g. typically 16 feet) to enable the collection of groundwater samples. However, due to the difficulty in obtaining water samples from the boring locations at which this method was initially employed (e.g., W2), the drilling contractors instead installed temporary ¾-inch diameter HDPE well-screens. Small diameter HDPE tubing with a check valve was inserted down the sampler or well screen to extract the groundwater sample. Groundwater samples could not be collected at boring locations W1, W2, W3 and W5 due to unsaturated (i.e. dry) conditions or other field conditions (snow melt water running into borehole after drilling). It should be noted that no groundwater samples were collected at boring W18 due to geoprobe refusal encountered at shallow depth (as described above) and boring W19R was re-drilled to collect only the additional TPH soil sample. Following completion of the borehole and groundwater sampling and removal of the temporary screens, the hole was filled with granular bentonite.

Air monitoring and screening of soil for VOCs were performed using a PID during drilling. Golder screened the soil cores and monitored the breathing zone for indications of VOCs. Typically, the soil segment with the highest PID reading in each borehole (if detected) was collected for laboratory VOC analysis. If there were no detectable VOCs in a borehole, the sample was collected from the segment near the water table interface. Results of air monitoring can be found in the field boring logs in Appendix C. Several W19 tracking borings had elevated soil PID readings in the 100 to 500 ppm range at varying depths. However, the majority of detected soil PID readings were below 100 ppm.

Prior to and during boring installation procedures, EnSol (under contract to CWM) performed radiological surveying and screening according to the "Radiological Characterization at CWM Model City Subsurface and Pond Sampling", which was provided to the NYSDEC in July 2008 prior to implementation. This plan is in general accordance with the "Radiological Survey Plan for RMU-2 Groundwater Well Installation", dated April 2005 (revised March 2006), and the "Generic Small Project Soil Excavation Monitoring and Management Plan", dated September 2005 (revised November 2006), which were approved by the NYSDEC on August 24, 2007. An area survey was performed prior to boring installation and radiation surveying was performed during boring installation. The survey and soil screening was performed using a Ludlum Model 2221 rate meter with Ludlum Model 44-10 probe, serial # 218587, last calibrated 8/7/08 and a Ludlum Survey Meter Model 2 with HP-260 Pancake Probe detector, serial # 40811, last calibrated 8/7/08. The results were submitted to Golder by Ensol and are presented in Appendix D.

Site survey radiation screening results were well below CWM's site investigation value of 16,000 counts per minute (cpm) and soil core readings were less than two times background with the background levels ranging from approximately 3850 cpm to 7785 cpm, as previously determined by URS ("Results of Gamma Walkover Survey, Soil Sampling and Legacy Building Surveys", December 2008).



4.3 Laboratory Analysis

Golder coordinated with the CWM Environmental Monitoring Group for ordering of the appropriate sample containers and supplies. All field samples collected were placed in coolers with ice. The samples were hand-delivered to Test America in Amherst, NY for analytical testing. Test America was subcontracted directly to CWM and laboratory test results were received by CWM management and forwarded to Golder for summarizing. A total of 22 soil samples were analyzed for USEPA Method 8260 VOCs (excluding the W19 "tracking borings) and 18 water samples were analyzed for Method 624 VOCs (excluding the W19 "tracking borings), as described above. This is the same analytical method used for previous groundwater samples collected during recent investigations in the area (Golder, March 2009) for consistency in comparing sample results. The analytical results are presented in Table 4, and Table 5 presents a sample collection summary and boring location survey data summary. The raw laboratory data as reported by Test America are included as Appendix H.

4.4 Results

The following discussion presents the data (soil and groundwater) for the RMU-2 Western Boundary borings (excluding the W19 area). For details of the W19 petroleum-impacted 'tracking' boring results, see section 6.4.

4.4.1 RMU-2 Western Boundary Soils - VOCs

A review of the soils analytical data indicates that the highest total volatile organics concentrations (TVOC) were detected at borings W5, W14 and W18R, with TVOCs reported at 139 parts per billion (ppb), 273 ppb and 126 ppb, respectively. These typically included low concentrations of acetone, carbon disulfide and chlorobenzene, among others. These constituents (which were the most frequently detected compounds) were also detected at low levels (less than 52 ppb) at borings W15 and W16. For other borings reported, TVOCs were less than 96 ppb (W22) or were not detected.

4.4.2 RMU-2 Western Boundary – Groundwater – VOCs

A review of the groundwater analytical data indicates that the highest (greater than 1 ppm but less than 10 ppm) TVOCs were detected at borings W16 (6.25 ppm), W14 (2.76 ppm) and W15 (2.56 ppm). These included low to moderate concentrations of 1,1,2-trichloroethane, 1,2-dichloropropane, chloroform, tetrachloroethene (PERC), trichloroethene (TCE) and vinyl chloride, (which were the most frequently detected compounds), among others. Many of these same constituents were detected in soil boring 43-E5 installed during the recent RMU-2 Footprint Investigation (Golder, March 2009) in the same vicinity as W14, W15 and W16. It should be noted that many of the same constituents that were detected in the soils for the corresponding Western Boundary investigation borings (e.g., W7, W8, W10 and W22) were usually present in the groundwater samples at similar concentrations compared to the soil detections for



these constituents. In some cases, chemical constituents that were not detected in the soil samples were detected in the groundwater samples (where sampled), i.e., at borings W15, W16, W17, W20 and W23.

As previously explained, no groundwater samples were able to be collected for W1, W2, W3 or W5. The following borings had a TVOC concentration of 0-10 ppb: W4, W9, W11, W12 and W23. Borings W6, W7, W10, W13, W18, W20 and W21 had a TVOC concentration of 10-50 ppb. W8, W17and W22 have TVOC concentrations of 100-500 ppb. Borings W14, W15 and W16 reported concentrations of over 2,000 ppb but less than 10,000 ppb.

It should be noted that most of the groundwater samples contained a significant amount of silt content during sampling activities, which was noted on each chain of custody accompanying the samples to the contracted laboratory. In many cases, it was reported that there was insufficient volume for lower dilutions of samples (due to the high silt content of the aqueous samples), which may have also affected the preservation agent (i.e., HCL preservative). In addition, it was also reported that, due to the affected preservation potential, (i.e., high silt content), many groundwater analytical results may have been biased low.



5.0 EVALUATION OF ALTERNATIVE WESTERN BOUNDARY- PHASE II BORINGS

Since soil and groundwater impacts were revealed along the proposed RMU-2 Western Boundary during the alternative Western Boundary investigation (Phase I) in February, 2009, the comprehensive historical data summary and maps were used to identify a revised alternate western boundary which excluded the areas of borings W14 through W16 and boring W19. CWM requested that Golder install an additional round of exploratory borings (Phase II) along a new, proposed alternative alignment of the Western Boundary (based on the Phase I analytical data and oriented with a north to south and northwest to southeast linear component) for the RMU-2 footprint. In addition, CWM requested Golder to perform groundwater modeling (under a separate project task) to aid in placement of new groundwater monitoring well and piezometer locations along the alternative Western Boundary alignment, and to install a boring at each of the proposed well locations. The work performed as part of Phase II involved both the installation of 20 direct-push borings in the Upper Tills aquifer (based on a spacing of approximately 25 to 50-linear feet) along the newly proposed alternative alignment of the Western Boundary for the RMU-2 footprint and their sampling for soils and groundwater, as described below. The Phase II boring program also included additional "tracking" borings for the W19 area which are discussed in section 6.0 of this report.

5.1 Boring Layout

Four borings were installed north of the Full Trailer Parking lot along the northern portion (north of Facultative Pond 3) of the newly proposed alternative alignment for the RMU-2 Western Boundary, with a spacing of approximately 50 feet. Thirteen borings were installed south of the Full Trailer Parking lot (along the same alignment, including installation of boring W30R due to refusal at original boring location W30), with a spacing of a minimum of approximately 25 feet. Of the thirteen borings installed south of the Full Trailer Parking Lot, one boring each was installed at two proposed new groundwater monitoring locations (well pair R216S/D and piezometer R2P01S) on the west side of Facultative Pond (FAC Pond) 3 at the request of CWM, at a spacing of approximately 350-feet apart. Additionally, three borings were advanced north of Phase I tracking boring W19-W4-N1 (northeast of the truck wash building), with a spacing of between approximately 10 to 20 feet. For details of the W19 area borings, see section 6.0.

The 20 borings were staked out by Golder using a measuring wheel and stakes. Boring locations, as staked out by Golder, were approved by CWM prior to the commencement of drilling to obtain utility clearance from CWM. A layout survey was performed by Wendel Duchscherer following the drilling program, as requested by CWM. See figures 3 through 5A for actual boring locations.

5.2 Boring Installation and Sampling

The borings were advanced along the alternate Western Boundary alignment using direct-push drilling techniques using a small-diameter soil sampling tool (Geoprobe® Macrocore® sampler) advanced to the



top of the Glaciolacustrine Clay (GC) horizon, and continuous soil samples were collected. The investigation determined that the depth of the GC was variable at each boring location, but typically was encountered between approximately 8 to 15 feet below ground surface (bgs) along the investigated portion of the alignment. Additionally, at sampling location W19-W4-N2, the boring was drilled to a depth of approximately 24 feet bgs., in an attempt to find the GC horizon, which was determined to be at approximately the 19.3 feet bgs depth range.

The four borings (W24, W25, W26 and W27) along approximately 150 linear feet of the proposed alternate alignment for the RMU-2 Western Boundary (from well pair R203S/D to the northern side of the Full Trailer Parking lot), were typically advanced with a proposed spacing of approximately 50 feet. In some locations, it was necessary to modify the spacing of borings along the alignment in order to avoid obstacles in the field at the time of drilling activities (e.g., concrete pads). The proposed boring location for original replacement monitoring well pair R202SR/DR was moved approximately 10 feet to the south at the verbal request of CWM to allow for minimal interference with site operations from possible future monitoring well installation activities in the Full Trailer Lot area. Note that it was later determined that this well pair would not be needed based on the final RMU-2 footprint. In addition, in an email dated April 30, 2009, CWM also requested that the location for proposed replacement monitoring well pair R201SR/DR be moved to the south side of M Street, as existing Phase I boring W-23 had a lower reported groundwater TVOC (5.7 ppb) than the Phase II boring W-37 (231.1 ppb)

The thirteen borings (W28, W29, W30, W30R, W31, W32, W33, W34, W35, W36, W37, W38 and W39) spaced along approximately 850 linear feet of the proposed alternate alignment south of the Full Trailer Parking lot (including through a portion of the abandoned railroad bed area previously investigated during Phase I of this project and other recent investigations [RMU-2 Footprint Investigation Boring Program Report, Golder, March 2009]), were advanced with a spacing of a minimum of approximately 25 feet in order to identify any unknown or potentially impacted media in this general area. As previously mentioned, the two borings (W38 and W39) advanced along the west side of FAC Pond 3 had a spacing of approximately 350-linear ft. Again, in some locations, it was necessary to modify the spacing of borings along the alignment in order to avoid obstacles in the field at the time of drilling activities (i.e., surface waterway/standing water and uneven terrain immediately south of the Full Trailer parking lot and west side of FAC Pond 3).

It should be noted that during drilling of boring W30, geoprobe refusal was encountered at approximately 11.5 ft. bgs, before the Glaciolacustrine Clay unit was encountered and, as such, CWM requested Golder to offset the boring and attempt to complete drilling activities at this boring location. The second drilling attempt at this location represents boring W30R (located approximately 3-feet to the south of original boring W30).



Borings to the north and south of the Full Trailer Parking lot were relatively free of visually impacted soils and there were little to no organic vapor detections, with the exception of borings W27 and W36. Boring location W27 (located immediately east of existing RMU-2 monitoring well pair R203S/D) had some black, slag-like material in the 3 to 3.5 foot bgs depth range, with blackish staining and a very slight chemical odor present in the 5 to 5.5 foot bgs depth range, but no PID readings were detected from either interval. Boring location W36 (located immediately east of Phase I tracking boring W19-E3) contained a trace amount of blackish staining, woody pieces and a faint chemical odor in the 0 to 4 foot and 4 to 8 foot bgs depth range and low PID readings (0 to 3.6 ppm in the 0 to 4 foot interval and 0 to 0.4 ppm in the 4 to 8 foot interval), which could have been attributed to wind direction near the drill rig and/or damp/cold weather conditions affecting the function of the PID meter at the time of drilling. This boring is in the same vicinity as the abandoned railroad bed area. No petroleum or NAPL product was encountered in any of the Phase II borings.

The drilling contractor installed temporary ¾-inch diameter HDPE well-screens to the bottom of each boring, as approved by CWM. Small diameter HDPE tubing with a check valve was inserted down the well screen to extract the groundwater sample. It should be noted that no groundwater samples were collected at boring W30 due to geoprobe refusal encountered at shallow depth (as described above). It should also be noted that after drilling was completed for boring W24, the borehole partially collapsed, but the drilling contractor was able to hydraulically drive the temporary well assembly to the bottom of the boring (using the geoprobe drilling unit) to enable groundwater sample collection. Following completion of the boreholes and groundwater sampling and removal of the temporary screens, the holes were filled with bentonite chips.

Air monitoring and screening of soil for VOCs were performed using a PID during drilling. Golder screened the soil cores and monitored the breathing zone for indications of VOCs. Typically, the soil segment with the highest PID reading in each borehole (if detected) was collected for laboratory VOC analysis. If there were no detectable VOCs in a borehole, the sample was collected from the segment near the water table interface. Results of air monitoring can be found in the field boring logs in Appendix E. All detected soil PID readings were well below 10 ppm.

Prior to and during boring installation procedures, EnSol (under contract to CWM) performed radiological surveying and screening according to the "Radiological Characterization at CWM Model City Subsurface and Pond Sampling", which was provided to the NYSDEC in July 2008 prior to implementation. This plan is in general accordance with the "Radiological Survey Plan for RMU-2 Groundwater Well Installation", dated April 2005 (revised March 2006), and the "Generic Small Project Soil Excavation Monitoring and Management Plan", dated September 2005 (revised November 2006), which were approved by the NYSDEC on August 24, 2007. An area survey was performed prior to boring installation and radiation surveying was performed during boring installation. The survey and soil screening was performed using a



Ludlum Model 2221 rate meter, serial # 211782, with Ludlum Model 44-10 probe, serial #220133, last calibrated 2/2/09. The results were submitted to Golder by Ensol and are presented in Appendix F

Site survey radiation screening results were well below CWM's site investigation value of 16,000 counts per minute (cpm) and soil core readings were less than two times background with the background levels ranging from approximately 3263 cpm to 8301 cpm, as previously determined by URS ("Results of Gamma Walkover Survey, Soil Sampling and Legacy Building Surveys", December 2008). It should be noted that background radiation screening readings at boring locations W28, W29, W30 and W31 were slightly more elevated, which could have been attributed to heavy rain and wet ground conditions, according to the Ensol radiation technician.

5.3 Laboratory Analysis

Golder coordinated with the CWM Environmental Monitoring Group for ordering of the appropriate sample containers and supplies. All field samples collected were placed in coolers with ice. The samples were hand-delivered to Test America in Amherst, NY for analytical testing. Test America was subcontracted directly to CWM and laboratory test results were received by CWM management and forwarded to Golder for summarizing. A total of 16 soil samples were analyzed for USEPA Method 8260 VOCs (excluding the W19-W4 "tracking" borings) and 16 water samples were analyzed for Method 624 VOCs (excluding the W19-W4 "tracking" borings), as described above. This is the same analytical method used for previous groundwater samples collected during Phase I of this project and other recent investigations in the area (Golder, March 2009) for consistency in comparing sample results. The analytical results are presented in Table 6, and Table 7 presents a sample collection summary and boring location survey data summary. The raw laboratory data reports as reported by Test America are included as Appendix I.

5.4 Results

As with the Phase I Boring Program analytical section, the following discussion presents the data (soil and groundwater) for the RMU-2 Alternative Western Boundary borings (excluding the W19 area). For details of the W19-W4 petroleum-impacted 'tracking' boring results, see section 6.4.

5.4.1 RMU–2 Western Boundary Soils – VOCs

A review of the soils analytical data (excluding the W19-W4 tracking area) indicates that the highest (less than 1 ppm) total volatile organics concentrations (TVOC) were detected at borings W37, W29, W31, W32, W27, and W34, with TVOCs reported at 792 parts per billion (ppb), 633 ppb, 490 ppb, 395 ppb, 346 ppb, and 277 ppb, respectively. These typically included low concentrations of acetone and methylene chloride, among others. These constituents (which were the most frequently detected compounds) were also detected at low levels (less than 140 ppb) at borings W24 and W36, with low detections (less than



120 ppb) of acetone and methylene chloride reported in at least half of the borings. For other borings reported, TVOCs were less than 128 ppb (W38).

5.4.2 RMU-2 Western Boundary – Groundwater – VOCs

A review of the groundwater analytical data (excluding the W19-W4 tracking area) indicates that the highest (less than 1 ppm) TVOCs were detected at boring W37 (0.231 ppm). The most commonly reported compounds were acetone and toluene, detected in nearly every borehole from the Phase II Boring Program. Several constituents (1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene and acetone) were detected at similar levels in soil boring W22, located approximately 35 feet to the southwest of boring W37, installed during the Phase I drilling program of this project. It should be noted that many of the same constituents that were detected in the soils for the corresponding Phase II Western Boundary investigation borings (W24, W27, W36, W37 and W39) were usually present in the groundwater samples at similar concentrations compared to the soil detections for these constituents.

There were no VOCs detected in the groundwater sample from boring W29. Boring W26 had a TVOC concentration of less than 10 ppb. Borings W24, W25, W28, W30R, W31-W36, W38 and W39 all had a TVOC concentration of 10-50 ppb. Boring W27 had a TVOC concentration of 62.8 ppb, while boring W37 had a reported TVOC concentration of 231.1 ppb.

It should be noted that most of the groundwater samples contained a significant amount of silt/sediment content during sampling activities, which was noted on each chain of custody accompanying the samples to the contracted laboratory. In many cases, it was reported that due to the high silt/sediment content of the aqueous samples, the preservation agent (i.e., HCL preservative) may have been affected. In addition, due to the affected preservation potential, many groundwater analytical results may have been biased low, although all aqueous samples were analyzed within 7 days, as per Environmental Protection Agency (EPA) recommendation. It was also reported that due to the amount of sediment present in the groundwater sample vials collected at boring W39, volumes from two or more separate vials were combined for analysis.



6.0 EVALUATION OF ALTERNATIVE WESTERN BOUNDARY – BORING W19 AREA – PHASE I AND PHASE II

As previously mentioned in sections 4.0 and 5.0, during the Phase I and Phase II drilling activities it was determined by CWM that, due to visually impacted soils found in boring RMU2-W19, additional "tracking" borings would need to be installed in an attempt to delineate the extent of the affected area. This section discusses the layout, advancement and sampling of the W19 area borings and their analytical results evaluation.

6.1 Boring Layout

During the Phase I boring program, eleven borings were advanced south of the Full Trailer Parking lot in the W19 area, including initial boring W19, re-sampling of boring location W19, and nine W19 'tracking' borings along an east to west trend with a spacing of between approximately 10 to 25 feet (as previously noted in section 4.1). During the Phase II boring program, three additional W19 area tracking borings (W19-W4-N2, W19-W4-N3 and W19-W4-N4) were advanced north of tracking boring W19-W4-N1, in an attempt to further delineate the contamination revealed in that area during the Phase I boring program (as previously noted in section 5.1). A total of fourteen borings were installed during the Phase I and Phase II Boring Program for the W19 area as described below. See Figure 3 for actual boring locations.

The 11 Phase I borings and 3 Phase II borings were staked out by Golder using a measuring wheel and stakes. Boring locations, as staked out by Golder, were approved by CWM prior to the commencement of drilling to obtain utility clearance from CWM. A layout survey was performed by Wendel Duchscherer following the initial drilling program, as requested by CWM. It should be noted that some Phase I W19 area tracking borings (W19-E2, W19-E3, W19-W3, W19-W4, W19-W4-N1 and W19-W4-S1) were not surveyed and the placement of these borings were approximated on the sample location maps, provided as Figures 3 through 5A.

6.2 Boring Installation and Sampling

The borings were advanced using direct-push drilling techniques using a small-diameter soil sampling tool (Geoprobe® Macrocore® sampler) advanced to the top of the Glaciolacustrine Clay (GC) horizon, and continuous soil samples were collected. The investigation determined that the depth of the GC was variable at each boring location, but typically was encountered between approximately 10 to 14 feet below ground surface (bgs) along the investigated portion of the alignment.

It should be noted that during the Phase I boring program (February 2009), CWM requested boring W19 as well as additional (Phase I) tracking borings to be sampled for TPH analyses to determine the lateral extent of the petroleum contamination encountered in boring W19. At the time of the additional sampling request, the boring for W19 had already been completed and sampled for VOCs analyses (as well as



tracking boring W19-E1). As such, the center point of boring W19 was re-drilled (to a total depth of approximately 8.0 feet bgs) with its own borehole (W19R, offset by no more than approximately 0.5-foot) to collect the additional TPH soil sample. CWM did not request boring W19-E1 to be resampled for TPH analyses. Seven Phase I tracking borings (W19-E1, W19-E2, W19-E3, W19-W1, W19-W2, W19-W3 andW19-W4) for original boring W19 were advanced in an east-west alignment, with a spacing of between approximately 10 to 20 feet progressively further from the center of boring W19 (as requested by CWM). Furthermore, CWM requested that a secondary boring to the north and south of tracking boring W19-W4 also be advanced (W19-W4-N1 and W19-W4-S1, respectively). All additional W19 area borings (with the exception of boring W19-E1) were sampled for TPH analyses, in addition to VOCs analyses and boring W19R was re-drilled to collect only the additional TPH soil sample.

During the Phase II boring program (April 2009), three additional tracking borings (W19-W4-N2, W19-W4-N3 and W19-W4-N4) for original Phase I tracking boring W19-W4 were advanced in a north-south alignment (north of Phase I tracking boring W19-W4-N1), with a spacing of between approximately 10 to 20 feet progressively further from the center of boring W19-W4-N1 (as requested by CWM). CWM requested boring W19-W4-N4 be sampled for TPH analyses, in addition to VOCs analyses, to determine the lateral northern extent of the petroleum contamination encountered in Phase I boring W19-W4. At the time of the additional sampling request, the tracking borings for W19-W4-N2 and W19-W4-N3 had already been completed and sampled for VOCs analyses.

The Phase I tracking borings to the east of original boring W19 (W19-E1, W19-E2 and W19-E3) contained either a trace of petroleum-like impacted media (e.g., black stain/product) and/or slightly elevated PID readings within the soil media. The Phase I tracking borings to the west of boring W19 (W19-W1, W19-W2, W19-W3 and W19-W4) contained petroleum-like visual contamination and elevated PID readings at varying depths. Tracking boring W19-W4-S1 did not have any visually contaminated media and no PID readings were detected at this location. Tracking boring W19-W4-N1 had an overall chemical odor present in most of the sample cores and contained blackish, organic-like liquid and an organic-like odor in the 4.0-8.0 ft. bgs interval. Elevated PID readings were detected below approximately 4.0 ft. bgs and were detected as high as approximately 459 ppm in the 8.0-12.0 ft. bgs interval. It should be noted that during Phase I drilling activities for the tracking borings related to boring W19, the CWM project manager requested Golder to collect soil samples for TPH analyses in addition to VOCs.

Two Phase II tracking borings (W19-W4-N2 and W19-W4-N3) to the north of Phase I tracking boring W19-W4-N1 contained slag-like material and organic-like liquid impacted media and odor (e.g. dark grayish-olive green to black product/staining) typically in the 3 to 5 foot bgs depth range, with no PID detections. Phase II tracking boring W19-W4-N4 contained discolored soil media in the 3 to 4 foot depth bgs range, coupled with a faint chemical odor and slightly elevated PID readings (1.7 to 6.7 ppm) within the soil media to approximately 8.0 feet bgs. It should be noted that during drilling activities for Phase II



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tracking boring W19-W4-N4, the CWM project manager requested Golder to collect soil samples for TPH analyses in addition to VOCs. All borings were sampled for both soils and groundwater (as described below).

Small diameter HDPE tubing with a check valve was inserted down the sampler or well screen to extract the groundwater sample. It should be noted that Phase I boring W19R was re-drilled to collect only the additional TPH soil sample. Following completion of the borehole and groundwater sampling and removal of the temporary screens, the holes were filled with granular bentonite.

Air monitoring and screening of soil for VOCs were performed using a PID during drilling. Golder screened the soil cores and monitored the breathing zone for indications of VOCs. Typically, the soil segment with the highest PID reading in each borehole (if detected) was collected for laboratory VOC analysis. If there were no detectable VOCs in a borehole, the sample was collected from the segment near the water table interface. Results of air monitoring can be found in the field boring logs in Appendix C for Phase I borings and Appendix E for Phase II borings. Several W19 tracking borings had elevated soil PID readings in the 100 to 500 ppm range at varying depths. However, the majority of detected soil PID readings were below 100 ppm.

Prior to and during boring installation procedures, EnSol (under contract to CWM) performed radiological surveying and screening according to the "Radiological Characterization at CWM Model City Subsurface and Pond Sampling", which was provided to the NYSDEC in July 2008 prior to implementation. This plan is in general accordance with the "Radiological Survey Plan for RMU-2 Groundwater Well Installation", dated April 2005 (revised March 2006), and the "Generic Small Project Soil Excavation Monitoring and Management Plan", dated September 2005 (revised November 2006), which were approved by the NYSDEC on August 24, 2007. An area survey was performed prior to boring installation and radiation surveying was performed during boring installation. The survey and soil screening was performed using a Ludlum Model 2221 rate meter with Ludlum Model 44-10 probe, serial # 218587, last calibrated 8/7/08 and a Ludlum Survey Meter Model 2 with HP-260 Pancake Probe detector, serial # 40811, last calibrated 8/7/08. The results were submitted to Golder by Ensol and are presented in Appendix D for Phase I borings and Appendix F for Phase II borings.

Site survey radiation screening results were well below CWM's site investigation value of 16,000 counts per minute (cpm) and soil core readings were less than two times background with the background levels ranging from approximately 3850 cpm to 7785 cpm, as previously determined by URS ("Results of Gamma Walkover Survey, Soil Sampling and Legacy Building Surveys", December 2008).



6.3 Laboratory Analysis – W19 Area

Golder coordinated with the CWM Environmental Monitoring Group for ordering of the appropriate sample containers and supplies. All field samples collected were placed in coolers with ice. The samples were hand-delivered to Test America in Amherst, NY for analytical testing. Test America was subcontracted directly to CWM and laboratory test results were received by CWM management and forwarded to Golder for summarizing. A total of 13 soil samples were analyzed for USEPA Method 8260 VOCs and 13 water samples were analyzed for Method 624 VOCs in the W19 area during the Phase I and Phase II boring programs, as described above. This is the same analytical method used for previous groundwater samples collected during recent investigations in the area (Golder, March 2009) for consistency in comparing sample results. In addition, at the request of CWM, ten total soil samples from the Phase I and Phase II W19 tracking area were analyzed for TPH. The analytical results are presented in Table 4 (Phase I) and Table 6 (Phase II) and Table 5 and Table 7 present a sample collection summary and boring location survey data summary for both Phase I and Phase II W19 tracking borings. The raw laboratory data as reported by Test America are included for Phase I as Appendix I.

6.4 Results

The following discussion presents the data (soil and groundwater) for the W19 petroleum-impacted 'tracking' borings.

6.4.1 Phase I W19 Area Soils – TPHs

During the installation of boring W19, black staining and a petroleum odor was noted. Additional tracking borings were installed to provide samples for TPH and VOC analysis. A review of the TPH data indicates that the highest concentrations were detected at borings W19R (820 ppm), W19-E2 (901 ppm) and W19-W2 (1840 ppm). TPH concentrations of between 191 and 433 ppm were reported for borings W19-W1, W19-W3 and W19-W4-S1. TPH was not detected at borings, W19-E3, W19-W4 and W19-W4-N1. As previously explained, no TPH sample was collected at boring location W19-E1.

6.4.2 Phase I W19 Area Soils – VOCs

A review of the VOC data indicates that the highest concentrations were detected at borings W19-W2 (9.4 ppm), with the predominant compounds being chlorobenzene (1.4 ppm), toluene (4.5 ppm) and xylene (2.7 ppm), and W19-W4-N1 (470.7 ppm) with the predominant compounds reported as 1,1,2,2-tetrachloroethane (75 ppm), 1,1,2-trichloroethane (95 ppm), tetrachloroethene (210 ppm) and trichloroethene (66 ppm). Borings W19-E1, W19-E2 and W19-E3 had a petroleum-like odor. Borings W19, W19R, and W19-W1 through W19-W4 had blackish, petroleum-like staining at approximately the 6-9 feet bgs depth. Borings W19-E3 and W19-W4-S1 had TVOC concentrations of 0-100 ppb, while



borings W19, W19-E1, W19-E2, W19-W1, and W19-W3 had TVOC concentrations of 100-1000 ppb, with chlorobenzene (2.1-240 ppb) and xylene (ND–260 ppb) being the most predominant compounds. For these borings, the TPH concentration ranged from half to two times the TVOC concentration. For boring W19-W4, no VOCs were detected, however, there were elevated detection limits on the first analysis and not enough sample to retest with a lower dilution factor.

Black organic liquid and an organic odor were noted from approximately 4.6 feet to 9.0 feet bgs for W19-W4-N1. TVOC (as reported above) was 470.7 ppm. TPH was non-detect (<120 ppm). The dominant compounds detected in this boring (1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, tetrachloroethene and trichloroethene) were generally not detected in the other W19 series borings.

6.4.3 Phase I W19 Area Groundwater - VOCs

A review of the groundwater VOC data indicates that the highest concentration was detected at boring W19-W4-N1 (26.2 ppm) with the predominant compounds reported as 1,1,2,2-tetrachloroethane (7.1 ppm), 1,1,2-trichloroethane (12 ppm), 1,2-dichloropropane (2.1 ppm) tetrachloroethene (1.2 ppm) and trichloroethene (2.3 ppm). Benzene, chlorobenzene, ethylbenzene, toluene, trichloroethene and xylene were detected at W19 and all associated tracking borings except E3 and W4-N1. However, the TVOC levels were lower than for W19-W4-N1: W19 (0.367 ppm), W19-W1 (0.749 ppm), W19-W2 (0.461 ppm), W19-W3 (0.173 ppm), W19-W4 (0.194 ppm), W19-W4-S1 (0.213 ppm) and W19-E2 (1.155 ppm).

1,1,2,2-tetrachloroethane (7.1 ppm) and 1,1,2-trichloroethane (12 ppm) were only detected in W19-W4-N1 except for trace amounts in W19-W4-S1 (3.4 ppb and 24 ppb, respectively). Boring W19-E2 had the second highest TVOC in this group of borings (1.155 ppm), however, the predominant compounds were 1,2-dichloroethene (160 ppb), 1,2-dichloropropane (140 ppb), chlorobenzene (97 ppb), toluene (290 ppb) and xylene (150 ppb). The contaminants in the groundwater at W19-W4-N1 are chlorinated compounds, whereas W19-E2 contains a mixture of both chlorinated and non-chlorinated compounds at similar levels.

As noted in section 4.4, most of the W19 area groundwater samples contained a significant amount of silt content during sampling activities, which was noted on each chain of custody accompanying the samples to the contracted laboratory. In many cases, it was reported that there was insufficient volume for lower dilutions of samples (due to the high silt content of the aqueous samples), which may have also affected the preservation agent (i.e., HCL preservative). In addition, it was also reported that, due to the affected preservation potential, (i.e., high silt content), many groundwater analytical results may have been biased low.

6.4.4 Phase II W19–W4 Tracking Area Soils – TPHs

A review of the TPH data indicates that boring W19-W4-N4 reported a TPH concentration of 421 ppm, similar to TPH levels detected during installation of the W19 area 'tracking' borings during Phase I of this



project. No TPH samples were collected from 'tracking' borings W19-W4-N2 and W19-W4-N3. CWM decided not to investigate any further to the north of boring W19-W4-N4, since previously installed boring W16 to the north-northwest had much lower VOC levels (see Tables 4 and 6).

6.4.5 Phase II W19–W4 Tracking Area Soils – VOCs

A review of the VOC data indicates that the highest TVOC concentrations were detected at boring W19-W4-N4 (1.27 ppm), with the predominant compounds reported as tetrachloroethene (410 ppb), 1,1,2-trichloroethane (200 ppb), trichloroethene (170 ppb) and acetone (160 ppb). Borings W19-W4-N2 and W19-W4-N3 had black to dark grayish-green, organic-like staining at approximately the 3-5 feet bgs depth, with TVOC concentrations of 1.09 ppm and 1.11 ppm, respectively, with acetone (25-1100 ppb), ethylbenzene (ND-170 ppb) and tetrachloroethene (ND-170 ppb) being the most predominant compounds, respectively.

Blackish, organic-like liquid and an organic odor were noted from approximately 3.1 to 5.2 feet bgs for boring W19-W4-N2. TVOC (as reported above) for this boring was 1.09 ppm. The dominant compounds detected in this boring (1,2-dichloroethene, chlorobenzene, ethylbenzene, tetrachloroethene and xylene) were also detected in W19-W4-N4 and in several Phase I W19 series borings (W19-E1, W19-E2, W19-W1, W19-W2, W19-W3 and W19-W4-N1).

6.4.6 Phase II W19–W4 Tracking Area Groundwater – VOCs

A review of the groundwater VOC data indicates that the highest concentration was detected at boring W19-W4-N4 (2.25 ppm) with the predominant compounds reported as tetrachloroethene and trichloroethene (490 ppb each), 1,1,2-trichloroethane (280 ppb), 1,1,2,2-tetrachloroethane (270 ppb) and 1,2-dichloroethene (230 ppb). Most of these same compounds were detected at similar or lower levels in tracking borings W19-W4-N2 and W19-W4-N3, as well as Phase I borings W14, W15, W16 and W17 and Phase I tracking borings W19-E2, W19-W4-N1 and W19-W4-S1. The contaminants in the groundwater at W19-W4-N4 are mostly chlorinated compounds, with a few non-chlorinated compounds at similar levels, whereas W19-W4-N2 and W19-W4-N3 contain a mixture of both chlorinated and non-chlorinated compounds at similar levels.

Detections of 1,1,2-trichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-dichloroethene, 1,2-dichloropropane, tetrachloroethene, trichloroethene and vinyl chloride were all reported in all three Phase II tracking borings (W19-W4-N2, W19-W4-N3 and W19-W4-N3). Boring W19-W4-N2 had the second highest reported TVOC in this group of borings (703.1 ppb), however, the predominant compounds were 1,2-dichloroethene (200 ppb), vinyl chloride (170 ppb) and 1,2-dichloroethane (130 ppb).

As noted in section 5.4, the W19 tracking area groundwater samples contained a significant amount of silt/sediment content during sampling activities, which was noted on each chain of custody accompanying



the samples to the contracted laboratory. In many cases, it was reported that due to the high silt/sediment content of the aqueous samples, the preservation agent (i.e., HCL preservative) may have been affected. In addition, due to the affected preservation potential, many groundwater analytical results may have been biased low, although all aqueous samples were analyzed within 7 days, as per Environmental Protection Agency (EPA) recommendation.



7.0 EVALUATION OF RESULTS

7.1 Vertical Soil Profile

7.1.1 Phase I Boring Program

The vertical extent of the VOCs detected during the RMU2 Phase I Western Boundary Investigation program generally terminated within the Upper Clay Tills. The VOCs detected in the shallower Upper Tills (typically 3 to 10 ft. bgs) are most likely the result of surface releases or spills. VOCs detected deeper in the Upper Tills (typically 11 to 14 ft. bgs) may be the result of spills which have migrated downward through the soils with time. As the #W19 borings are situated within the vicinity of the abandoned railroad bed and former maintenance shop area, past activities at this portion of the site may possibly have contributed to the impacts seen in many of these borings. Furthermore, downward movement of VOCs through the soil may not occur along a vertical path, but may migrate downward along an oblique path from the surface spill.

7.1.2 Phase II Boring Program

As with the Phase I Boring Program, the vertical extent of the VOCs detected during the RMU2 Phase II Western Boundary Investigation program generally terminated within the Upper Clay Tills. The VOCs detected in the shallower Upper Tills (typically 3 to 8 ft. bgs) are most likely the result of surface releases or spills. VOCs detected deeper in the Upper Tills (typically 9 to 13 ft. bgs) may be the result of spills which have migrated downward through the soils with time. As borings W28 through W36 are situated within the vicinity of the abandoned railroad bed area, past activities at this portion of the site may possibly have contributed to the impacts seen in many of these borings. Furthermore, downward movement of VOCs through the soil may not occur along a vertical path, but may migrate downward along an oblique path from the surface spill.

Movement of a constituent from a spill or leak through soil is primarily dependant on the characteristics of the soil (e.g. hydraulic conductivity, soil type, presence of preferential pathways such as fractures, lenses, etc.). The vertical downward movement of the VOCs through the soils has been observed to be inhibited at interfaces with stratigraphic units of lower hydraulic conductivity, (e.g. the Upper Tills/GC interface), or due to structural discontinuity (heterogeneity) within the Upper Till sequence.

7.2 Areal Extent of VOCs

7.2.1 Phase I Boring Program

For the various borings along the initial, alternative Western Boundary alignment, the low level detections of the various compounds may be attributed to various past waste handling practices. Groundwater contamination in the low ppm range was found at borings W14 (2.76 ppm), W15 (2.56 ppm) and W16 (6.25 ppm); these borings are in the vicinity of the northern branch of the abandoned railroad bed. Similar



contamination was found in the groundwater at nearby boring, W43-E5 (TVOC 2.35 ppm). Further to the northwest (W13) and to the southeast (W17), the contamination drops off to ppb levels (27.6 and 134.8 ppb, respectively). Borings to the west (W43-E4, TVOC 40 ppb) and to the east (W43-E6, TVOC ND), estimated to be along the northern abandoned railroad bed, show minimal or no contamination. The contamination in the area of W14, W15, W16 and W43-E5 appears to be localized.

For the Phase I boring W19 area, the contamination appears to follow an east-west line parallel to the southern branch of the former railroad line. East and west tracking borings were found to have low levels of both chlorinated and non-chlorinated (petroleum) compounds. Generally, the east and west borings were terminated when an area of minimal contamination was found or upon the guidance of CWM. The eastern most boring W19-E3 had minimal contamination, thus borings in the eastern direction were terminated at this location. Low level contamination was noted at W19-W4-S1, thus no further borings to the south were undertaken. Installation of the borings in a westerly direction was terminated at boring W19-W4 without exactly defining the end of the contamination, since this boring was adjacent to the boring #63 series of tracking borings and no visual organic contamination was noted in this group of borings. The roll-off garage is just west of boring #63.

Significant levels of VOC contamination were found in the soil and groundwater at the boring north of W19-W4 (i.e., W19-W4-N1). This boring is between W19-W4 and the southern branch of the abandoned railroad bed. No additional borings were installed in a northerly direction (approaching the railroad bed) during drilling activities as the area was inaccessible due to the presence of a large snow pile from site snow plowing activities. The extent of contamination was not defined to the north of W19-W4-N1; however, boring W18R to the east and slightly north (closer to the old railroad line) did not show similar levels of contamination (soil TVOC 126 ppb, groundwater TVOC 26 ppb). Boring RR0B6 from the Supplemental Abandoned Railroad Bed Investigation (Golder, October 1997) found lower levels of contamination (than boring W19-W4-N1) along this branch of the former railroad bed (soil TVOC 2.64 ppm) with 1,2-dichloroethene (2.6 ppm) being the dominant compound. The compounds identified in RR0B6 and W19-W4-N1 do not match, indicating that there is not a common source of continuous contamination along that section of the railroad line. The areal extent of VOC contamination in the boring W19 area appears to be limited to the area between W19-E2 and W19-W4 and north of W19-W4.

7.2.2 Phase II Boring Program

For the borings along the revised alternative Western Boundary alignment, the low level detections of the various compounds may be attributed to various past waste handling practices and site activities. Groundwater contamination in the low ppb range was found at borings W24 (24 ppb), W25 (31.9 ppb) and W26 (9.3 ppb) and W27 (62.8 ppb); these borings are in the vicinity of the former Lagoons 3 and 4 and Empty Drum Storage area (currently the Trailer Parking Lot). Similar contamination was found in the groundwater at nearby Phase I boring W8 (TVOC 121.8 ppb) and may be residual volatile organics from



the former locations of Lagoons 3 and 4. Boring W37, located within a landscaping box on the southwest corner of the maintenance building (east of the Truck Wash building), had a reported soil TVOC of 792.3 ppb, with similar levels of contaminants detected in the groundwater for W37 (TVOC 231.1 ppb). At least four of the chemical compounds identified in boring W37 (1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethane and acetone) were also reported at Phase I boring W22 in the soil and/or groundwater samples at similar or slightly lower levels. Further to the west (W21), north (64R) and south (W23) of boring W37, the soil contamination levels diminish to non-detect (15.0 ppb, ND and ND, respectively). The contamination in the area of W37 appears to be localized.

For the Phase II boring W19-W4 tracking area, the contamination appears to follow a north-south line, parallel with the estimated location (by CWM) of an abandoned process line encountered at shallow depth heading north from the estimated location of the southern spur of the abandoned railroad bed (as noted in Section 4.2 above). Tracking borings W19-W4-N2 and W19-W4-N3 were found to have low levels of mostly chlorinated and some non-chlorinated compounds. Tracking boring W19-W4-N4 reported low levels of chlorinated and non-chlorinated (petroleum) compounds, however, no petroleum-like product was visually encountered in this boring. Although low level contamination was noted at W19-W4-N4, CWM requested that no further borings be installed further north of W19-W4-N4, since several exploratory borings were already installed to the north-northeast of this location during Phase I (e.g., W16, W15, W14) and no significant visual organic contamination was noted in boring W19-W4-N4.

Low levels of VOC contamination were found in the soil and groundwater at borings north of W19-W4-N1 (i.e., W19-W4-N2 and W19-W4-N3). These borings are in the vicinity of the southern branch of the abandoned railroad bed. The extent of contamination has been defined to the north of W19-W4; heading north from Phase I boring W19-W4-N1, soil TVOCs slightly increase from 1.09 ppm (W19-W4-N2) to 1.27 ppm (W19-W4-N4), then gradually diminish to ppb levels at W16 (66.8 ppb) before increasing slightly in concentration again towards the northern branch of the abandoned railroad bed at boring W14 (0.273 ppm). It should be noted that detections of 1,1,2-trichloroethane, 1,2-dichloroethene, 1,2-dichloropropane, tetrachloroethene, trichloroethene and vinyl chloride were all reported in groundwater samples collected from borings W19-W4-S1, W19-W4-N1, W19-W4-N2, W19-W4-N3,W19-W4-N4, W14, W15, W16 and W17 ranging from low (1.5 ppb at W19-W4-N3) to significant concentration levels (12.0 ppm at W19-W4-N1).

As with the Phase I boring assessment noted in Section 6.2.1, historic boring RROB6 from the Supplemental Abandoned Railroad Bed Investigation (Golder, October 1997) found similar to lower levels of contamination along the southern branch of the former railroad bed (soil TVOC 2.64 ppm) with 1,2-dichloroethene (2.6 ppm) being the dominant compound. As the compounds identified in RR0B6 (1,2-dichloroethene and toluene [0.026 ppm])) were reported in Phase II borings W19-W4-N2 (0.16 and 0.012 ppm), W19-W4-N4 (0.091 and 0.0023 ppm), and Phase I boring W14 (0.05 and 0.0018) at similar levels



to RROB6, these compounds may be partially attributed to the abandoned railroad bed and/or the abandoned process line. The areal extent of VOC contamination in the Phase II boring W19-W4 tracking area appears to parallel the north-south alignment of the abandoned process line situated in this area.

7.3 Source Evaluation

In the past, Golder and others have performed numerous site investigations at the facility in the form of an extensive RCRA corrective action program, with a comprehensive RFI Summary report produced in January 1993 (Golder, January 1993). A separate investigation of the abandoned railroad bed was performed in 1997 (Golder, October 1997). The boring #W19 investigation area is situated along the southern branch of the abandoned railroad bed area. This area, in turn, is located south of the northernmost branch of the abandoned railroad spur that was recently investigated through a portion of the bed and shown to have chemical impacts, possibly from former waste transfer operations (Golder, March 2009). The area of the abandoned railroad bed is currently overlain by a haul road previously used by waste trucks heading to the former location of the site scales. Additionally, according to CWM site personnel, a former engine/equipment shop was once situated in the vicinity of the boring #W19 investigation area.

According to the abandoned railroad bed investigation report, VOCs that were detected along the abandoned rail bed were most likely due to past activities associated with the railroad use. Additionally, during the RMU-2 Footprint Investigation program (Golder, March 2009), old concrete tank cradles (empty) were observed to be standing in the wooded parcel directly to the northwest of the boring #W19 investigation area. Through discussions with CWM site personnel, Golder understands that the concrete cradles were once used in conjunction with chemical loading/offloading in that area in the past.

For example, historic borings previously drilled in the area west of MacArthur Street (Golder, October 1997) showed low level detections of VOC constituents in the soil and groundwater. Historic boring RROB5, situated approximately 400-feet west of MacArthur street, reportedly had detections of benzene and toluene (among others), compounds which were also detected in at least 7 of the 10 W19 area borings. Boring RROB5 also reportedly had detections of chlorobenzene and vinyl chloride (among others), compounds which were also detected in groundwater samples from at least 7 of the 10 W19 area borings.

In summarizing data contained in this report and the abandoned railroad bed investigation area, it can be seen that much of the investigated area may have been affected by past waste handling procedures, including operations at the former equipment shop in the area. Surface spills and releases that have seeped from the surface into the soils and groundwater over time are the most likely cause of the impacts in the investigation area. Previous site usage of these roadways and temporary storage of drums may also have contributed to the contamination in the area.



The areal extent of the VOCs appears to be limited to the areas along the former railroad line, while vertical VOC detection was concentrated in the shallow depths of the Upper Tills. A likely source of the VOCs detected in the investigation of area #W19 during the Phase I Boring Program are the potential sources associated with past waste and chemical transfer operations, as well as operations at the former equipment shop. The potential sources also include drum storage along the roadway, truck leakage, tanker railcar and container leakage and/or spills.



8.0 CONCLUSIONS

This report provides the details of the extensive investigations completed by CWM for areas impacted by the proposed construction of RMU-2 and associated facilities. Six borings previously identified with potential VOC contamination using field meters were confirmed to have little to no levels of VOCs through laboratory testing. Due to contamination found in other areas within the original RMU-2 footprint, existing data was evaluated and new borings were installed (Phase I and Phase II) and tested to determine an alternative western boundary for RMU-2

For the confirmatory borehole investigation, the low level detections of VOCs at boring 99-R (located to the southwest of secure landfill [SLF]-10) may be attributed to the roadway as the probable source of the compounds detected. According to the historic RFI summary report, borings drilled during the investigation of well MW10-2S reported VOC detections that were reportedly attributed to past government activities at the site. Boring 99-R is situated approximately 130 feet to the south of well MW-10-2S (now W1002S).

Movement of a constituent from a spill or leak through soil is primarily dependant on the characteristics of the soil (e.g. hydraulic conductivity, soil type, presence of preferential pathways such as fractures, lenses, etc.). The vertical downward movement of the VOCs through the soils has been observed to be inhibited at interfaces with stratigraphic units of lower hydraulic conductivity, (e.g. the Upper Tills/GC interface), or due to structural discontinuity (heterogeneity) within the Upper Till sequence.

For the alternative Western Boundary investigation (Phase I and Phase II) boring locations (with the exception of the W19 area borings), the likely source of the contamination (i.e., borings W14, W15, W16, W27, W36 and W37) may be associated with the former waste handling practices around the site, including the former railroad line, drum storage along roadways, truck leakage, container leakage and/or spills.

For the Phase I W19 boring investigation area, the likely source of the contamination may possibly be linked to past operations from the former engine shop area, coupled with potential sources associated with waste transfer operations in the past and present, including transfer of chemical materials from railroad tanker cars along the abandoned railroad bed area. Again, these potential sources include drum storage along the roadways, truck leakage, tanker car/container leakage and/or spills. CWM has indicated that it would manage the Phase I W19 petroleum impacted area under the site's Corrective Action Program (CAP), as this area lies outside of the proposed Western Boundary of the new RMU-2 footprint design.

As with the Phase I W19 boring investigation area above, the likely source of the contamination encountered in the Phase II W19-W4 area tracking borings (W19-W4-N1 through W19-W4-N4) appears



to be related to an abandoned process line running nearly parallel to the line of tracking borings running south to north. Other potential sources may include past operations from the former engine shop area and sources associated with waste transfer operations in the past and present, including transfer of chemical materials from railroad tanker cars along the abandoned railroad bed area. Again, these potential sources include drum storage along the roadways, truck leakage, tanker car/container leakage and/or spills. As with the Phase I W19 area, CWM would address the Phase II W19-W4 tracking area under the CAP.



9.0 RECOMMENDATIONS

Due to contamination found within the original RMU-2 footprint (groundwater monitoring wells R201 and R202; investigative borings 43 and 61), the western boundary of RMU-2 should be relocated to the east. As a result of the data evaluation and field borings described in this report, CWM has adjusted the western boundary of RMU-2 to the alignment shown on Figures 3 through 5A.

The areal extent of the VOC detections along the Phase I alternative alignment of the RMU-2 Western Boundary appears to be localized in the area of W14, W15, W16 and 43-E5 and related to the abandoned railroad bed. Given the level of groundwater contamination (2–6 ppm), this area is unsuitable for the installation of an RMU-2 groundwater monitoring well network. Since only low levels of localized contamination were identified in this area, no further investigation is recommended at this time. Based upon NYSDEC review of the analytical data in this area, additional actions may be needed under the site's Corrective Action Programs, as this area falls outside of the redesigned RMU-2 footprint boundary.

The impacts in the boring W19 area appear to be limited in most directions and a continued investigation to the north of W19-W4-N1 was carried out at the request of CWM during the Phase II Boring Program. Contamination was found to continue further north toward the abandoned railroad line, but is most likely attributable to the abandoned process line reported by CWM to be present in this area. Due to the contamination found at W19 and its tracking borings, placement of a groundwater monitoring well for RMU-2 in the area of W19 may not be acceptable. Given the localized contamination and the concentration levels, additional actions may be needed under the site's Corrective Action Program based upon NYSDEC review of the analytical data in this area, as this area falls outside of the redesigned RMU-2 footprint boundary.

Golder appreciates the continued opportunity to provide CWM with engineering services. If you have any questions or comments, please call the undersigned at (716) 215-0650.

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TABLES

TABLE 1 CONFIRMATORY BOREHOLE INVESTIGATION SOIL ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 FOOTPRINT INVESTIGATION, MODEL CITY, NY

| Location | 64R | 15R | 83R | 89R | 99R | 108R |
|--------------------------|--------------------|------------|------------|------------|------------|-------------|
| Chain of Custody ID | RMU2-SO-64R (8-10) | RMU2-SO-15 | RMU2-SO-83 | RMU2-SO-89 | RMU2-SO-99 | RMU2-SO-108 |
| Media | Soil (8-10) | Soil | Soil | Soil | Soil | Soil |
| VOC Lab Sample ID | A8D55401 | A8D86701 | A8D83101 | A8D83102 | A8D83103 | A8D86702 |
| Sample Date | 10/28/08 | 11/3/08 | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Volatiles | | | | | | |
| Chloroform | | | | | 73 J | |
| Trichloroethene | | | | | 230 | |
| TOTAL VOCs - UG/KG (ppb) | 0 | 0 | 0 | 0 | 303 | 0 |
| TOTAL VOCs - MG/KG (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 0.303 | 0.000 |
| | | | | | | |
| SVOC Lab Sample ID | A8D55501 | | | | | |
| Sample Date | 10/28/08 | | | | | |
| Units | UG/KG | | | | | |
| Semi - Volatiles | None Detected | | | | | |



TABLE 1 CONFIRMATORY BOREHOLE INVESTIGATION SOIL ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 FOOTPRINT INVESTIGATION, MODEL CITY, NY

USEPA Defined Organic Data Qualifiers:

J = Estimated concentration value; Result is below the PQL but criteria are met.

Notes:

UG/KG= micrograms per kilogram MG/KG= millligrams per kilogram ppm= Parts per million ppb= Parts per billion

> Table by: RJM Checked by: AML Reviewed by: DCW



| RFI Investigation Area | | | | | G | ROUP D AREA | (1) | | | | |
|---------------------------|-----------|----------|---------|---------|----------|-------------|--------|--------|---------|--------|--------|
| Location | DA24-1A** | DA24-3** | DA24-5* | DA24-6* | DA24-8** | GDA-1* | GDA-2* | GDA-3* | GDA-3** | GDA-4* | GDA-5* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | 46000 | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | 11.9 | | |
| 1,1,2-Trichloroethane | | | | | | | | | 173 | | |
| 1,1-Dichloroethane | | | | | | | | | 17.4 | | |
| 1,1-Dichloroethene | | | | | | | | | | | |
| 1,2-Dichloroethane | | | | | | | | | 54.7 | | |
| 1,2-Dichloropropane | | | | | | | | | 39.3 | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | | |
| Benzene | | | | | | | | 1369 | 132 | 180 | 11 |
| Bromoform | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | | |
| Chlorobenzene | | | | | | | | 748 | 15 | 214 | |
| Chlorodibromomethane | | | | | | | | | | | |
| Chloroethane | | | | | | | | | | | |
| Chloroform | | | | | | | | | 23 | | |
| Dichlorobromomethane | | | | | | | | | | | |
| Ethylbenzene | | | | | | | | 661 | 12.4 | 265 | |
| Methyl bromide | | | | | | | | | | | |
| Methyl Chloride | | | | | | | | | | | |
| Methylene Chloride | | | | | | | | | 11.6 | | |
| Tetrachloroethene (PERC) | | 6 J | 106 | | | | | 61 | 13 | 2 | |
| Toluene | | | | | | 20 | | 1983 | 48.8 | 632 | |
| Trichloroethene (TCE) | | 6 J | 43 | 21 | 2 J | | 184 | 1889 | 177 | 376 | 79 |
| M-xylene | | | | | | | | | | | |
| O+P-xylene | | | | | | | | 844 | | 367 | 55 |
| Xylenes, Total | | 19 | | | | | | | | | |
| Vinyl Chloride | | | | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 0 | 31 | 149 | 21 | 2 | 20 | 184 | 53555 | 729.1 | 2036 | 145 |
| TOTAL VOCs - MG/KG (ppm) | 0.000 | 0.031 | 0.149 | 0.021 | 0.002 | 0.020 | 0.184 | 53.555 | 0.729 | 2.036 | 0.145 |

Notes



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TABLE 2

HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | GROUP D AREA (1) | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|----------|--|--|--|--|--|
| Location | DA24-1A** | DA24-3** | DA24-5* | DA24-6* | DA24-8** | GDA-1* | GDA-2* | GDA-3* | GDA-3** | GDA-4* | GDA-5* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | |
| 3,3-Dichlorobenzidine | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | | | | |
| 4,6-Dinitro-o-cresol | | | | | | | | | | | |
| 2,4,-Dinitrophenol | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | |
| 3,4-Benzofluoranthene | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | |
| bis(2-Chloroisopropyl)ether | | | | | | | | | | | |
| bis(2-Ethylhexyl)phthalate | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | |
| Chrysene | | | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | | | |
| Diethyl phthalate | | | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | 1880 | | 1 |
| 2,4-Dinitrotoluene | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | | † |
| Fluorene | | | | | | | | | | | |
| Hexachlorobenzene | | | | | | | | | | | 1 |
| Hexachlorobutadiene | | | | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | | | | |
| Hexachloroethane | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | |
| Isophorone | | | | | | | | | | | |
| Naphthalene | | | | | | † | | | | | |
| Nitrobenzene | | + | | | | | | | | + | + |
| 2-Nitrophenol | | | | | | | | | | | + |
| 4-Nitrophenol | | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | 1 | | | | | | | 1 | | | + |
| N-nitrosodiphenylamine | | | | | | | | | | | |
| Pentachlorophenol | 1 | | 1 | | | | | 1 | | | + |
| Phenanthrene | | | | | | | | | | | + |
| Phenol | 1 | | | | | | | | | | + |
| Pyrene | | | | | | 1 | | + | 1 | | + |
| 1,2,4-Trichlorobenzene | | | | | | | | | 1 | | + |
| | | | | | | | | | 1000 | | |
| TOTAL SVOCs - UG/KG (ppb) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1880 | 0 | 0 |
| TOTAL SVOCs - MG/KG (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.880 | 0.000 | 0.000 |

Notes:



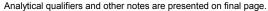
| RFI Investigation Area | | | | | G | ROUP D AREA | (1) | | | | |
|-------------------------------------|--|----------|---------|---------|--------------|-------------|--------|--------|--|--------|--------|
| Location | DA24-1A** | DA24-3** | DA24-5* | DA24-6* | DA24-8** | GDA-1* | GDA-2* | GDA-3* | GDA-3** | GDA-4* | GDA-5* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Sep-89 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| PESTICIDES/PCBs | | | | | | | | | | | |
| Aldrin | | | | | | | | | | | |
| Alpha-BHC | | | | | | | | | | | |
| Beta-BHC | | | | | | | | | | | |
| Gamma-BHC | | | | | | | | | | | |
| Delta-BHC | | | | | | | | | | | |
| Chlordane | | | | | | | | | | | |
| 4,4-DDT | | | | | | | | | | | |
| 4,4-DDE | | | | | | | | | | | |
| 4,4-DDD | | | | | | | | | | | |
| Dieldrin | | | | | | | | | | | |
| Endosulfan I | | | | | | | | | | | |
| Endosulfan II | | | | | | | | | | | |
| Endosulfan sulfate | | | | | | | | | | | |
| Endrin | | | | | | | | | | | |
| Endrin aldehyde | | | | | | | | | | | |
| Heptachlor | | | | | | | | | | | |
| Heptachlor epoxide | | | | | | | | | | | |
| PCB-1242 | | | | | | | | | | | |
| PCB-1254 | | | | | | | | | | | |
| PCB-1221 | | | | | | | | | | | |
| PCB-1232 | | | | | | | | | 1 | | |
| PCB-1248 | | | | | | | + | | | | |
| PCB-1260 | 4 | 110 | | | | | + | | | | |
| PCB-1016 | | 110 | | | | | 1 | | | | |
| Toxaphene | | | | | | | | | | | |
| TOTAL PESTICIDES/PCBs - UG/KG (ppb) | 4 | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL PESTICIDES/PCBs - MG/KG (ppm) | 0.004 | 0.110 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL PESTICIDES/PCBS - MG/KG (ppm) | 0.004 | 0.110 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Notes



| RFI Investigation Area | | | | | P | ROCESS AREA | (²⁾ | | | | |
|---------------------------|---------|--------|--------|--------|---------|-------------|-----------------|----------|---------|---------|---------|
| Location | PRO-4* | PRO-6* | PRO-7* | PRO-8* | PRO-9* | PRO-10A* | PRO-10B* | PRO-10C* | PRO-25* | PRO-26* | PRO-27* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 223000 | 51030 | 43870 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | | |
| 1,1-Dichloroethene | 44800 | 1788 | 2335 | 166 | 7880 | 397 | 408 | | | 610 | 65 |
| 1,2-Dichloroethane | | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | |
| trans-1,2-Dichloroethene | 1209 | | | | 316 | 6 | 117 | 134 | | | |
| Benzene | 9195 | 1988 | 1177 | 198 | 4721 | 928 | 95 | 3741 | 45 | 423 | 39 |
| Bromoform | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | | |
| Chlorobenzene | | | | | | | | | | | |
| Chlorodibromomethane | | | | | | | | | | | |
| Chloroethane | | | | | | | | | | | |
| Chloroform | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | |
| Ethylbenzene | 5414 | 502 | | 33 | 6225 | | 81 | 4551 | | | |
| Methyl bromide | | | | | | | | | | | |
| Methyl Chloride | | | | | | | | | | | |
| Methylene Chloride | | | | | | | | | | | |
| Tetrachloroethene (PERC) | 9832 | 1116 | 1167 | 449 | 11760 | 19550 | 1265 | 13940 | | 3287 | 116 |
| Toluene | 40810 | 5338 | 2750 | 2061 | 39030 | 87550 | 2695 | 140500 | | 2701 | 186 |
| Trichloroethene (TCE) | 236000 | 25850 | 18860 | 838 | 50620 | 124350 | 4185 | 127450 | 243 | 11640 | 77590 |
| M-xylene | | | | | | | | | | | |
| O+P-xylene | 1079 | 367 | 122 | 577 | 462 | 332 | | 2939 | | 365 | |
| Xylenes, Total | | | | | | | | | | | |
| Vinyl Chloride | | | | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 571339 | 87979 | 70281 | 4322 | 121014 | 233113 | 8846 | 293255 | 288 | 19026 | 77996 |
| TOTAL VOCs - MG/KG (ppm) | 571.339 | 87.979 | 70.281 | 4.322 | 121.014 | 233.113 | 8.846 | 293.255 | 0.288 | 19.026 | 77.996 |

Notes





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TABLE 2

HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

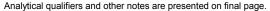
| Decision | RFI Investigation Area | | | | | | | PROCESS AR | EA ⁽²⁾ | | | | | | | |
|--|---------------------------|--------|--------|--|------|--|--|------------|-------------------|--------|--------------|----------|---------|--|-----|---------------|
| Media | | PRO-4* | PRO-6* | l PR | 0-7* | PRO-8* | | | | O-10B* | PRO-10C | * | PRO-25* | PRO-26* | PRC |)-27* |
| Sumple Date | | | | | | | | | | | | | | | | |
| United U | | | | | | | | | | | | | | | | |
| Semi_Valuation Semi | | | | | | | | | | | | | | | | |
| 2.Discoprisement | | | | | | | | | | | | П | | | | |
| 2.Discoprisement | Semi - Volatiles | | | | | | | | | | | | | | | - |
| 12-Delivorborenees | | | | | | | | | | | | | | | | - |
| 13-Delinotroberezene | | | | | | | | + | | | | | | | - | - |
| 1.4 Obstrobergeriere | | | | | | | | + | - | | | | + | | - | - |
| 3.3-Deinkorderordined 2.4-Deinkorderord 2.4-Dein | | | | | | | | + | | | | | | | - | - |
| 2.4.5-Dischosphand 2.4Dischosphand 2.4Discho | | | | | | | | | | | | | | | | |
| 2.4. One-floyinghenol d. 5. Dinto o- cresial d. 6. Dinto o- cresial | | | | | | | | + | | | | | | | - | -+ |
| 2.4-Dintripotendo | | | | | | | | + | | | | | | | - | -+ |
| 4.6-Donitro-corresol 4.7-Donitro-corresol 4.7-Donit | | | | | | + | | + | - | | | | | | + | |
| 2.4. Ontrophenel Acomphithree Acomphithree Acomphithree Butter Company | | | | | | | | | | | | | | | | -+ |
| Acenaphthree Benzula (alanthracene Benzula (alanthracene) S. 4-Benzula (alanthracene) S. 4-Benzula (alanthracene) S. 4-Benzula (alanthracene) Benzula (alanthracene) Benzula (alanthracene) Benzula (alanthracene) Belz (Chinocephrypharine) Belz (Chinocephry | | | | | | | | | | | | | | | | |
| Apenaphtylenee | | | | | | | | | | | | | | | | |
| Benzo(alprimere 3.4-Benzo(alprimere 8.5-Benzo(alprimere 9.5-Benzo(alprimere 9.5-Benzo(alprimere 9.5-Benzo(alprimere 9.5-Benzo(alprimere 9.5-Benzo(alprimere 9.5-Benzo(alprimere) | | | + | | | + | + | + | | | | | | + | | |
| Benzolglyprene | | | - | + | -+ | + | + + | + | - | - | | \vdash | | + | - | |
| 3.4-Berozdouroanthene Berozdo (Nooranthene Berozdo | | | - | + | | + | + | | | | 1 | | | + | | |
| Benzo(phiperplene | | | - | + | | + | + | | | | 1 | | | 1 | | |
| Benzo(infloranthene | | | - | \vdash | | + | 1 | | | | | \vdash | ļ | | | |
| big(2-Chioresthoxy)methane | | | - | + | | + | 1 | | | | | | | | | |
| Dist2-Chiorosetylyether Dist2-Chiorosetylyether Dist2-Chiorosetylyether Dist2-Chiorosetylyether Dist2-Chiorosetylyethidate Dist2-Chiorosetylyethidat | | | _ | ├- | | | | 1 | | | . | \vdash | | 1 | _ | |
| Dist2-Etythesyphthalate | | | | | | | | | | | | | | | | |
| bis(2-Ethylnexy)phthalate | | | | | | | | | | | | | | | | |
| 4-Bromophenyphenyl ether Butylbenzyphenyl ether 2-Chloronaphthalate 2-Chloronaphthalate 3-Chloronaphthalate 4-Chlorophenylpenyl ether 5-Chrysene 6-Chrysene 6-Chrysene 7-Chrysene 8-Chlorom- 9-Dibenzo(a, h)anthracene 9-Di-phyl phthalate 9-Di-phyl p | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate 4-Chicropherylphenyl ether Chrysene Gresol, p-chloro-m- Dibenzo(a), hiphthalate Dibenzo(a), hiphthalate 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,4-Dinitrotoluene Di-n-oxtyl phthalate Di-n-oxtyl phthalate Di-n-oxtyl phthalate Di-n-oxtyl phthalate Fluoranthene Fluoranthene Fluoranthene Fluoranthene Fluoranthene Hexachlorochazene Hexachlorochazene Hexachlorochazene Hexachlorochazene Histophorole Histophorone Najorhazene Histophorone Najorhazene Hexachlorochazene Histophorone Najorhazene Hexachlorochazene Hexach | | | | | | | | | | | | | | | | |
| 2-Chioronaphthalene | | | | | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m Dibenzo(a, h)anthracene | | | | | | | | | | | | | | | | |
| Chrysene | | | | | | | | | | | | | | | | |
| Cresol, p-chloro-m | | | | | | | | | | | | | | | | |
| Distry phthalate District | | | | | | | | | | | | | | | | |
| Diethyl phthalate | | | | | | | | | | | | | | | | |
| Din-buly phthalate | | | | | | | | | | | | | | | | |
| 2,4-Dintrotoluene Di-n-octyl phthalate Di-n-octyl phthalate Fluoranthene Fluoranthene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloropthane Isophorone | Diethyl phthalate | | | | | | | | | | | | | | | |
| 2.6-Dintrotoluene Di-n-octyl phthalate Fluoranthene Fluoranthene Fluoranthene Fluoranthene Fluoranthene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorophane | Di-n-butyl phthalate | | | | | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | | | | | | |
| Fluoranthene Fluorene Fluorene Hexachlorobutadiene Hexachlorocyclopentadiene Hoxachlorocyclopentadiene Naphthalene Naphthalene Nitrobenzene Nitrobenzene N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine Pentachlorophenol Phenanthrene Phenanthrene Phenanthrene Phenol Pyrene 1,2,4-Tirchlorobenzene TOTAL SVOCS - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 | 2,6-Dinitrotoluene | | | | | | | | | | | | | | | |
| Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorobethane Hexachlorocyclopentadiene Sophorone Naphthalene Naphthalen | Di-n-octyl phthalate | | | | | | | | | | | | | | | |
| Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorocyclopentadien | Fluoranthene | | | | | | | | | | | | | | | |
| Hexachloropyclopentadiene | Fluorene | | | | | | | | | | | | | | | |
| Hexachlorocyclopentadiene Hexachlorocytane Indeno(1,2,3-cd)pyrene Isophorone Naphthalene Nitrobenzene Shitrophenol I | Hexachlorobenzene | | | | | | | | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | | | | 1 | | | | | |
| Hexachloroethane | | | | | | | | | İ | | 1 | | | | İ | $\neg \vdash$ |
| Indeno(1,2,3-cd)pyrene | | | | | | 1 | 1 | | | | 1 | | | | | - |
| Isophorone | | | | | | | | | | | | | | | | - |
| Naphthalene Nitrobenzene Nitrobenzene Image: Control of the con | | | | | | 1 | † | | | | | | | | | |
| Nitrobenzene 2-Nitrophenol 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Phyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | † | | | | 1 | | | 1 | | $\neg \vdash$ |
| 2-Nitrophenol 4-Nitrophenol N-nitroso-Din-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | 1 | | | 1 | | - |
| 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | + + | † | | | | 1 | | | 1 | | - |
| N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | † † | † † | | | | 1 | | | 1 | | - |
| N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | <u> </u> | | | | | 1 | | | 1 | | - |
| Pentachlorophenol Pentachlorophenol Phenanthrene Image: Comparison of the property of the propert | | | | | | + | + | | | -+ | 1 | \vdash | | 1 | | - |
| Phenanthrene Phenol Phyrene I.2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 | | + | + | | | + + | + | + + | + | _ | | | | + | - | |
| Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 | | | | | _ | + + | + | 1 | | | | \vdash | | + - | | - |
| Pyrene 1,2,4-Trichlorobenzene 0< | | | 1 | | | + + | + | 1 | - | | 1 | | | + | - | |
| 1,2,4-Trichlorobenzene 1 0 | | | + | | | + + | + | | | | 1 | | | | | |
| TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 | | | + | | | + + | + | + + | | | 1 | \vdash | | + - | | |
| | | _ | + - | - | | - | | | + | | <u> </u> | <u> </u> | | | _ | |
| TOTAL SVOCs - MG/KG (ppm) 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 | | | | | | | | | | | | | | | | |
| 0.000 0.000 0.000 0.000 | TOTAL SVOCs - MG/KG (ppm) | 0.000 | 0.000 | 0. | 000 | 0.000 | 0.000 | 0.000 | C | 0.000 | 0.000 | | 0.000 | 0.000 | 0.0 |)00 |

Notes:



| RFI Investigation Area | | | | | Р | ROCESS AREA | (²⁾ | | | | |
|-------------------------------------|--------|--------|--------|--------|--------|-------------|-----------------|----------|---------|---------|---------|
| Location | PRO-4* | PRO-6* | PRO-7* | PRO-8* | PRO-9* | PRO-10A* | PRO-10B* | PRO-10C* | PRO-25* | PRO-26* | PRO-27* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| PESTICIDES/PCBs | | | | | | | | | | | |
| Aldrin | | | | | | | | | | | |
| Alpha-BHC | | | | | | | | | | | |
| Beta-BHC | | | | | | | | | | | |
| Gamma-BHC | | | | | | | | | | | |
| Delta-BHC | | | | | | | | | | | |
| Chlordane | | | | | | | | | | | |
| 4,4-DDT | | | | | | | | | | | |
| 4,4-DDE | | | | | | | | | | | |
| 4,4-DDD | | | | | | | | | | | |
| Dieldrin | | | | | | | | | | | |
| Endosulfan I | | | | | | | | | | | |
| Endosulfan II | | | | | | | | | | | |
| Endosulfan sulfate | | | | | | | | | | | |
| Endrin | | | | | | | | | | | |
| Endrin aldehyde | | | | | | | | | | | |
| Heptachlor | | | | | | | | | | | |
| Heptachlor epoxide | | | | | | | | | | | |
| PCB-1242 | | | | | | | | | | | |
| PCB-1254 | | | | | | | | | | | |
| PCB-1221 | | | | | | | | | | | |
| PCB-1232 | | | | | | | | | | | |
| PCB-1248 | | | | | | | | | | | |
| PCB-1260 | | | | | | | | | | | |
| PCB-1016 | | | | | | | | | | | |
| Toxaphene | | | | | | | | | | | |
| TOTAL PESTICIDES/PCBs - UG/KG (ppb) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL PESTICIDES/PCBs - MG/KG (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Notes





| RFI Investigation Area | F | ROCESS AREA | (2) | | | | T | ANK FARM E (3 |) | | | |
|---------------------------|---------|-------------|---------|----------|----------|----------|----------|---------------|---------|----------|----------|--------|
| Location | PRO-28* | PRO-31* | PRO-33* | DA10-1** | DA10-2** | DA10-3** | DA10-4** | DA10-5** | TFE-2** | DA15-1** | DA15-2** | T42-1* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-91 | Aug-91 | Aug-91 | Jul-91 | Jul-91 | Jul-91 | Jul-91 | Jul-91 | Aug-91 | Jul-91 | Jul-91 | Jul-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | 6 J | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | 100 | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | | | |
| 1,1-Dichloroethene | | 8718 | 247 | | | | | | | | | |
| 1,2-Dichloroethane | | | | 11 | | | | | 13 | 3 J | | |
| 1,2-Dichloropropane | | | | | | | | | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | | | 60 | | | | | | 3.66 | | | |
| Benzene | | 2464 | 51 | | | | | | 15.7 | | | |
| Bromoform | | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | 24.6 | | | |
| Chlorobenzene | | | | 31 | | | | | 133 | | | |
| Chlorodibromomethane | | | | | | | | | | | | |
| Chloroethane | | | | | | | | | | | | |
| Chloroform | | | | 3 | | | | | 37.8 | 2 J | | |
| Dichlorobromomethane | | | | | | | | | | | | |
| Ethylbenzene | | 13110 | | | | | | | 13.6 | | | |
| Methyl bromide | | | | | | | | | | | | |
| Methyl Chloride | | | | | | | | | | | | |
| Methylene Chloride | | | | 3 B | 7.8 J,B | 6.2 J,B | | 8.4 J,B | | 100 B | 48 B | |
| Tetrachloroethene (PERC) | | 20190 | | | | | | | 4.98 | | | |
| Toluene | | 43800 | 2424 | 7 | | | | | 373 | | | |
| Trichloroethene (TCE) | | 64210 | 1184 | 3 | | | 2 J | | 16.5 | 25 | 24 | 171 |
| M-xylene | | | | | | | | | 28 | | | |
| O+P-xylene | | 4140 | | | | | | | 14.0 | | | |
| Xylenes, Total | | | | 8.3 | | | | | | | | |
| Vinyl Chloride | | | | | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 0 | 156632 | 3966 | 166.3 | 7.8 | 6.2 | 2 | 8.4 | 677.84 | 136 | 72 | 171 |
| TOTAL VOCs - MG/KG (ppm) | 0.000 | 156.632 | 3.966 | 0.166 | 0.008 | 0.006 | 0.002 | 0.008 | 0.678 | 0.136 | 0.072 | 0.171 |

Notes





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TABLE 2

HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | PR | OCESS AREA | (2) | | | | | | | T. | ANK FARM | E (3) | | | | | | |
|-----------------------------|--------------|----------|------------|---------|---|----------|----------|---|----------|----------|----------|----------|-------|---------|----------|----------|-------------|----------|--------|
| Location | PRO-28* | | PRO-31* | PRO-33* | r | DA10-1** | DA10-2** | | DA10-3** | | DA10-4** | DA10-5** | | TFE-2** | | DA15-1** | DA15-2** | + | T42-1* |
| Media | Soil | | Soil | Soil | | Soil | Soil | | Soil | | Soil | Soil | | Soil | | Soil | Soil | | Soil |
| Sample Date | Aug-91 | | Aug-91 | Aug-91 | | Jul-91 | Jul-91 | | Jul-91 | | Jul-91 | Jul-91 | | Aug-91 | | Jul-91 | Jul-91 | | Jul-91 |
| Units | UG/KG | | UG/KG | UG/KG | | UG/KG | UG/KG | | UG/KG | | UG/KG | UG/KG | | UG/KG | | UG/KG | UG/KG | | UG/KG |
| | | | | | | | | | | | | | | | | | | T i | |
| Semi - Volatiles | | | | | | | | | | | | | | | | | | Ħ | |
| 2-Chlorophenol | | | | | | | | | | | | | | | | | | 1 1 | |
| 1,2-Dichlorobenzene | | | | | | | | | | | | | | 3 | | | | t | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | | | _ | | | | t | |
| 1,4-Dichlorobenzene | | | | | | | | | | _ | | | | | | | | + + | |
| 3,3-Dichlorobenzidine | | | | | | | | | | _ | | | | | | | | + + | |
| 2,4,6-Trichlorophenol | | | | | | | | | | _ | | | | | | | | 1 1 | |
| 2,4,-Dichlorophenol | | | | | 1 | | | | | _ | | | | | | | | t t | |
| 2,4,-Dimethylphenol | | | | | 1 | | | | | - | | | | | | | | 1 | |
| 4,6-Dinitro-o-cresol | | -+ | | | - | | | | | - | | | | | | | | + | |
| | | | | | | | | | | | | | | | | | | + | |
| 2,4,-Dinitrophenol | 1 | \vdash | | | - | | | | | | | | | | | | 1 | \vdash | |
| Acenaphthene | 1 | \vdash | | | 1 | | | | | | | | | | | | 1 | H | |
| Acenaphthylene | 1 | \dashv | | | + | | | | | - | | | | | | | - | \vdash | |
| Benzo(a)anthracene | - | \sqcup | | | - | | | | | _ | | | | | | | - | \vdash | |
| Benzo(a)pyrene | | L | | | | | | | | _ | | | | | | | | ш | |
| 3,4-Benzofluoranthene | | | | | | | | | | | | | | | | | | Ш | |
| Benzo(ghi)perylene | | | | | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | | | | | | | | | |
| bis(2-Chloroisopropyl)ether | | | | | | | | | | | | | | | | | | | |
| bis(2-Ethylhexyl)phthalate | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | | | | | | | | |
| Chrysene | | | | | | | | | | | | | | | | | | t t | |
| Cresol, p-chloro-m- | | | | | | | | | | | | | | | | | | Ħ | |
| Dibenzo(a,h)anthracene | | | | | | | | | | | | | | | | | | | |
| Diethyl phthalate | | | | | | | 2300 | J | 950 J | | | | | | | | | 1 1 | |
| Di-n-butyl phthalate | | | | | | | | _ | | | | | | 3400 | | | | 1 1 | |
| 2,4-Dinitrotoluene | | | | | 1 | | | | | | | | | | | | | t | |
| 2,6-Dinitrotoluene | | | | | 1 | | | | | T | | | | | | | | t | |
| Di-n-octyl phthalate | | | | | 1 | | | | | _ | | | | | | | | t | |
| Fluoranthene | | | | | | | | | | _ | | | | | | | | + + | |
| Fluorene | | | | | | | | | | - | | | | | | | | 1 | |
| Hexachlorobenzene | t | \vdash | | | 1 | | | | | -1 | | | | | \vdash | | 1 | \vdash | |
| Hexachlorobutadiene | 1 | -+ | | | 1 | | l | | | | | | | | | | 1 | H | |
| Hexachlorocyclopentadiene | <u> </u> | \vdash | | | + | | | | | - | | | | | | | <u> </u> | + | |
| Hexachloroethane | | | | | 1 | | | | | \dashv | | | | | | | 1 | \vdash | |
| Indeno(1,2,3-cd)pyrene | | \vdash | | | 1 | | | | - | | | | | | \vdash | | 1 | \vdash | |
| Isophorone | 1 | | + | | 1 | | | | | | | | | | | | 1 | H | |
| Naphthalene | | + | | | + | | | | - | - | | | | | | | | \vdash | |
| | - | + | | | + | | | | | - | | | | | \vdash | | - | \vdash | |
| Nitrobenzene | - | | | | + | | | | | | | | | | \vdash | | | \vdash | |
| 2-Nitrophenol | - | \vdash | | | - | | | | | | | | | | - | | 1 | \vdash | |
| 4-Nitrophenol | 1 | \vdash | | | - | | | | | _ | | | | | | | 1 | Н | |
| N-nitroso-Di-n-propylamine | 1 | \vdash | | | - | | | _ | | - | | | | | | | 1 | \vdash | |
| N-nitrosodiphenylamine | | _ | | | - | | | | | _ | | | | | | | | ш | |
| Pentachlorophenol | | \sqcup | | | | | | | | | | | | | | | | ш | |
| Phenanthrene | 1 | | | | | | | | | | | | | | | | 1 | | |
| Phenol | 1 | | | | _ | | | | | | | | | | | | 1 | ш | |
| Pyrene | | | | | | | | | | | | | | | | | | Ш | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | | | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | 0 | | 0 | 0 | | 0 | 2300 | | 950 | | 0 | 0 | | 3403 | | 0 | 0 | | 0 |
| | 0.000 | | 0.000 | 0.000 | | 0.000 | 2.300 | | 0.950 | | 0.000 | 0.000 | | 3.403 | | 0.000 | 0.000 | | 0.000 |
| TOTAL SVOCs - MG/KG (ppm) | 0.000 | | 0.000 | 0.000 | | 0.000 | 2.300 | | 0.950 | | 0.000 | 0.000 | | 3.403 | | 0.000 | 0.000 | | 0.000 |

Notes:



TABLE 2 HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs

CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | F | PROCESS AREA | (²⁾ | | | | | TANK FARM E ⁽³ |) | | | |
|-------------------------------------|---------|--------------|-----------------|----------|----------|----------|----------|---------------------------|--|----------|----------|--------|
| Location | PRO-28* | PRO-31* | PRO-33* | DA10-1** | DA10-2** | DA10-3** | DA10-4** | DA10-5** | TFE-2** | DA15-1** | DA15-2** | T42-1* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-91 | Aug-91 | Aug-91 | Jul-91 | Jul-91 | Jul-91 | Jul-91 | Jul-91 | Aug-91 | Jul-91 | Jul-91 | Jul-91 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| PESTICIDES/PCBs | | | | | | | + | | | | | |
| Aldrin | | | | | | | | | | | | |
| Alpha-BHC | | | | | | | | | | | | |
| Beta-BHC | | | | | | | | | | | | |
| Gamma-BHC | | | | | | | | | | | | |
| Delta-BHC | | | | | | | | | | | | |
| Chlordane | | | | | | | | | | | | |
| 4,4-DDT | | | | | | | | | | | | |
| 4,4-DDE | | | | | | | | | | | | |
| 4,4-DDD | | | | | | | | | | | | |
| Dieldrin | | | | | | | | | | | | |
| Endosulfan I | | | | | | | | | | | | |
| Endosulfan II | | | | | | | | | | | | |
| Endosulfan sulfate | | | | | | | | | | | | |
| Endrin | | | | | | | | | | | | |
| Endrin aldehyde | | | | | | | | | | | | |
| Heptachlor | | | | | | | | | | | | |
| Heptachlor epoxide | | | | | | | | | | | | |
| PCB-1242 | | | | | | | 2700 | | | | 102 | |
| PCB-1254 | | | | | | | | | | | | |
| PCB-1221 | | | | | | | | | | | | |
| PCB-1232 | | | | | | | | | | | | |
| PCB-1248 | | | | | | | | | | | | |
| PCB-1260 | | | | | | | 2500 | | | | 20 | |
| PCB-1016 | | | | | | | | | | | | |
| Toxaphene | | | | | | | | | | | | |
| TOTAL PESTICIDES/PCBs - UG/KG (ppb) | 0 | 0 | 0 | 0 | 0 | 0 | 5200 | 0 | 0 | 0 | 122 | 0 |
| TOTAL PESTICIDES/PCBs - MG/KG (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 5.200 | 0.000 | 0.000 | 0.000 | 0.122 | 0.000 |

Notes



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TABLE 2 HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | T. | ANK 42 AREA ⁽ | 4) |
|---------------------------|--------|--------------------------|--------|
| Location | T42-2* | T42-3* | T42-4* |
| Media | Soil | Soil | Soil |
| Sample Date | Jul-91 | Jul-91 | Jul-91 |
| Units | UG/KG | UG/KG | UG/KG |
| | | | |
| Volatiles | | | |
| 1,1,1-Trichloroethane | | | |
| 1,1,2,2-Tetrachloroethane | | | |
| 1,1,2-Trichloroethane | | | |
| 1,1-Dichloroethane | | | |
| 1,1-Dichloroethene | | | |
| 1,2-Dichloroethane | | | |
| 1,2-Dichloropropane | | | |
| cis-1,3-Dichloropropylene | | | |
| trans-1,2-Dichloroethene | | | |
| Benzene | | | |
| Bromoform | | | |
| Carbon Tetrachloride | | | |
| Chlorobenzene | | | |
| Chlorodibromomethane | | | |
| Chloroethane | | | |
| Chloroform | | | |
| Dichlorobromomethane | | | |
| Ethylbenzene | | | |
| Methyl bromide | | | |
| Methyl Chloride | | | |
| Methylene Chloride | | | |
| Tetrachloroethene (PERC) | | | |
| Toluene | | | |
| Trichloroethene (TCE) | | 23 | |
| M-xylene | | | |
| O+P-xylene | | | |
| Xylenes, Total | | | |
| Vinyl Chloride | | | |
| TOTAL VOCs - UG/KG (ppb) | 0 | 23 | 0 |
| TOTAL VOCs - MG/KG (ppm) | 0.000 | 0.023 | 0.000 |



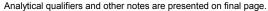




TABLE 2
HISTORIC AND RECENT SOIL ANALYTICAL RESULTS
VOLATILE, SEMI-VOLATILE ORGANIC COMPOUNDS AND PESTICIDES/PCBs
CWM/RMU-2 DATA STUDY, MODEL CITY, NY

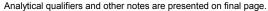
| Location T42-2* T42-3* T42-4* Media Soil Soi | RFI Investigation Area | | TANK 42 AREA | (4) | |
|--|---------------------------|--------|--------------|--|--|
| Sample Date Jul-91 Jul-91 Jul-91 Jul-91 Units UG/KG UG | | T42-2* | T42-3* | T42-4* | |
| Ug/KG Ug/K | Media | Soil | Soil | Soil | |
| Semi - Volatiles 2-Chlorophenol 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,3-Di | Sample Date | Jul-91 | Jul-91 | Jul-91 | |
| 2-Chiorophenol | Units | UG/KG | UG/KG | UG/KG | |
| 2-Chiorophenol | | | | | |
| 1,2-Dichlorobenzene | | | | | |
| 1.3-Dichlorobenzene 3.3-Dichlorobenzene 3.3-Dichlorobenzene 3.3-Dichlorobenzene 3.3-Dichlorobenzene 3.3-Dichlorobenzene 3.4-Dinitrophenol 2.4-Dimethylphenol 2.4-Dimethylphenol 3.4-Dimethylphenol 3.4-Dinitrophenol 3.4-Dinitrophen | | | | | |
| 1,4-Dichlorobenzaline 3,3-Dichlorobenzidine 3,3-Dichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dimitrophenol 4,6-Dinitro-o-cresol 2,4-Dinitrophenol 4,6-Dinitro-o-cresol 2,4-Dinitro-o-cresol | | | | |
| 3.3-Dichlorobenzidine 2.4,6-Trichlorophenol 2.4,-Dimethylphenol 4.4-Dinitro-c-resol 2.4,-Dinitrophenol 2.4,-Dinitrophenol 3.4,-Dinitrophenol 4.6-Dinitro-c-resol 3.4,-Dinitrophenol 4.6-Dinitro-c-resol 3.4,-Dinitrophenol 4.6-Dinitro-c-resol 3.4,-Dinitrophenol 4.6-Dinitro-c-resol 3.4-Benzolliyeren 8.8-Dinitrophenol 8.8- | * | | | | |
| 2.4.Firichlorophenol 2.4.Dichlorophenol 2.4.Dichlorophenol 4.6-Dinitro-o-cresol 2.4.Dinitro-o-cresol 2.4.Dinitro-o-cresol 2.4.Dinitro-phenol 8.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0 | | | | | |
| 2.4Dichlorophenol 2.4Dimethylphenol 4.6Dinitro-o-cresol 2.4Dinitrophenol A.6Dinitro-o-cresol 9.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0 | | | | | |
| 2.4 Dimethylphenol 4.6- Dinitro-o-cresol 4.6- Dinitro-o-cresol | | | | | |
| 4,6-Dinitro-o-cresol 2,4,-Dinitrophenol 2,4,-Dinitrophenol Acenaphthylene Benzo(a)pyrene 3,4-Benzofluoranthene Benzo(a)pyrene 3,4-Benzofluoranthene Benzo(a)pyrene 3,4-Benzofluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Bis(2-Chloroethoyy)methane bis(2-Chloroethy)ether bis(2-Chloroisopropy)ether Benzolhoroisopropy)ether Benzolhoroisopropyether B | | | | | |
| 2.4Dinitrophenol Acenaphthene Benzo(a)anthracene Benzo(a)pyrene Benzo(a)pyrene Benzo(ghi)perylene Benzo(ghi)perylene Benzo(ghi)perylene Benzo(ghi)perylene Benzo(k)fluoranthene Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane bis(2-Chlorosethyylether bis(2-Chlorosethyylether bis(2-Chlorosepryyl)ether bis(2-Chlorosepryl)ether | | | | | |
| Acenaphthene Acenaphthylene Benzo(a)pyrene 3,4-Benzofluoranthene Benzo(a)pyrene 3,4-Benzofluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene Bis(2-Chloroethoxy)methane bis(2-Chloroethylyether bis(2-Chloroisopropyl)ether Butylbenzy(pithalate 2-Chloronaphthalate 2-Chloronaphthalane 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m Dibenzo(a,h)anthracene Dibenz | | | | | |
| Acenaphthylene Benzo(a)anthracene Benzo(a)anthracene Benzo(a)anthracene Benzo(a)pyrene 3.4-Benzofluoranthene Benzo(ghi)perylene Benzo(ghi)perylene Benzo(kjituoranthene bis(2-Chloroethoxy)methane bis(2-Chloroethoxy)methane bis(2-Chloroethoxy)methane bis(2-Chlorostopropylether bis(2-Ethylhexyl)phthalate 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalate 2-Chloronaph | | | | | |
| Benzo(a)anthracene Benzo(a)pyrene Benzo(a)pyrene Benzo(gh)pyrene Benzo(ghi)perylene Benzo(ghi)perylene Benzo(shi)perylene | | | | | |
| Benzo(a)pyrene | | | + | | |
| 3,4-Benzofluoranthene | | | | | |
| Benzo(ghi)perylene Benzo(k)fluoranthene | | | + | | |
| Benzo(k)fluoranthene | | | + | | |
| bis(2-Chloroethxy)methane bis(2-Chloroethy)lether bis(2-Chloroethy)lether bis(2-Ethylexy)phthalate 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Chrysene Chrysene Chrysene Diethyl phthalate Di-n-butyl phthalate 2,4-Dintrotoluene 2,6-Dintrotoluene 2,6-Dintrotoluene Di-n-octyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobenzene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene Isophornoe Naphthalene Nitrobenzene Hexachlorophenol N-n-itroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine Phenol Pherne Phenol Pyernee 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) Total SVOCs - UG/KG (ppb) Total SVOCs - UG/KG (ppb) Total SVOCs - UG/KG (ppb) Debutylphthalate Di-n-butylphthalate Di-n-propylamine Discounting Disc | | | | | |
| bis(2-Chlorotethyl)ether bis(2-Chloroisopropyl)ether bis(2-Ethylhexyl)phthalate 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene Di-n-octyl phthalate Fluorene Hexachlorobenzene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Nitrobenzene Naphthalene Nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitrosolpenzene Phenol Phenol Pyernee 1,2,4-Trirchlorobenzene Post Di-n-propylamine N-propylamine N-prop | | | | + + | |
| bis(2-Chloroisopropyl)ether bis(2-Ethylhexyl)phthalate 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluoranthene Hexachlorobutadiene He | | | | | |
| bis(2-Ethylhexyl)phthalate 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobenone Naphthalene Nitrobenzene Nitrobenzene Nitrobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobutadiene Hexachlorob | | | | | |
| 4-Bromophenylphenyl ether Butylbenzylphthalate 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate Di-n-butyl phthalate 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluoranthene Fluoranthene Hexachlorobenzene Hexachlorobenzene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorobenzene Hexachlorobenzene Hodeno(1,2,3-cd)pyrene Isophorone Naphthalene Nitrobenzene Naphthalene Nitrobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorophenol Nitrobenzene Naphthalene Nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitrosodiphenol Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 | | | | | |
| Butylbenzylphthalate | | | | | |
| 2-Chloronaphthalene 4-Chlorophenylphenyl ether Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Diethyl phthalate Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluoranthene Fluorene Hexachlorobazene Hexachlorobutadiene Hexachlorobutadiene Hexachlorocthane Indeno(1,2,3-cd)pyrene Isophorone Naphthalene Nitrobenzene N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitrosodiphenol Phenanthrene Phenol Pyerne 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 | | | | | |
| 4-Chlorophenylphenyl ether Chrysene Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluoranthene Fluorene Hexachlorobenzene Hexachlorobenzene Hexachlorobendene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorobene Indeno(1,2,3-cd)pyrene Isophorone Naphthalene Nitrobenzene Naphthalene Nitrobenzene Hexachlorobenol Phenol P-n-propylamine N-nitroso-Di-n-propylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | |
| Chrysene Cresol, p-chloro-m- Dibenzo(a,h)anthracene Dibenzo(a,h)anthracene Dien-butly phthalate Di-n-butly phthalate 2,4-Dinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene Di-n-botly phthalate Fino-cyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Hexachlorocyclopentadiene Nexachlorocyclopentadiene Hexachlorocyclopentadiene Indenotyclopeno | | | | | |
| Cresol, p-chloro-m Dibenzo(a,h)anthracene Diethyl phthalate | | | | | |
| Dibenzo(a,h)anthracene Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene Di-n-octyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorocethane Indeno(1,2,3-od)pyrene Isophorone Naphthalene Nitrobenzene 2-Nitrophenol 4-Nitrophenol 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| Diethyl phthalate Di-n-butyl phthalate 2,4-Dinitrotoluene | | | | | |
| Di-n-butyl phthalate 2,4-Dinitrotoluene 2,4-Dinitrotoluene 3,6-Dinitrotoluene 4,2-Dinitrotoluene 5,6-Dinitrotoluene 6,7-Dinitrotoluene 7,1-Dinitrotoluene 8,7-Dinitrotoluene 8,7-Dinitrotoluene 9,7-Dinitrotoluene 9,7-Dinitro | | | | | |
| 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene Din-octyl phthalate Fluoranthene Illuranthene Fluorene Hexachlorobutadiene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachlorocethane Indeno(1,2,3-od)pyrene Isophorone Isophorone Naphthalene Nitrobenzene 2-Nitrophenol 2-Nitrophenol 4-Nitrophenol 1-N-nitroso-Di-n-propylamine N-nitroso-Di-n-propylamine N-nitrosodiphenol Pentachlorophenol Pentanthrene Phenol Pyrene Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 | | | | | |
| 2,6-Dinitrotoluene Din-octyl phthalate Din-octyl phthalate Din-octyl phthalate Fluoranthene Betwick of the state of the s | 2,4-Dinitrotoluene | | | | |
| Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Indeno(12,3-od)pyrene Isophorone Isophorone Isophorone Isophorone Introbenzene Introbenz | | | | | |
| Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Indeno(12,3-od)pyrene Isophorone Isophorone Isophorone Isophorone Introbenzene Introbenz | Di-n-octyl phthalate | | | | |
| Hexachlorobenzene | Fluoranthene | | | | |
| Hexachlorobutadiene | Fluorene | | | | |
| Hexachlorocyclopentadiene Hexachlorocethane Hexachlorocethan | Hexachlorobenzene | | | | |
| Hexachloroethane | Hexachlorobutadiene | | | | |
| Indeno(1,2,3-cd)pyrene | Hexachlorocyclopentadiene | | | | |
| Sophorone | | | | | |
| Naphthalene Nitrobenzene Nitrobenzene | | | | | |
| Nitrobenzene 2-Nitrophenol 4-Nitrophenol 4-Nitrophenol 4-Nitrophenol 9-N-nitroso-Di-n-propylamine N-nitrosodiphenylamine 9-Pentachlorophenol Pentachlorophenol 9-Phenol Phenol 9-Pyrene 1,2,4-Trichlorobenzene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 | | | | | |
| 2-Nitrophenol 4-Nitrophenol 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 | | | | | |
| 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 0 | | | | | |
| N-nitroso-Di-n-propylamine N-nitrosodiphenylamine N-nitrosodiphenylamine N-nitrosodiphenylamine Pentachlorophenol Pentachlorophenol Phenanthrene Phenol Pyrene Pyrene 1,2,4-Trichlorobenzene 0 TOTAL SVOCs - UG/KG (ppb) 0 | | | | | |
| N-nitrosodiphenylamine Pentachlorophenol Pentachlorophenol Phenonthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| Pentachlorophenol Phenantthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| Phenanthrene Phenol Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| Phenol Pyrene 1,2,4-Trichlorobenzene 0 TOTAL SVOCs - UG/KG (ppb) 0 0 | | | 1 | | |
| Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| 1,2,4-Trichlorobenzene 0 0 TOTAL SVOCs - UG/KG (ppb) 0 0 | | | | | |
| TOTAL SVOCs - UG/KG (ppb) 0 0 | | | 1 | + + | |
| | | | | <u> </u> | |
| TOTAL SVOCs - MG/KG (ppm) 0.000 0.000 0.000 | TOTAL SVOCs - UG/KG (ppb) | 0 | 0 | 0 | |
| | TOTAL SVOCs - MG/KG (ppm) | 0.000 | 0.000 | | |

Notes



| RFI Investigation Area | | Т | ANK 42 ARE | EΑ | (4) | |
|-------------------------------------|--------|---|------------|----|--------|--|
| Location | T42-2* | | T42-3* | | T42-4* | |
| Media | Soil | | Soil | | Soil | |
| Sample Date | Jul-91 | | Jul-91 | | Jul-91 | |
| Units | UG/KG | | UG/KG | | UG/KG | |
| | | | | | | |
| PESTICIDES/PCBs | | | | | | |
| Aldrin | | | | | | |
| Alpha-BHC | | | | | | |
| Beta-BHC | | | | | | |
| Gamma-BHC | | | | | | |
| Delta-BHC | | | | | | |
| Chlordane | | | | | | |
| 4,4-DDT | | | | | | |
| 4,4-DDE | | | | | | |
| 4,4-DDD | | | | | | |
| Dieldrin | | | | | | |
| Endosulfan I | | | | | | |
| Endosulfan II | | | | | | |
| Endosulfan sulfate | | | | | | |
| Endrin | | | | | | |
| Endrin aldehyde | | | | | | |
| Heptachlor | | | | | | |
| Heptachlor epoxide | | | | | | |
| PCB-1242 | | | | | | |
| PCB-1254 | | | | | | |
| PCB-1221 | | | | | | |
| PCB-1232 | | | | | | |
| PCB-1248 | | | | | | |
| PCB-1260 | | | | | | |
| PCB-1016 | | | | | | |
| Toxaphene | | | | | | |
| TOTAL PESTICIDES/PCBs - UG/KG (ppb) | 0 | | 0 | | 0 | |
| TOTAL PESTICIDES/PCBs - MG/KG (ppm) | 0.000 | | 0.000 | | 0.000 | |

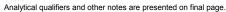






| RFI Investigation Area | | | | ABANDONE | ED RR BED (5) | | | |
|----------------------------|--------|--------|--------|----------|---------------|--------|--------|---------|
| Location | RROB1* | RROB2* | RROB3* | RROB4* | RROB5* | RROB6* | RROB7* | RROB7A* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | |
| Volatiles | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | 37670 J | | 711 | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | |
| trans-1,2-Dichloroethene | 181 | 198 | 8263 J | 300 | 59060 J | 2609 J | 2394 J | 1830 J |
| trans-1,3-Dichloropropene | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | | |
| 1,2-Dichloroethane | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | |
| 2-Hexanone | | | | | | | | |
| Acetone | | | | | | | | |
| Benzene | | | 17 | 34 | 53 | | 23 | |
| Bromoform | | | | | | | | |
| Bromomethane | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Chlorobenzene | | | | | | | | |
| Chloroethane | | | | | | | | |
| Chloroform | | | | | | | | |
| Chloromethane | | | | | | | | |
| Dibromochloromethane | | | | | | | | |
| Dichlorobromomethane | | | | | | | | |
| Ethylbenzene | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | 12 | |
| Methyl Isobutyl Ketone | | | | | | | | |
| Methylene Chloride | | | | | | | | |
| Styrene | | | | | | | | |
| Tetrachloroethene (PERC) | | | 30 | 49 | 118 | | 33 | |
| Toluene | 12 | | 24 | 24 | 59 | 26 | 18 | |
| Trichloroethene (TCE) | | | 28 | 40 | 358 | | 37 | |
| M-xylene | | | | | 38 | | 893 | |
| Xylenes, Total | | | | | | | | |
| Vinyl acetate | | | | | | | | |
| Vinyl Chloride | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 193 | 198 | 8362 | 447 | 97356 | 2635 | 4121 | 1830 |
| TOTAL VOCs - MG/KG (ppm) | 0.193 | 0.198 | 8.362 | 0.447 | 97.356 | 2.635 | 4.121 | 1.830 |

Notes:





| RFI Investigation Area | | | | | D RR BED (5) | | | |
|------------------------------|--------|--------|--|--------|--|--------|--------|---------|
| _ocation | RROB1* | RROB2* | RROB3* | RROB4* | RROB5* | RROB6* | RROB7* | RROB7A* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | |
| Semi - Volatiles | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | |
| 2,4-Dimethylphenol | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | |
| 2-Chlorophenol | | | | | | | | |
| 2-Nitrophenol | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | |
| 4-Nitrophenol | | | | | | | | |
| Acenaphthene | | | | | | | | |
| Acenaphthylene | | | | | | | | |
| Anthracene | | | | | | | | |
| Benzidine | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | |
| ois(2-Chloroethoxy)methane | | | | | | | | |
| pis(2-Chloroethyl)ether | | | | | | | | |
| pis(2-ethylhexyl)phthalate | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | |
| Chrysene | | | | | | | | 1 |
| Cresol, 4,6-Dinitro-O- | | | | | | | | 1 |
| Cresol, p-chloro-m- | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | 1 |
| Di-n-octyl phthalate | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | |
| Dibenzofuran | | | | l — — | | | | |







| RFI Investigation Area | | | | ABANDONE | D RR BED (5) | | | |
|----------------------------|--------|--------|--------|----------|--------------|--------|--------|---------|
| Location | RROB1* | RROB2* | RROB3* | RROB4* | RROB5* | RROB6* | RROB7* | RROB7A* |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 | Aug-94 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | |
| Dimethyl phthalate | | | | | | | | |
| Fluoranthene | | | | | | | | |
| Fluorene | | | | | | | | |
| Hexachlorobenzene | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | |
| Hexachloroethane | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | |
| Isophorone | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | |
| Naphthalene | | | | | | | | |
| Nitrobenzene | | | | | | | | |
| Pentachlorophenol | | | | | | | | |
| Phenanthrene | | | | | | | | |
| Phenol | | | | | | | · | |
| Pyrene | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | | | | | | | | |
| TOTAL SVOCs - MG/KG (ppm) | _ | _ | | | | | | |







| RFI Investigation Area | | | | | R20 | 1 & R202 WELL | INVESTIGATION | ON ⁽⁶⁾ | | | | |
|----------------------------|-----------|-----------|-----------|-----------|-----------|---------------|---------------|-------------------|-----------|-----------|-----------|-----------|
| Location | R201 - E1 | R201 - E2 | R201 - N1 | R201 - N2 | R201 - S1 | R201 - S2 | R201 - W | R202 - E1 | R202 - E2 | R202 - N1 | R202 - N2 | R202 - S1 |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | 9/5/08 | 9/5/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | 110 J | | | 4 J | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | 4 J | | | | | |
| 1,1,2-Trichloroethane | | | 13 | 12000 | | | 19 | | | | 7 | |
| trans-1,2-Dichloroethene | | | | .2000 | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | 220 | 1 J | | 2 J | | | 4 J | 6 | 4 J |
| 1,1-Dichloroethane | | 2 J | | 240 | 1 0 | | 2 0 | | | 7 0 | 1 J | 7 0 |
| 1.2-Dichloroethane | | 8600 D | 73 | 21000 D | 8 | 2 J | 17 | 2 J | 4 J | 11 | 17 | 4 J |
| 1,2-Dichloroethane (Total) | | 4 J | 7.5 | 21000 D | 19 | 2 0 | 40 | 17 | 7 0 | 58 | 83 | 17 |
| 1,2-Dichloropropane | | 4 3 | | | 15 | | 40 | 17 | | 30 | 00 | 17 |
| cis-1,3-Dichloropropene | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | |
| Acetone | 6 BJ | 8 BJ | 12 BJ | | 8 BJ | 11 BJ | 24 BJ | 15 BJ | 12 BJ | 12 BJ | 24 BJ | |
| | 0 BJ | 0 BJ | 12 BJ | 170 | 0 BJ | 11 63 | 24 BJ 2 J | 10 10 | IZ BJ | 12 BJ | 24 63 | |
| Benzene | | | | 170 | | | 2 J | | | | 28 | |
| Bromoform | | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | | |
| Carbon Disulfide | | 5 J | 2 J | 25 J | 4 J | | 7 | | 1 J | 1 J | 2 J | |
| Carbon Tetrachloride | | | | | | | | | | | | |
| Chlorobenzene | | | | 1500 | | | 33 | | | | 4 J | 9 |
| Chloroethane | | | | | | | | | | | | |
| Chloroform | | 3 J | 15 | 9300 | | | 20 | | | | 5 J | |
| Chloromethane | | | | | | | | | | | | |
| Dibromochloromethane | | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | | |
| Ethylbenzene | | | | 140 | | | 5 J | | | | 5 J | |
| Methyl Ethyl Ketone | | | | 120 J | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | | |
| Methylene Chloride | 9 B | 10 B | 86 B | 14000 B | 7 B | 12 B | 25 B | 8 B | 15 B | 11 B | 29 B | 10 B |
| Styrene | | | | 8 J | | | | | | | | |
| Tetrachloroethene (PERC) | | | | 2200 | | | 12 | | | | 2 J | |
| Toluene | | | | 1100 | 2 BJ | 1 BJ | 17 B | 2 BJ | | 2 BJ | 6 B | |
| Trichloroethene (TCE) | | | | 320 | | . 50 | 7 | | | - 50 | | 7 |
| M-xylene | | | | 020 | | | | | | | | - 1 |
| Xylenes, Total | | | | 950 | | | 19 | | | | 18 | 5 J |
| Vinyl acetate | | | | 555 | | | 13 | | | | 10 | 3 0 |
| Vinyl Chloride | | 26 | | 36 J | 2 J | | 7 J | | | 7 J | 9 J | 4 J |
| TOTAL VOCs - UG/KG (ppb) | 15 | 8658 | 201 | 63439 | 51 | 26 | 264 | 44 | 32 | 106 | 246 | 60 |
| W. 1 | | | | | | | | | | | | |
| TOTAL VOCs - MG/KG (ppm) | 0.015 | 8.658 | 0.201 | 63.439 | 0.051 | 0.026 | 0.264 | 0.044 | 0.032 | 0.106 | 0.246 | 0.060 |





| Media Sample Date Units | R201 - E1 Soil 9/5/08 UG/KG | R201 - E2 Soil 9/5/08 | R201 - N1 Soil | R201 - N2 Soil | R201 - S1 | R201 - S2 | L INVESTIGATION R201 - W | R202 - E1 | R202 - E2 | R202 - N1 | R202 - N2 | R202 - S1 |
|-------------------------------|--------------------------------------|-----------------------------|-------------------|-------------------|-----------|-----------|--------------------------|-----------|-----------|-----------|-----------|-----------|
| Sample Date Units | 9/5/08 | 9/5/08 | | Call | _ | | | | | | | |
| Units | | | | 3011 | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | UG/KG | | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Our Veletiles | | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Onest Materilla | | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | | |
| 2,4-Dimethylphenol | | | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | | |
| Anthracene | | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | | | | | |
| Chrysene | | | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | | | | |
| Dibenzofuran | | | | | | | | | | | | |

Notes:



| RFI Investigation Area | | | | | R20 | 1 & R202 WELL | INVESTIGATION | ON ⁽⁶⁾ | | | | |
|----------------------------|-----------|-----------|-----------|-----------|-----------|---------------|---------------|-------------------|-----------|-----------|-----------|-----------|
| Location | R201 - E1 | R201 - E2 | R201 - N1 | R201 - N2 | R201 - S1 | R201 - S2 | R201 - W | R202 - E1 | R202 - E2 | R202 - N1 | R202 - N2 | R202 - S1 |
| Media | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | 9/5/08 | 9/5/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/4/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | | | |
| Fluorene | | | | | | | | | | | | |
| Hexachlorobenzene | | | | | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | | | | | |
| Hexachloroethane | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | | |
| Isophorone | | | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | | | | | |
| Naphthalene | | | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | | | |
| Phenol | | | | | | | | | | | | |
| Pyrene | | | | | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | | | | | | | | | | | | |
| TOTAL SVOCs - MG/KG (ppm) | | | | | | | | - | | | | |





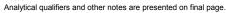
| RFI Investigation Area | | | | | RMU-2 FOOT | PRINT BORING | G #43 ⁽⁷⁾ | | | | |
|----------------------------|-----------|----------|------------|-----------------|--------------|--------------|----------------------|------------|--|------------|------------|
| Location | R202 - S2 | R202 - W | SO- | 43 (Provided by | URS) | 43-E1 | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 |
| Media | Soil | Soil | Soil (4-6) | Soil (10-12) | Soil (15-16) | Soil (4-6) | Soil (12-14) | Soil (4-6) | Soil (4-6) | Soil (3-4) | Soil (3-5) |
| Sample Date | 9/5/08 | 9/5/08 | 9/9/08 | 9/9/08 | 9/9/08 | 10/28/08 | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 12 | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | 7900 | | | | | | | |
| 1,1,2-Trichloroethane | 8 | 1 J | | | | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | |
| 1,1-Dichloroethane | 7 | 4 J | | | | | | | | | |
| 1,1-Dichloroethene | 13 | | | | | | | | | | |
| 1,2-Dichloroethane | 14 | 18 | | | | | | | | | |
| 1,2-Dichloroethene (Total) | 180 | 94 | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | |
| Acetone | 14 BJ | 7 BJ | | | 450 J | | | | | | |
| Benzene | 9 | . 50 | | | .00 0 | | | | | | |
| Bromoform | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | |
| Carbon Disulfide | 1 J | | | | | | | | | | |
| Carbon Tetrachloride | 1 0 | | | | | | | | + + | | |
| Chlorobenzene | 2 J | | | 69000 | | 280 | 83 J | | + + | | |
| Chloroethane | 2 0 | | | 03000 | | 200 | 03 0 | | | | |
| Chloroform | 12 | 2 J | | | | | | | + + | | |
| Chloromethane | 12 | 2 3 | 300 | | 500 | | | | + + | | |
| Dibromochloromethane | | | 300 | | 300 | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | |
| Ethylbenzene | | | | 5600 | | | | | | | |
| Methyl Ethyl Ketone | | | | 3000 | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | |
| Methylene Chloride | 8 B | 17 B | 390 B | 7000 B | 380 B | | | | | | |
| Styrene | 0 B | 17 B | 390 B | 7000 B | 360 B | | | | - | | |
| Tetrachloroethene (PERC) | | | | | | | | | | | |
| Toluene | 6 | | 400 | 38000 | 650 | 70 1 | 640 | | | | |
| | 420 5 | 14 | 400 | 38000 | 050 | 78 J | 640 | | | | |
| Trichloroethene (TCE) | 430 D | 14 | | | | | | | | | |
| M-xylene | | | | 40000 | | | | | | | |
| Xylenes, Total | | | | 19000 | | | | | | | |
| Vinyl acetate | 1 | | | | | | | | | | |
| Vinyl Chloride | 31 | 13 | | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 747 | 170 | 1090 | 146500 | 1980 | 358 | 723 | 0 | 0 | 0 | 0 |
| TOTAL VOCs - MG/KG (ppm) | 0.747 | 0.170 | 1.090 | 146.500 | 1.980 | 0.358 | 0.723 | 0.000 | 0.000 | 0.000 | 0.000 |





| RFI Investigation Area | | | | | RMU-2 FOOT | PRINT BORING | G #43 ⁽⁷⁾ | | | | |
|------------------------------------|-----------|----------|--|------------------|--------------|--------------|--|------------|------------|------------|------------|
| Location | R202 - S2 | R202 - W | SO | -43 (Provided by | URS) | 43-E1 | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 |
| Media | Soil | Soil | Soil (4-6) | Soil (10-12) | Soil (15-16) | Soil (4-6) | Soil (12-14) | Soil (4-6) | Soil (4-6) | Soil (3-4) | Soil (3-5) |
| Sample Date | 9/5/08 | 9/5/08 | 9/9/08 | 9/9/08 | 9/9/08 | 10/28/08 | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | |
| 2,4-Dimethylphenol | | | | | | | | 1 | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | |
| Anthracene | | | | | | | + | | | | |
| Benzidine | | | | | | | | | | | |
| Benzo(a)anthracene | | | | 1500 J | | | | | | | |
| Benzo(a)pyrene | | | | 1300 3 | | | | | | | |
| Benzo(b)fluoranthene | | | | 3200 J | | | | | | | |
| Benzo(ghi)perylene | | | | 3200 J | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | |
| | | | | | | | | | | | |
| Butylbenzylphthalate | | | | 3100 J | | | | | | | |
| Chrysene Cresol, 4,6-Dinitro-O- | | | | 3100 J | | | | | | | |
| | | | + + | | | | | | | | |
| Cresol, p-chloro-m- | | | + | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | 4500 | | | | | | | |
| Dibenzofuran | | | | 4500 J | | | | | | | |

Notes:





| RFI Investigation Area | | | | | RMU-2 FOOT | PRINT BORING | G #43 ⁽⁷⁾ | | | | |
|----------------------------|-----------|----------|------------|-----------------|--------------|--------------|----------------------|------------|------------|------------|------------|
| Location | R202 - S2 | R202 - W | SO- | 43 (Provided by | JRS) | 43-E1 | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 |
| Media | Soil | Soil | Soil (4-6) | Soil (10-12) | Soil (15-16) | Soil (4-6) | Soil (12-14) | Soil (4-6) | Soil (4-6) | Soil (3-4) | Soil (3-5) |
| Sample Date | 9/5/08 | 9/5/08 | 9/9/08 | 9/9/08 | 9/9/08 | 10/28/08 | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | | |
| Fluoranthene | | | | 9200 J | | | | | | | i |
| Fluorene | | | | | | | | | | | i |
| Hexachlorobenzene | | | | 48000 | | | | | | | i |
| Hexachlorobutadiene | | | | 2700 J | | | | | | | |
| Hexachlorocyclopentadiene | | | | 400000 | 22000 J | | | | | | |
| Hexachloroethane | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | |
| Isophorone | | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | | | | |
| N-nitrosodiphenylamine | | | | 1600 J | | | | | | | i |
| Naphthalene | | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | ĺ |
| Phenanthrene | | | | 1300 J | | | | | | | ĺ |
| Phenol | | | | | | | | | | | i |
| Pyrene | | | | 7600 J | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | | | 0 | 482700 | 22000 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL SVOCs - MG/KG (ppm) | | | 0.000 | 482.700 | 22.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |





| RFI Investigation Area | | | | | | RM | IU-2 FOOTP | RINT BORING | #43 (7) | | | | | |
|----------------------------|------------|----------|----------|-------------|------------|----------|--------------|-------------|--------------|------------|------------|------------|--------------|------------|
| Location | 43-N1 | 43-N2 | 43-S1 | 43-S2 | 43-W1 | 43-W2 | 43-W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 | 43-W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 |
| Media | Soil (4-6) | Soil | Soil | Soil (8-10) | Soil (4-6) | GW | Soil (4-6) | Soil (4-6) | Soil (12-14) | Soil (5-6) | Soil (5-7) | Soil (6-8) | Soil (13-14) | Soil (4-6) |
| Sample Date | 10/30/08 | 10/30/08 | 10/30/08 | 10/28/08 | 10/29/08 | 10/30/08 | 10/28/08 | 11/6/08 | 11/6/08 | 10/28/08 | 10/29/08 | 11/6/08 | 11/6/08 | 10/29/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | | | | | |
| 1.1.2.2-Tetrachloroethane | | | | | 68 J | | | | | | 81 J | | | 140 |
| 1,1,2-Trichloroethane | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | 1 | 1 | | | | | | |
| 1,1-Dichloroethene | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | | | | | | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | | | |
| Acetone | | | | | | | | | | | 400 J | | | |
| Benzene | | | | | | | | + | | - | 400 0 | | | |
| Bromoform | | | + | | | | | | | | | | | |
| Bromomethane | | | + | | | | 1 | + + | | | | | | |
| Carbon Disulfide | | | | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | | | | | |
| Chlorobenzene | | | | | 2500 | | 120000 | | | 11000 J | 4400 | | | 6400 |
| Chloroethane | | | | | 2300 | | 120000 | + | | 11000 3 | 4400 | | | 0400 |
| | | | | | | | | | | | | | | |
| Chloroform | | | | | | | | | | | 400 | | | 24.1 |
| Chloromethane | | | | | | | | | | | 180 | | | 64 J |
| Dibromochloromethane | | | | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | | | | |
| Ethylbenzene | | | | | 110 J | | 8000 J | | | | 250 | | | 230 |
| Methyl Ethyl Ketone | | | | | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | | | | |
| Methylene Chloride | | | | | | | | | | | | | | |
| Styrene | | | | | | | | | | | | | | |
| Tetrachloroethene (PERC) | | | | | | | | | | | | | | |
| Toluene | | | | | 1000 | | 74000 | | | 6900 J | 1900 | | | 1100 |
| Trichloroethene (TCE) | | | | | | | | | | | | | | |
| M-xylene | | | | | | | | | | | | | | |
| Xylenes, Total | | | | | 340 J | | 22000 J | | | | 880 | | | 820 |
| Vinyl acetate | | | | | | | | | | | | | | |
| Vinyl Chloride | | | | | | | | | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 0 | 0 | 0 | 0 | 4018 | 0 | 224000 | 0 | 0 | 17900 | 8091 | 0 | 0 | 8754 |
| TOTAL VOCs - MG/KG (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 4.018 | 0.000 | 224.000 | 0.000 | 0.000 | 17.900 | 8.091 | 0.000 | 0.000 | 8.754 |





| RFI Investigation Area | | | | | | RM | IU-2 FOOTP | RINT BORING | #43 (7) | | | | | |
|------------------------------|--|----------|----------|-------------|------------|----------|------------|-------------|--------------|------------|--|------------|--------------|------------|
| Location | 43-N1 | 43-N2 | 43-S1 | 43-S2 | 43-W1 | 43-W2 | 43-W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 | 43-W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 |
| Media | Soil (4-6) | Soil | Soil | Soil (8-10) | Soil (4-6) | GW | Soil (4-6) | Soil (4-6) | Soil (12-14) | Soil (5-6) | Soil (5-7) | Soil (6-8) | Soil (13-14) | Soil (4-6) |
| Sample Date | 10/30/08 | 10/30/08 | 10/30/08 | 10/28/08 | 10/29/08 | 10/30/08 | 10/28/08 | 11/6/08 | 11/6/08 | 10/28/08 | 10/29/08 | 11/6/08 | 11/6/08 | 10/29/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | 63000 | | | 52000 | 5600 | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | 120000 | | | 110000 | 8600 | | | |
| 2,4,-Dichlorophenol | | | | | | | 53000 | | | 40000 | | | | |
| 2,4-Dimethylphenol | | 1 | | | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | | | | |
| 3.3'-Dichlorobenzidine | | | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | | | | |
| Acenaphthylene | 1 | | | | | | | | | | | | | |
| Anthracene | | | | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | | | 1 | | | | | | | |
| Chrysene | | | | | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | 1 | | | | | | 1 | | | | 1 | | |
| Cresol, p-chloro-m- | | | | | | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | 1 | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | 1 | | | | | | 1 | | | | 1 | | |
| Dibenzofuran | | | | | | | | | | | | 1 | | |
| | | | , | | | ı . | | | | | | | | |





| RFI Investigation Area | | RMU-2 FOOTPRINT BORING #43 (7) 43-N1 43-N2 43-S1 43-S2 43-W1 43-W2 43-W2 43-W2-N2 43-W2-S2 43-W3 43-W4 43-W4-N2 43-W4-S3 43-W5 | | | | | | | | | | | | | |
|----------------------------|------------|--|------------|----------|-------------|------------|----------|------------|------------|--------------|------------|------------|------------|--------------|------------|
| Location | 43-N1 | 43- | V 2 | 43-S1 | 43-S2 | 43-W1 | 43-W2 | 43-W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 | 43-W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 |
| Media | Soil (4-6) | Sc | il | Soil | Soil (8-10) | Soil (4-6) | GW | Soil (4-6) | Soil (4-6) | Soil (12-14) | Soil (5-6) | Soil (5-7) | Soil (6-8) | Soil (13-14) | Soil (4-6) |
| Sample Date | 10/30/08 | 10/3 | /08 | 10/30/08 | 10/28/08 | 10/29/08 | 10/30/08 | 10/28/08 | 11/6/08 | 11/6/08 | 10/28/08 | 10/29/08 | 11/6/08 | 11/6/08 | 10/29/08 |
| Units | UG/KG | UG/ | KG | UG/KG | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | | | | | | |
| Fluorene | | | | | | | | | | | | | | | |
| Hexachlorobenzene | | | | | | 5300 | | 54000 | | | 50000 | 5200 | | | |
| Hexachlorobutadiene | | | | | | | | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | 3200 | | 770000 E |) | | 590000 D | 68000 [| D | | |
| Hexachloroethane | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | | | | | |
| Isophorone | | | | | | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | | | | | | | | |
| Naphthalene | | | | | | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | | | | | | |
| Phenol | | | | | | | | | | | | | | | |
| Pyrene | | | | | | | | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | 0 | C | | 0 | 0 | 8500 | 0 | 1060000 | - | - | 842000 | 87400 | | | 0 |
| TOTAL SVOCs - MG/KG (ppm) | 0.000 | 0.0 | 00 | 0.000 | 0.000 | 8.500 | 0.000 | 1060.000 | | | 842.000 | 87.400 | | | 0.000 |





| RFI Investigation Area | | | | | R | MU-2 FOOTPRI | NT BORING #6 | 1 (7) | | | | |
|----------------------------|--|------------|------------|---------|------------|--------------|--|--|------------|----------|----------|----------|
| Location | 43-W6 | 43-W7 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 | 61-S3 |
| Media | Soil (4-6) | Soil (4-6) | Soil (4-6) | Soil | Soil (5-7) | Soil (12-14) | Soil | Soil | Soil (4-6) | Soil | Soil | Soil |
| Sample Date | 10/29/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 | 10/31/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | |
| Volatiles_ | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | 1400 | 37000 D | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | 490 | 9000 | | |
| 1,1,2-Trichloroethane | | | | 1500 | 14000 | 5100 | | | 250000 D | 380000 D | 420 | 15000 D |
| trans-1,2-Dichloroethene | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | 130 J | 150 | | |
| 1,1-Dichloroethene | | | | 140 | 1500 | 5400 | | | 15000 | 1500 | 2600 | |
| 1,2-Dichloroethane | | | | 5000 | 5500 | 47000 D | | | 220000 D | 340000 D | 19000 D | 39000 D |
| 1,2-Dichloroethene (Total) | | | | 220 J | 950 | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | |
| Acetone | | 500 J | 400 J | | | | | | 1200 | 2400 | 500 J | 700 J |
| Benzene | | | | | 280 | 140 J | | | 2400 | 1 | | |
| Bromoform | | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | 1200 | | |
| Carbon Tetrachloride | | | | | | | | | | 340 | | |
| Chlorobenzene | 22000 | 5600 | 3200 | 130 J | 3500 | 340 | | | 32000 D | 110000 D | | 430 |
| Chloroethane | | | 0200 | .000 | 5555 | 0.0 | | | 02000 5 | 110000 B | | .00 |
| Chloroform | | | | 450 | 190 J | | | | 8700 | 160000 D | 420 | 5600 |
| Chloromethane | | | | 100 | 100 0 | | | | 0700 | 100000 B | 720 | 0000 |
| Dibromochloromethane | | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | | |
| Ethylbenzene | 1300 J | 160 | 98 J | 300 | 3100 | | 90 J | | 14000 | 49000 D | | |
| Methyl Ethyl Ketone | 1300 3 | 100 | 30 3 | 300 | 3100 | | 30 0 | | 14000 | 440 J | | |
| Methyl Isobutyl Ketone | | | | | | | | | | 620 J | | |
| Methylene Chloride | | | | 1200 | | | | | 24000 D | 85000 D | 1800 | 24000 B |
| Styrene | - | | | 1200 | | | | | 24000 D | 63000 D | 1000 | 24000 B |
| Tetrachloroethene (PERC) | | | | 190 | 8700 | 1100 | | | 76000 D | 100000 D | | 180 |
| Toluene | 3400 | 780 | 660 | 170 | 2300 | 220 | | | 23000 D | 87000 D | 200 | 190 |
| Trichloroethene (TCE) | 3400 | 700 | 000 | 1200 | 18000 | 3100 | | | 180000 D | 250000 D | 320 | 300 |
| M-xylene | | | | 1200 | 10000 | 3100 | _ | | 100000 D | 230000 D | 320 | 300 |
| Xylenes, Total | 3400 J | 540 | 320 J | 1100 | 11000 | + + | 310 J | + + | 74000 D | 200000 D | | |
| Vinvl acetate | 3400 J | 340 | 320 J | 1100 | 11000 | + | 310 3 | | 74000 D | 200000 D | | |
| Vinyl Chloride | | | | 610 | 700 | 740 | | | 4100 | 180 J | 110 J | |
| TOTAL VOCs - UG/KG (ppb) | 30100 | 7580 | 4678 | 12210 | 69720 | 63140 | 400 | 0 | 926420 | 1813831 | 25370 | 85400 |
| <u> </u> | | | | | | | | | | | | |
| TOTAL VOCs - MG/KG (ppm) | 30.100 | 7.580 | 4.678 | 12.210 | 69.720 | 63.140 | 0.400 | 0.000 | 926.420 | 1813.831 | 25.370 | 85.400 |

Notes:



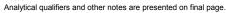
AUGUST 2009

083-89111

TABLE 2 HISTORIC AND RECENT SOIL ANALYTICAL RESULTS VOLATILE, SEMI-VOLITALE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | | | | RI | MU-2 FOOTPRI | NT BORING #6 | 61 (7) | | | | |
|---|------------|------------|------------|---------|--|--------------|--------------|--|------------|--|----------|----------|
| Location | 43-W6 | 43-W7 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 | 61-S3 |
| Media | Soil (4-6) | Soil (4-6) | Soil (4-6) | Soil | Soil (5-7) | Soil (12-14) | Soil | Soil | Soil (4-6) | Soil | Soil | Soil |
| Sample Date | 10/29/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 | 10/31/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | 59000 | | | | | | | | | 3500 | | |
| 1,2-Dichlorobenzene | | | | | | | | | | 14000 | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | | |
| 2,4-Dimethylphenol | | | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | | |
| Anthracene | | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | + | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | + | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | 4700 | | |
| Butylbenzylphthalate | | | | | | | | | | 4700 | | |
| Chrysene | | | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | + | | | | + + | | | 1 | + - | + | | |
| Cresol, p-chloro-m- | + + | | | | + + | | - | + + | + + | + + | + | |
| Di-n-butyl phthalate | | | | | + + | | | | | + + | | |
| Di-n-outyl phthalate Di-n-octyl phthalate | | | | | + | | | | | | | |
| | | | | | + | | | | | | | |
| Dibenzo(a,h)anthracene Dibenzofuran | | | | | | | | | | | | |
| Dibenzoluran | | | | | | | | | | | | |

Notes:





| RFI Investigation Area | RMU-2 FOOTPRINT BORING #61 (7) 43-W6 | | | | | | | | | | | |
|----------------------------|---------------------------------------|------------|------------|---------|------------|--------------|---------|---------|------------|----------|----------|----------|
| Location | 43-W6 | 43-W7 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 | 61-S3 |
| Media | Soil (4-6) | Soil (4-6) | Soil (4-6) | Soil | Soil (5-7) | Soil (12-14) | Soil | Soil | Soil (4-6) | Soil | Soil | Soil |
| Sample Date | 10/29/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 | 10/31/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | | | |
| Fluorene | | | | | | | | | | | | |
| Hexachlorobenzene | 58000 | | | | | | | | | | | |
| Hexachlorobutadiene | 3000 | | | | | | | | | | | |
| Hexachlorocyclopentadiene | 50000 | | | | | | | | | | | |
| Hexachloroethane | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | | |
| Isophorone | | | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | | | | | |
| Naphthalene | | | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | | | |
| Phenol | | | | | | | | | | | | |
| Pyrene | | | | | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | 170000 | 0 | 0 | | - | | | - | 0 | 22200 | | |
| TOTAL SVOCs - MG/KG (ppm) | 170.000 | 0.000 | 0.000 | | | | | | 0.000 | 22.200 | | |





| RFI Investigation Area | RM | U-2 FOOTPRIN | IT BORING #61 | (7) | | SCATTER | ED RMU-2 FO | OOTPRINT BO | ORINGS (7) | |
|----------------------------|----------|--------------|---------------|---------|---------|----------|-------------|-------------|------------|---------|
| Location | 61-S4 | 61-S5 | 61-S6 | 61-W1 | 15R | 64R | 83R | 89R | 99R | 108R |
| Media | Soil | Soil | Soil (12-14) | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | 10/31/08 | 10/31/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/28/08 | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | 590 | 1700 | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | 310 | | | | | | | | |
| 1,1,2-Trichloroethane | 48000 D | 80000 D | | 62000 | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | |
| 1,1-Dichloroethene | 450 | 660 | | 8600 | | | | | | |
| 1,2-Dichloroethane | 35000 D | 58000 D | | 50000 D | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | |
| Acetone | 560 J | 620 J | | 1800 J | | | | | | |
| Benzene | 260 | 570 | | 520 J | | | | | | |
| Bromoform | | | | | | | | | | |
| Bromomethane | | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | |
| Carbon Tetrachloride | 140 | | | | | | | | | |
| Chlorobenzene | 4200 | 10000 | | 860 | | | | | | |
| Chloroethane | | | | | | | | | | |
| Chloroform | 6100 | 21000 D | | 920 | | | | | 73 J | |
| Chloromethane | | | | | | | | | | |
| Dibromochloromethane | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | |
| Ethylbenzene | 1000 | 1600 | | | | | | | | |
| Methyl Ethyl Ketone | 1000 | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | |
| Methylene Chloride | 10000 | 23000 BD | | 2900 | | | | | | |
| Styrene | | | | | | | | | | |
| Tetrachloroethene (PERC) | 9400 | 36000 D | | 1600 | | | | | | |
| Toluene | 2100 | 4600 | | 640 J | | | | | | |
| Trichloroethene (TCE) | 8400 | 9100 | | 11000 | | | | | 230 | |
| M-xylene | | | | | | | | | | |
| Xylenes, Total | 3800 | 6800 | | 600 J | | | | | | |
| Vinyl acetate | | | | | | | | | | |
| Vinyl Chloride | | 90 J | | 3300 | | | | | | |
| TOTAL VOCs - UG/KG (ppb) | 130000 | 254050 | 0 | 144740 | 0 | 0 | 0 | 0 | 303 | 0 |
| | | | | | | | | | | |
| TOTAL VOCs - MG/KG (ppm) | 130.000 | 254.050 | 0.000 | 144.740 | 0.000 | 0.000 | 0.000 | 0.000 | 0.303 | 0.000 |







| RFI Investigation Area | RM | IU-2 FOOTPRII | NT BORING #61 | (7) | | SCATTER | ED RMU-2 F | OOTPRINT B | ORINGS (7) | |
|----------------------------------|----------|---------------|---------------|---------|--|--------------|--|--|------------|---------|
| Location | 61-S4 | 61-S5 | 61-S6 | 61-W1 | 15R | 64R | 83R | 89R | 99R | 108R |
| Media | Soil | Soil | Soil (12-14) | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | 10/31/08 | 10/31/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/28/08 | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | |
| 2,4-Dimethylphenol | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | + | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | |
| Acenaphthylene | | | | | + | | | | | |
| Anthracene | | | | | + | | | | | |
| Benzidine | | | | | + | | | | | |
| Benzo(a)anthracene | | | | | | | + | | | |
| Benzo(a)pyrene | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | - | | | | | |
| | | | | | - | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | |
| Butylbenzylphthalate Chrysene | | | | | | | | | | |
| | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | | |
| Dibenzofuran | | | | | | | | | | |







| RFI Investigation Area | RIV. | IU-2 FOOTPRIN | NT BORING #61 | (7) | | SCATTER | ED RMU-2 F | OOTPRINT BO | ORINGS (7) | |
|----------------------------|----------|---------------|---------------|---------|---------|----------|------------|-------------|------------|---------|
| Location | 61-S4 | 61-S5 | 61-S6 | 61-W1 | 15R | 64R | 83R | 89R | 99R | 108R |
| Media | Soil | Soil | Soil (12-14) | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| Sample Date | 10/31/08 | 10/31/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/28/08 | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 |
| Units | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG | UG/KG |
| Diethyl phthalate | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | |
| Fluorene | | | | | | | | | | |
| Hexachlorobenzene | | | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | | | i |
| Hexachlorocyclopentadiene | | | | | | | | | | |
| Hexachloroethane | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | 1 |
| Isophorone | | | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | | | i |
| N-nitrosodiphenylamine | | | | | | | | | | i |
| Naphthalene | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | |
| Phenol | | | | | | | | | | 1 |
| Pyrene | | | | | | | | | | |
| TOTAL SVOCs - UG/KG (ppb) | | | | | | 0 | | | | |
| TOTAL SVOCs - MG/KG (ppm) | | | | | | 0.000 | | | | |





TABLE 2 SOIL ANALYTICAL QUALIFIERS AND FOOTNOTES VOLATILE, SEMI-VOLITALE ORGANIC COMPOUNDS AND PESTICIDES/PCBs CWM/RMU-2 DATA STUDY, MODEL CITY, NY

USEPA Defined Organic Data Qualifiers:

- BLANK = Non-detect for individual constituents.
 - D = Result is from a dilution.
 - J = Estimated concentration value.
 - B = Analyte detected in reagaent blank.

Notes:

* Reported results were originally analyzed in the field from soil sample headspace using a portable Gas Chromatograph (typically with a Photovac 10S70 and an OVA). It should be noted that during analyses with the Field GC, 1,1,1-trichloroethane/1,2-Dichloroethane tended to co-elute on the capillary column used for these analyses. Therefore, the detected concentrations (where reported) for these constituents represents a total amount of 1,1,1-trichloroethane/1,2-Dichloroethane and was reported in this table under one or the other constituent rows for readability. Field GC target compounds included benxene, toluene, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Trichloroethene, Carbon Tetrachloride, Chloroform, O-xylene, Chlorobenzene, Ethylbenzene and Tetrachloroethene.

* * Reported results (for split samples) were originally analyzed by off-site analytical laboratory.

Not analyzed for.

UG/KG= micrograms per kilogram

MG/KG= millligrams per kilogram

ppm= Parts per million

ppb= Parts per billion

- (1) Results originally presented in report entitled "Report On Group D Area: Lagoons 3 and 4, Trailer Parking, and Empty Drum Storage Area (DA-24)", Golder Associates, Inc., January 1992.
- (2) Results originally presented in report entitled "Interim Report on Process Area Phase II Investigation, Volume I and II", Golder Associates, Inc., June 1991.
- (3) Results originally presented in report entitled "The Tank Farm E Area Investigation", Golder Associates, Inc., June 1990.
- (4) Results originally presented in report entitled "Tank 42 Area and Tanks 50 and 51 Area Initial RFI and Phase II Investigations", Volumes I and II, Golder Associates, Inc., March 1992.
- (5) Results originally presented in report entitled "Background Well BW02S, Piezometer P1202S and Abandoned Railroad Bed Supplemental Investigation", Golder Associates, Inc., October 1997.
- (6) Results originally presented in report entitled "R201 & R202 Well Investigation Boring Program", Golder Associates, Inc., March 2009.
- (7) Results originally presented in report entitled "RMU-2 Footprint Investigation Boring Program", Golder Associates, Inc., March 2009.

Table By: RJM
Checked By: AML
Reviewed By: DCW



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| RFI Investigation Area | FACULT | ATIVE PONDS | 3 and 8 ⁽¹⁾ | | P | ROCESS AREA | (2) | |
|----------------------------|---------|-------------|------------------------|---------|--------|-------------|----------|---------|
| Location | F301S | F302S | F801S | PRO-4** | PRO-8* | PRO-9** | PRO-10B* | PRO-25* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 11/8/86 | 6/9/88 | 4/4/08 | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Jun-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | |
| Volatiles | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | 946 | | 119000 | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | 2247 | |
| 1,2-Dichloroethane | | | 1.4 | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | |
| trans-1,2-Dichloroethene | | | | | | | | |
| Acetone | | | | | | | | |
| Benzene | | | | | | | 2731 | 9 |
| Bromoform | | | | | | | | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | |
| Chlorobenzene | | | | | | | | |
| Chlorodibromomethane | | | | | | | | |
| Chloroethane | | | | | | | | |
| Chloromethane | | | | | | | | |
| Chloroform | | | | | | | | |
| Dichlorobromomethane | | | | | | | | |
| Ethylbenzene | | | | | | | 126 | |
| Methyl bromide | | | | | | | | |
| Methyl Chloride | | | | | | | | |
| Methylene Chloride | | | | | | 8.2 J,B | | |
| Methyl Ethyl Ketone | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | |
| Phenol | | | | | | | | |
| Tetrachloroethene (PERC) | | | | | | | 3347 | |
| Toluene | | | | | 35 | | 50820 | |
| Trichloroethene (TCE) | | | | | | | 50380 | |
| M-xylene | | | | | | | | |
| O+P-xylene | | | | | | | | |
| Xylene, Total | | | | | | | | |
| Vinyl Chloride | | | | | | | | |
| TOTAL VOCs - UG/L (ppb) | 0 | 0 | 1.4 | 0 | 981 | 8.2 | 228651 | 9 |
| TOTAL VOCs - MG/L (ppm) | 0.000 | 0.000 | 0.001 | 0.000 | 0.981 | 0.008 | 228.651 | 0.009 |







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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | FACULT | TATIVE PONDS | 3 and 8 ⁽¹⁾ | | Р | ROCESS AREA | (2) | |
|--|----------|--------------|------------------------|---------|--------|-------------|----------|---------|
| Location | F301S | F302S | F801S | PRO-4** | PRO-8* | PRO-9** | PRO-10B* | PRO-25* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 11/8/86 | 6/9/88 | 4/4/08 | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Jun-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | |
| Semi - Volatiles | | | | | | | | |
| 2-Chlorophenol | | | | | | | | |
| 1,2-Dichlorobenzene | | | | 2800 E | | | | |
| 1,3-Dichlorobenzene | | | | 820 E | | | | |
| 1,4-Dichlorobenzene | | | | 170 | | | | |
| 3,3-Dichlorobenzidine | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | |
| 4,6-Dinitro-o-cresol | | | | | | | | |
| 2,4,-Dinitrophenol | | | | | | | | |
| Acenaphthene | | | | | | | | |
| Acenaphthylene | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | |
| 3,4-Benzofluoranthene | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | 1200 E | | | | |
| bis(2-Chloroisopropyl)ether | | | | 1200 L | | | | |
| bis(2-Ethylhexyl)phthalate | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | |
| Chrysene | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | |
| Diethyl Phthalate | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | |
| | | | | | | | | |
| Fluoranthene Fluorene | | | | | | | | |
| Hexachlorobenzene | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | |
| Hexachlorocyclopentadiene Hexachlorocyclopentadiene | ĺ | | ĺ | | | 770 | | |
| 1 | ĺ | | ĺ | | | //0 | | |
| Hexachloroethane | ĺ | | ĺ | | | | | |
| Indeno(1,2,3-cd)pyrene | ĺ | | ĺ | | | | | |
| Isophorone | ĺ | | ĺ | | | 05.1 | | |
| Naphthalene | ĺ | | ĺ | | | 95 J | | |
| Nitrobenzene | ĺ | | ĺ | | | | | |
| 2-Nitrophenol | <u> </u> | | <u> </u> | | | | | |

Notes





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| RFI Investigation Area | FACULT | ATIVE PONDS | 3 and 8 ⁽¹⁾ | | P | ROCESS AREA | (2) | |
|---|---------|-------------|------------------------|----------|--------|-------------|----------|---------|
| Location | F301S | F302S | F801S | PRO-4** | PRO-8* | PRO-9** | PRO-10B* | PRO-25* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 11/8/86 | 6/9/88 | 4/4/08 | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Jun-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) | | | | | | | | |
| 4-Nitrophenol | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | |
| Pentachlorophenol | | | | | | | | |
| Phenanthrene | | | | | | 6.4 J | | |
| Phenol | | | | 100 | | | | |
| Pyrene | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | 1500 E | | | | |
| TOTAL SVOCs - UG/L (ppb) | | | | 6590 | 0 | 871.4 | 0 | 0 |
| TOTAL SVOCs - MG/L (ppm) | | | | 6.590 | 0.000 | 0.871 | 0.000 | 0.000 |
| Pesticides/PCBs Aldrin Alpha-BHC Beta-BHC Gamma-BHC Delta-BHC Chlordane 4,4-DDT 4,4-DDT 4,4-DDD Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor epoxide PCB-1242 PCB-1254 PCB-1221 PCB-1232 PCB-1248 PCB-1248 PCB-12460 | | | | 34 90 | | 35000 | | |
| Toxaphene | | | | | | | _ | _ |
| TOTAL PESTICIDES/PCBs - UG/L (ppb) | | | | 124 | 0 | 35000 | 0 | 0 |
| TOTAL PESTICIDES/PCBs - MG/L (ppm) | - | - | | 0.124 | 0.000 | 35.000 | 0.000 | 0.000 |





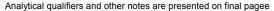


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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | PROCESS | AREA (2) | | GROUP D AREA ⁽³⁾ | | TANK 42 | AREA ⁽⁴⁾ | |
|----------------------------|----------|---------|----------|---------|-----------------------------|--------|---------|---------------------|--------|
| Location | PRO-25** | PRO-27* | PRO-31A* | PRO-33* | GDA-3** | T42-1* | T42-2* | T42-3* | T42-4* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | |
| Volatiles | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | 1411 | | | | |
| 1.1.2.2-Tetrachloroethane | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | |
| 1,1-Dichloroethene | | | | 67 | | | | | |
| 1,2-Dichloroethane | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | |
| trans-1,2-Dichloroethene | | | 120 | 23 | | | | | |
| Acetone | | | 120 | 23 | | | | | |
| Benzene | | | 16 | 39 | | | | | |
| Bromoform | | | 10 | 39 | | | | | |
| Carbon Disulfide | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | |
| Chlorobenzene | | | | | | | | | |
| Chlorodibromomethane | | | | | | | | | |
| Chloroethane | | | | | | | | | |
| | | | | | | | | | |
| Chloromethane | | | | | | | | | |
| Chloroform | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | |
| Ethylbenzene | | | 297 | 22 | 25 | | | | |
| Methyl bromide | | | | | | | | | |
| Methyl Chloride | | | | | | | | | |
| Methylene Chloride | | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | |
| Phenol | | | | | | | | | |
| Tetrachloroethene (PERC) | | | 354 | 18 | | | | | |
| Toluene | | | 365 | 112 | | | | | |
| Trichloroethene (TCE) | | 562 | 1214 | 101 | 54 | | | | |
| M-xylene | | | | | | | | | |
| O+P-xylene | | | | | | | | | |
| Xylene, Total | | | | | | | | | |
| Vinyl Chloride | | | | | | | | | |
| TOTAL VOCs - UG/L (ppb) | 0 | 562 | 2366 | 382 | 1490 | 0 | 0 | 0 | 0 |
| TOTAL VOCs - MG/L (ppm) | 0.000 | 0.562 | 2.366 | 0.382 | 1.490 | 0.000 | 0.000 | 0.000 | 0.000 |

Notes





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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | PROCESS | S AREA (2) | | GROUP D AREA ⁽³⁾ | | TANK 42 | 2 AREA ⁽⁴⁾ | |
|-----------------------------|----------|---------|------------|---------|-----------------------------|--------|---------|-----------------------|--------|
| Location | PRO-25** | PRO-27* | PRO-31A* | PRO-33* | GDA-3** | T42-1* | T42-2* | T42-3* | T42-4* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UĞ/L | UĞ/L | UĞ/L | UĞ/L | UĞ/L |
| | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | |
| 3,3-Dichlorobenzidine | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | | |
| 4,6-Dinitro-o-cresol | | | | | | | | | |
| 2,4,-Dinitrophenol | | | | | | | | | |
| Acenaphthene | | | | | | | | | |
| Acenaphthylene | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | |
| 3,4-Benzofluoranthene | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | |
| bis(2-Chloroisopropyl)ether | | | | | | | | | |
| bis(2-Ethylhexyl)phthalate | 1.1 J | | | | | | | | |
| 4-Bromophenylphenyl ether | 1.1 0 | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | |
| Chrysene | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | |
| Diethyl Phthalate | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | |
| Fluoranthene | | | | | | | | | |
| Fluorene | | | | | | | | | |
| Hexachlorobenzene | | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | ĺ | |
| Hexachloroethane | | | | | | | | ĺ | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | ĺ | |
| Isophorone | | | | | | | | ĺ | |
| Naphthalene | | | | | | | | ĺ | |
| Nitrobenzene | | | | | | | | ĺ | |
| | | | | | | | | ĺ | |
| 2-Nitrophenol | | | l | | I | | l | L | |

Notes

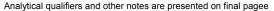




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| RFI Investigation Area | | PROCESS | S AREA (2) | | GROUP D AREA ⁽³⁾ | | TANK 42 | 2 AREA ⁽⁴⁾ | |
|--|----------|---------|------------|---------|-----------------------------|--------|---------|-----------------------|--------|
| Location | PRO-25** | PRO-27* | PRO-31A* | PRO-33* | GDA-3** | T42-1* | T42-2* | T42-3* | T42-4* |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Jun-91 | Jun-91 | Jun-91 | Jun-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 | Aug-91 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) 4-Nitrophenol N-nitroso-Di-n-propylamine N-nitrosodiphenylamine Pentachlorophenol Phenanthrene Phenol Pyrene 1,2,4-Trichlorobenzene TOTAL SVOCs - UG/L (ppb) | 1.1 | 0 O | UG/L | UG/L | UG/L | OG/L | 0 UG/L | 0 O | OGIL |
| | | | | | | | | | |
| Pesticides/PCBs Aldrin Alpha-BHC Beta-BHC Gamma-BHC Delta-BHC Chlordane 4,4-DDT 4,4-DDD Dieldrin Endosulfan I Endosulfan II Endosulfan sulfate Endrin Endrin aldehyde Heptachlor Heptachlor epoxide PCB-1242 PCB-1254 PCB-1254 PCB-1254 PCB-1260 PCB-1248 PCB-1260 PCB-1260 PCB-1016 Toxaphene | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| TOTAL PESTICIDES/PCBs - UG/L (ppb) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL PESTICIDES/PCBs - MG/L (ppm) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |







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| RFI Investigation Area | ABAN | NDONED RR E | BED ⁽⁵⁾ | | | R201 | & R202 WELL | INVESTIGAT | ION ⁽⁶⁾ | | |
|----------------------------|---------|-------------|--------------------|-----------|-----------|-----------|-------------|------------|--------------------|-----------|----------|
| Location | RROB2** | RROB3** | RROB5** | R201 - E1 | R201 - E2 | R202 - E1 | R202 - E2 | R202 - N1 | R202 - S1 | R202 - S2 | R202 - W |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | 120 D | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | | 69 | 6.8 |
| trans-1,2-Dichloroethene | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | 16 | | | 36 | 14 | 62 | 60 |
| 1,1-Dichloroethene | | | | | | | | | | 85 | 7.2 |
| 1,2-Dichloroethane | | | 36 | | 79000 D | | | 97 | 5.2 | 540 D | 200 D |
| 1,2-Dichloroethene (Total) | | | 24 | | 22 | | | 520 D | 74 | 1500 D | 1100 D |
| 1,2-Dichloropropane | | | | | | | | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | |
| Acetone | | | | | | 41 | | | | | |
| Benzene | | | | | | | | | | 76 | 5 |
| Bromoform | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | | |
| Chlorobenzene | | | 8 | | | | | | | 12 | |
| Chloroethane | | | - | | | | | | | | |
| Chloromethane | | | | | | | | | | | |
| Chloroform | 8 | | | | 17 | | | 7.3 | | 140 D | 6.5 |
| Dibromochloromethane | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | |
| Methylene Chloride | | | | | 79 | | | | | | |
| Phenol | | | | | | | | | | | |
| Styrene | | | | | | | | | | | |
| Tetrachloroethene (PERC) | | | | | | | | | | 22 | |
| Toluene | | | | | | | | | | | |
| Trichloroethene (TCE) | | | | | 24 | | | | | 2700 D | 59 |
| Xylene, Total | | | | | | | | | | 13 | |
| Vinyl acetate | | | | | | | | | | | |
| Vinyl Chloride | | | 25 | | <u> </u> | | | 120 D | 44 | 210 D | 290 D |
| TOTAL VOCs - UG/L (ppb) | 8 | 0 | 93 | 0 | 79158 | 41 | 0 | 780.3 | 137.2 | 5549 | 1734.5 |
| TOTAL VOCs - MG/L (ppm) | 0.008 | 0.000 | 0.093 | 0.000 | 79.158 | 0.041 | 0.000 | 0.780 | 0.137 | 5.549 | 1.735 |
| | | | | | | | | | | | |







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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | ABA | NDONED RR E | BED (5) | | | R201 | & R202 WELL | INVESTIGAT | ION ⁽⁶⁾ | | |
|------------------------------|---------|-------------|---------|-----------|-----------|-----------|-------------|------------|--------------------|-----------|----------|
| Location | RROB2** | RROB3** | RROB5** | R201 - E1 | R201 - E2 | R202 - E1 | R202 - E2 | R202 - N1 | R202 - S1 | R202 - S2 | R202 - W |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Units | UĞ/L | UĞ/L | UĞ/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | |
| Anthracene | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | | | | |
| Chrysene | | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | ĺ | ĺ | | ĺ | | | ĺ | |
| Diethyl phthalate | | | | | ĺ | | ĺ | | | [| |
| Dimethyl phthalate | | | | 1 | 1 | | 1 | | | 1 | |
| Fluoranthene | | | | | ĺ | | ĺ | | | [| |
| Fluorene | | | | | ĺ | | ĺ | | | [| |
| Hexachlorobenzene | | | | 1 | 1 | | 1 | | | 1 | |
| Hexachlorobutadiene | | | | ĺ | ĺ | | ĺ | | | ĺ | |
| Hexachlorocyclopentadiene | | | | | ĺ | | ĺ | | | | |
| Hexachloroethane | | | | | ĺ | | ĺ | | | | |
| Indeno(1,2,3-cd)pyrene | | | | ĺ | ĺ | | ĺ | | | ĺ | |
| indulio(1,2,0-od/pylelie | 1 | 1 | ı | 1 | 1 | 1 | 1 | I | ı | 1 | ı |

Notes:



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| RFI Investigation Area | ABAN | NDONED RR E | BED (5) | | | R201 | & R202 WELL | . INVESTIGAT | ION ⁽⁶⁾ | | |
|--|---------|-------------|---------|-----------|-----------|-----------|-------------|--------------|--------------------|-----------|----------|
| Location | RROB2** | RROB3** | RROB5** | R201 - E1 | R201 - E2 | R202 - E1 | R202 - E2 | R202 - N1 | R202 - S1 | R202 - S2 | R202 - W |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | Aug-94 | Aug-94 | Aug-94 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 | 9/5/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) Isophorone N-nitroso-Di-n-propylamine N-nitrosodimethylamine N-nitrosodiphenylamine Naphthalene | | | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | | |
| Phenol Pyrene | | | | | | | | | | | |
| TOTAL SVOCs - UG/L (ppb) | | | | | | | | | | | |
| TOTAL SVOCs - MG/L (ppm) | - | | | | | - | - | - | | | |







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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | | | | | | RMU-2 FOO | TPRINT BO | RING #43 (7) | | | | | | |
|----------------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|--------------|----------|----------|----------|----------|----------|----------|
| Location | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 | 43-N1 | 43-S1 | 43-S2 | 43- | ·W1 | 43- | ·W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 | 10/30/08 | 10/30/08 | 10/29/08 | 10/29/08 | 10/30/08 | 10/28/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/30/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | 17 | | | 34 | | 400 | | 150 D | | | | 95 |
| 1,1,2-Trichloroethane | | | | 180 | | | | | | | 7.2 | | | | |
| trans-1,2-Dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | | | | 180 | | | | | | | | | | | |
| 1,2-Dichloroethane | | | | 68 | | | | | | | 10 | | | | |
| 1,2-Dichloroethene (Total) | | 18 | | 1200 | | | | | | | | | | | |
| 1,2-Dichloropropane | | | | 110 | | | | | | | | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | | | | |
| Acetone | | | | | | | | 41 | | | 56 | | | | 1500 |
| Benzene | | | | | | | | | | | 46 | | | | 33 |
| Bromoform | | | | | | | | | | | | | | | |
| Bromomethane | | | | | | | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | | 84 | | | | |
| Chlorobenzene | 64 | | | | | | 38 | | 660 | | 1200 D | | | 7.1 | 240 |
| Chloroethane | | | | | | | | | | | | | | | |
| Chloromethane | | | | | | | | | | | | | | | |
| Chloroform | | | | 28 | | | | | 370 | | 140 D | | | | 74 |
| Dibromochloromethane | | | | | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | | 50 | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | | | | | |
| Methylene Chloride | | | | 62 | | | 52 | | 320 | | 19 | | | 5.5 | 86 |
| Phenol | | | | | | | | | | | | | | | |
| Styrene | | | | | | | | | | | | | | | |
| Tetrachloroethene (PERC) | | | | 78 | | | | | | | 6.8 | | | | |
| Toluene | 14 | | | | | | 33 | 9.3 | 2400 | | 2000 D | | | 26 | 300 |
| Trichloroethene (TCE) | * * | 5.6 | | 120 | | 5 | | | 210 | | 89 | | | | |
| Xylene, Total | | | | | | - | | | | | 150 | | | | |
| Vinyl acetate | | | | | | | | | | | | | | | |
| Vinyl Chloride | | | 40 | 310 | | | | | | | | | | | |
| TOTAL VOCs - UG/L (ppb) | 78 | 23.6 | 40 | 2353 | 0 | 5 | 157 | 50.3 | 4360 | | 4008 | | 0 | 38.6 | 2328 |
| TOTAL VOCs - MG/L (ppm) | 0.078 | 0.024 | 0.040 | 2.353 | 0.000 | 0.005 | 0.157 | 0.050 | 4.360 | | 4.008 | | 0.000 | 0.039 | 2.328 |





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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | | | | | | RMU-2 FOO | TPRINT BO | RING #43 (7) | 1 | | | | | |
|------------------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|--------------|----------|----------|----------|----------|----------|----------|
| Location | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 | 43-N1 | 43-S1 | 43-S2 | 43- | -W1 | 43- | ·W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 | 10/30/08 | 10/30/08 | 10/29/08 | 10/29/08 | 10/30/08 | 10/28/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/30/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | | | 19 | | 21 | | | |
| 1,2-Dichlorobenzene | | | | | | | | | | 16 | | 16 | | | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | 16 | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | 14 | | | 33 | | 35 | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | | | | | |
| Acenaphthene | | | | | | 17 | | | | | | | | | |
| Anthracene | | | | | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | 18 | | | | | 18 | | 40 | | | | | | | |
| Chrysene | | | | | | | | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | 10 | | | 19 | | | | | |
| Di-n-butyl phthalate | | | | | | | | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | 1 | | | | | [| |
| Diethyl phthalate | | | | | | | | | | | | | | | |
| Dimethyl phthalate | | | | | | | | | | | | | | | |
| Fluoranthene | | | | | | | | | | | | | | | |
| Fluorene | | | | | | 13 | | |] | | | | | [| |
| Hexachlorobenzene | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | |] | | | | | [| |
| Hexachlorocyclopentadiene | | | | | | | | | | 71 | | 90 | | | |
| Hexachloroethane | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | | | | | | | | |

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| RFI Investigation Area | | | | | | | RMU-2 FOO | TPRINT BO | RING #43 (7) | | | | | | |
|--|----------|----------|----------|----------|----------|----------|-----------|-----------|--------------|----------|----------|----------|----------|----------|----------|
| Location | 43-E2 | 43-E3 | 43-E4 | 43-E5 | 43-E6 | 43-N1 | 43-S1 | 43-S2 | 43- | -W1 | 43- | -W2 | 43-W2-N2 | 43-W2-S2 | 43-W3 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/28/08 | 11/18/08 | 11/18/08 | 11/18/08 | 11/18/08 | 10/30/08 | 10/30/08 | 10/29/08 | 10/29/08 | 10/30/08 | 10/28/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/30/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) Isophorone N-nitroso-Di-n-propylamine N-nitrosodimethylamine N-nitrosodiphenylamine Naphthalene | | | | | | 110 | | | | | | | | | |
| Nitrobenzene | | | | | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | | | | | |
| Phenanthrene | | | | | | 21 | | | | | | | | | |
| Phenol Pyrene | | | | | | | | | | | | | | | |
| TOTAL SVOCs - UG/L (ppb) | 34 | 0 | 0 | 0 | 0 | 179 | 24 | 40 | | 158 | | 162 | | | - |
| TOTAL SVOCs - MG/L (ppm) | 0.034 | 0.000 | 0.000 | 0.000 | 0.000 | 0.179 | 0.024 | 0.040 | | 0.158 | | 0.162 | | | |







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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | RMU- | 2 FOOTPRIN | NT BORING | #43 ⁽⁷⁾ | | | | RMU- | 2 FOOTPRII | NT BORING | #61 ⁽⁷⁾ | | |
|----------------------------|----------|----------|------------|-----------|--------------------|----------|---------|----------|----------|------------|-----------|--------------------|-----------|----------|
| Location | 43- | -W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/29/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | 21 | | 12000 | 3700 | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | 25 | | 10000 | 2300 | |
| 1,1,2-Trichloroethane | | | 28 | | | | 3300 | 160000 | 16000 | 54 | | 3400000 D | 440000 D | 19000 |
| trans-1,2-Dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | 890 | | 15 | | | | |
| 1.1-Dichloroethene | | | | | | | | 9900 | 5700 | 24 | | 3300 | 10000 | 7500 |
| 1.2-Dichloroethane | | | 350 | | 8.2 | 37 | 11000 | 720000 D | 46000 | 83 | | 2700000 D | 1900000 D | 180000 D |
| 1,2-Dichloroethene (Total) | | | | | | - | | | 3500 | 280 | 18 | | | |
| 1,2-Dichloropropane | | | | | | | | | 0000 | 200 | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | | | | | | | |
| 2-Hexanone | | | | | | | | | | | | | | |
| Acetone | | | | | | 100 | | | | | | 3200 | 4900 | 3400 |
| Benzene | | | 5.5 | | 7.1 | 170 | | 1900 | | 16 | | 4900 | 2800 | 3400 |
| Bromoform | | | 3.3 | | 7.1 | 170 | | 1900 | | 10 | | 4900 | 2000 | |
| Bromomethane | | | | | | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | | | 910 | | |
| Carbon Tetrachloride | | | 30 | | | | | | | 57 | | 360000 D | 58000 D | |
| | 1200 | | 6.6 | | 440 | 400 | | 1900 | 400 | | 70 | | | |
| Chlorobenzene | 1200 | | 0.0 | | 140 | 400 | | 1900 | 420 | 92 | 76 | 7800 | 4100 | |
| Chloroethane | | | | | | | | | | | | | | |
| Chloromethane | 500 | | 4-7 | | | | 400 | 2000 | 000 | 400 | | 50000 | 70000 B | 7700 |
| Chloroform | 530 | | 47 | | | | 400 | 6300 | 900 | 180 | | 50000 | 76000 D | 7700 |
| Dibromochloromethane | | | | | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | | | 2600 | 360 | |
| Ethylbenzene | | | | | | 11 | | | | 35 | 76 | 380 | 340 | |
| Methyl Ethyl Ketone | | | | | | | | | | | | | 2200 | |
| Methyl Isobutyl Ketone | | | | | | | | | | | | 1700 | | |
| Methylene Chloride | 1000 | | 100 | | 6.6 | 38 | 2200 | 110000 D | 1400 | 60 | 7.2 | 580000 D | 750000 D | 24000 |
| Phenol | | | | | | | | | | | | | | |
| Styrene | | | | | | | | | | | | | | |
| Tetrachloroethene (PERC) | | | | | | | | 1200 | 420 | 26 | 89 | 7200 | 5700 | |
| Toluene | 3900 | | | | 39 | 120 | | 1400 | | 170 | 24 | 4400 | 2800 | 540 |
| Trichloroethene (TCE) | | | 14 | | | | 150 | 9800 | 3100 | 100 | 27 | 100000 D | 34000 | 2000 |
| Xylene, Total | | | | | 14 | | | | | 60 | 75 | 1200 | 880 | |
| Vinyl acetate | | | | | | | | | | | | | | |
| Vinyl Chloride | | | 11 | | | | | 11000 | 3300 | 160 | | 10000 | 530 | 560 |
| TOTAL VOCs - UG/L (ppb) | 6630 | | 592.1 | 0 | 214.9 | 876 | 17050 | 1034290 | 80740 | 1458 | 392.2 | 7259590 | 3298610 | 244700 |
| TOTAL VOCs - MG/L (ppm) | 6.630 | | 0.592 | 0.000 | 0.215 | 0.876 | 17.050 | 1034.290 | 80.740 | 1.458 | 0.392 | 7259.590 | 3298.610 | 244.700 |





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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | RMU- | -2 FOOTPRII | NT BORING | #43 ⁽⁷⁾ | | | | RMU- | 2 FOOTPRII | NT BORING | #61 ⁽⁷⁾ | | |
|------------------------------|----------|----------|-------------|-----------|--------------------|----------|---------|---------|----------|------------|-----------|--------------------|----------|----------|
| Location | 43- | -W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/29/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | | | | | | | |
| Semi - Volatiles | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | 73 | 18 | | | | | | 12 | | |
| 1,2-Dichlorobenzene | | | | | | | | | | | | 210 | 240 | |
| 1,2-Diphenylhydrazine | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | | | | | 20 | 26 | |
| 1,4-Dichlorobenzene | 40 | 43 | | | 12 | 16 | | | | | | 67 | 71 | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | | | | | | 100 | |
| 2,4-Dinitrophenol | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | | 1 | | 1 | | | |
| 2-Chloronaphthalene | | | | | | | | | | | | | | |
| 2-Chlorophenol | | | | | | | | | | | | | | |
| 2-Nitrophenol | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | | | | | | | |
| 4-Nitrophenol | | | | | | | | | | | | | | |
| Acenaphthylene | | | | | | | | | | | | | | |
| Acenaphthene | | | | | | | | | | | | | | |
| Anthracene | | | | | | | | | | | | | | |
| Benzidine | | | | | | | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | | | | | | | |
| Butylbenzylphthalate | | | | | 18 | | | | | | | 6200 D | 3200 D | |
| Chrysene | | | | | | | | | | | | 0200 5 | 0200 5 | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | | I | | I | | | |
| Cresol, p-chloro-m- | | | | | 32 | 80 | | | 1 | | 1 | | | |
| Di-n-butyl phthalate | | | | | J | 00 | | | 1 | | 1 | | | |
| Di-n-octyl phthalate | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | | 1 | | 1 | | | |
| Diethyl phthalate | | | | | | | | | 1 | | 1 | | | |
| Dimethyl phthalate | | | | | | 31 | | | 1 | | 1 | | | |
| Fluoranthene | | | | | | 51 | | | 1 | | 1 | | | |
| Fluorene | | | | | | | | | 1 | | 1 | | | |
| Hexachlorobenzene | | | | | | | | | 1 | | 1 | | | |
| Hexachlorobutadiene | | | | | | | | | 1 | | 1 | | | |
| Hexachlorocyclopentadiene | 590 | 520 | | | | | | | 1 | | 1 | | 22 | 1 |
| | 390 | 320 | | | | | | | 1 | | 1 | | 22 | |
| Hexachloroethane | | | | | | | | | 1 | | 1 | | | |
| Indeno(1,2,3-cd)pyrene | | l | l | l | l | | | l | | | | | | |

Notes



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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | | RMU- | 2 FOOTPRII | NT BORING | #43 ⁽⁷⁾ | | | | RMU- | 2 FOOTPRII | NT BORING | #61 ⁽⁷⁾ | | |
|--|----------|----------|------------|-----------|--------------------|----------|---------|---------|----------|------------|-----------|--------------------|----------|----------|
| Location | 43- | ·W4 | 43-W4-N2 | 43-W4-S3 | 43-W5 | 43-W8 | 61-E1 | 61-E2 | 61-E4 | 61-N1 | 61-N2 | 61-R | 61-S1 | 61-S2 |
| Media | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/29/08 | 10/30/08 | 11/6/08 | 11/6/08 | 10/29/08 | 10/29/08 | 11/3/08 | 11/4/08 | 11/18/08 | 11/3/08 | 11/3/08 | 10/30/08 | 10/30/08 | 10/31/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) Isophorone N-nitroso-Di-n-propylamine N-nitrosodimethylamine N-nitrosodiphenylamine Naphthalene | | | | | | | | | | | | 66 87 | 26 90 | |
| Nitrobenzene | 120 | 140 | | | | | | | | | | | | |
| Pentachlorophenol | | | | | | | | | | | | | | |
| Phenanthrene | | | | | | | | | | | | | | |
| Phenol Pyrene | | | | | | | | | | | | | | |
| TOTAL SVOCs - UG/L (ppb) | 750 | 703 | | | 135 | 145 | | | - | - | | 6662 | 3775 | |
| TOTAL SVOCs - MG/L (ppm) | 0.750 | 0.703 | | | 0.135 | 0.145 | - | | | - | | 6.662 | 3.775 | |



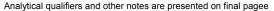


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TABLE 3
HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | RMU | U-2 FOOTPRII | NT BORING #6 | 61 ⁽⁷⁾ | WELL MW10-2S (8) | | WELL DATA (S | 9) |
|----------------------------|----------|--------------|--------------|-------------------|------------------|---------|--------------|---------|
| Location | 61-S3 | 61-S4 | 61-S5 | 61-W1 | TW24S | TW11S | W1001S | W1002S |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 | 9/17/08 | 8/28/08 | 1/8/08 | 7/24/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | |
| Volatiles | | | | | | | | |
| 1,1,1-Trichloroethane | 570 | | | | 11000 | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | 4.4 | | |
| 1,1,2-Trichloroethane | 110000 D | 3600 | 58000 D | 7000 | 100 | 0.68 | | 34 |
| trans-1,2-Dichloroethene | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | |
| 1,1-Dichloroethane | 510 | | | | 2500 | 1.6 | | |
| 1,1-Dichloroethene | 10000 | | | 2100 | 3200 | | | 7.3 |
| 1,2-Dichloroethane | 510000 D | 5000 | 140000 D | 16000 | | 1.3 | | 37 |
| 1,2-Dichloroethene (Total) | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | |
| cis-1,3-Dichloropropylene | | | | | | | | |
| 2-Hexanone | | | | | | | | |
| Acetone | 2100 | | 2600 | | | | | |
| Benzene | 1200 | | 300 | 980 | | | | |
| Bromoform | | | | | | | | |
| Bromomethane | | | | | | | 2.4 | |
| Carbon Disulfide | | | | | | | | |
| Carbon Tetrachloride | 460 | | 1200 | | | 32 | | 790 |
| Chlorobenzene | 2200 | 170 | 780 | 800 | | | | |
| Chloroethane | | | | | | | | |
| Chloromethane | | | | | | | | |
| Chloroform | 79000 D | 1300 | 19000 | 280 | | 1.4 | | 1200 |
| Dibromochloromethane | | | | | | | | |
| Dichlorobromomethane | | | | | | | | 12 |
| Ethylbenzene | | | | 130 | | | | |
| Methyl Ethyl Ketone | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | |
| Methylene Chloride | 530000 D | 2800 | 83000 D | 780 | | | | |
| Phenol | | | | | | | | |
| Styrene | | | | | | | | |
| Tetrachloroethene (PERC) | 1200 | 140 | 350 | 300 | 3400 | 1.3 | | |
| Toluene | 2000 | 90 | 500 | 2400 | | | | |
| Trichloroethene (TCE) | 4900 | 460 | 1700 | 2600 | 190 | 8.6 | | 2.6 |
| Xylene, Total | | | | | | | | |
| Vinyl acetate | | | | | | | | |
| Vinyl Chloride | 2100 | | | 14000 | | | | |
| TOTAL VOCs - UG/L (ppb) | 1256240 | 13560 | 307430 | 47370 | 20390 | 51.28 | 2.4 | 2082.9 |
| TOTAL VOCs - MG/L (ppm) | 1256.240 | 13.560 | 307.430 | 47.370 | 20.390 | 0.051 | 0.002 | 2.083 |

Notes:





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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

| RFI Investigation Area | RMU | J-2 FOOTPRIN | NT BORING #6 | 61 ⁽⁷⁾ | WELL MW10-2S (8) | , | WELL DATA (S |)) |
|------------------------------|----------|--------------|--------------|-------------------|------------------|---------|--------------|---------|
| Location | 61-S3 | 61-S4 | 61-S5 | 61-W1 | TW24S | TW11S | W1001S | W1002S |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 | 9/17/08 | 8/28/08 | 1/8/08 | 7/24/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| | | | | | | | | |
| Semi - Volatiles | | | | | | | | |
| 1,2,4-Trichlorobenzene | | | | | | | | |
| 1,2-Dichlorobenzene | | | | | | | | |
| 1,2-Diphenylhydrazine | | | | | | | | |
| 1,3-Dichlorobenzene | | | | | | | | |
| 1,4-Dichlorobenzene | | | | | | | | |
| 2,2'-Oxybis(1-chloropropane) | | | | | | | | |
| 2,4,6-Trichlorophenol | | | | | | | | |
| 2,4,-Dichlorophenol | | | | | | | | |
| 2,4,-Dimethylphenol | | | | | | | | |
| 2,4-Dinitrophenol | | | | | | | | |
| 2,4-Dinitrotoluene | | | | | | | | |
| 2,6-Dinitrotoluene | | | | | | | | |
| 2-Chloronaphthalene | | | | | | | | |
| 2-Chlorophenol | | | | | | | | |
| 2-Nitrophenol | | | | | | | | |
| 3,3'-Dichlorobenzidine | | | | | | | | |
| 4-Bromophenylphenyl ether | | | | | | | | |
| 4-Chlorophenylphenyl ether | | | | | | | | |
| 4-Nitrophenol | | | | | | | | |
| Acenaphthylene | | | | | | | | |
| Acenaphthene | | | | | | | | |
| Anthracene | | | | | | | | |
| Benzidine | | | | | | | | |
| Benzo(a)anthracene | | | | | | | | |
| Benzo(a)pyrene | | | | | | | | |
| Benzo(b)fluoranthene | | | | | | | | |
| Benzo(ghi)perylene | | | | | | | | |
| Benzo(k)fluoranthene | | | | | | | | |
| bis(2-Chloroethoxy)methane | | | | | | | | |
| bis(2-Chloroethyl)ether | | | | | | | | |
| bis(2-ethylhexyl)phthalate | | | | | | | | |
| Butylbenzylphthalate | | | | | | | | |
| Chrysene | | | | | | | | |
| Cresol, 4,6-Dinitro-O- | | | | | | | | |
| Cresol, p-chloro-m- | | | | | | | | |
| Di-n-butyl phthalate | | | | | | | | |
| Di-n-octyl phthalate | | | | | | | | |
| Dibenzo(a,h)anthracene | | | | | | | | |
| Diethyl phthalate | | | | | | | | |
| Dimethyl phthalate | | | | | | | | |
| Fluoranthene | | | | | | | | |
| Fluorene | | | | | | | | |
| Hexachlorobenzene | | | | | | | | |
| Hexachlorobutadiene | | | | | | | | |
| Hexachlorocyclopentadiene | | | | | | | | |
| Hexachloroethane | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | | | | | | | | |

Notes



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| RFI Investigation Area | RMI | U-2 FOOTPRII | NT BORING # | 61 ⁽⁷⁾ | WELL MW10-2S (8) | , | WELL DATA ⁽⁹ |) |
|------------------------------|----------|--------------|-------------|-------------------|------------------|---------|-------------------------|---------|
| Location | 61-S3 | 61-S4 | 61-S5 | 61-W1 | TW24S | TW11S | W1001S | W1002S |
| Media | GW | GW | GW | GW | GW | GW | GW | GW |
| Sample Date | 10/31/08 | 10/31/08 | 10/31/08 | 11/3/08 | 9/17/08 | 8/28/08 | 1/8/08 | 7/24/08 |
| Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Semi - Volatiles (continued) | | | | | | | | |
| Isophorone | | | | | | | | |
| N-nitroso-Di-n-propylamine | | | | | | | | |
| N-nitrosodimethylamine | | | | | | | | |
| N-nitrosodiphenylamine | | | | | | | | |
| Naphthalene | | | | | | | | |
| Nitrobenzene | | | | | | | | |
| Pentachlorophenol | | | | | | | | |
| Phenanthrene | | | | | | | | |
| Phenol | | | | | | | | |
| Pyrene | | | | | | | | |
| TOTAL SVOCs - UG/L (ppb) | | | | | 0 | 0 | 0 | 0 |
| TOTAL SVOCs - MG/L (ppm) | | | | | 0.000 | 0.000 | 0.000 | 0.000 |







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TABLE 3 HISTORIC AND RECENT GROUNDWATER ANALYTICAL RESULTS VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS CWM/RMU-2 DATA STUDY, MODEL CITY, NY

USEPA Defined Organic Data Qualifiers:

BLANK = Non-detect for individual constituents.

D = Result is from a dilution.

Notes:

- * Reported results were originally analyzed in the field using a portable Gas Chromatograph, (typically with a Photovac 10S70 and an OVA).
- * *Reported results (for split sample) were originally analyzed by analytical laboratory.

Not analyzed for.

UG/L= micrograms per liter

MG/L= milligrams per liter

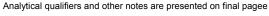
ppm= Parts per million

ppb= Parts per billion

- (1) Results originally presented in report entitled "Model City RFI Interim Reports on ATBU 58, FAC Ponds 1 and 2, FAC Pond 3, FAC Pond 8, FAC Pond 9, Fire Pond and Group E Report, Volume I of II", Golder Associates, Inc., February 1989.
- (2) Results originally presented in report entitled "Interim Report on Process Area Phase II Investigation, Volume I and II", Golder Associates, Inc., June 1991.
- (3) Results originally presented in report entitled "Report On Group D Area: Lagoons 3 and 4, Trailer Parking, and Empty Drum Storage Area (DA-24)", Golder Associates, Inc., January 1992.
- (4) Results originally presented in report entitled "Tank 42 Area and Tanks 50 and 51 Area Initial RFI and Phase II Investigations", Volumes I and II, Golder Associates, Inc., March 1992.
- (5) Results originally presented in report entitled "Background Well BW02S, Piezometer P1202S and Abandoned Railroad Bed Supplemental Investigation", Golder Associates, Inc., October 1997.
- (6) Results originally presented in report entitled "R201 & R202 Well Investigation Boring Program", Golder Associates, Inc., March 2009.
- (7) Results originally presented in report entitled "RMU-2 Footprint Investigation Boring Program", Golder Associates, Inc., March 2009.
- (8) Results originally presented in report entitled "MW-10-2S Investigation", Golder Associates, Inc., April 1988.
- (9) Groundwater well data provided by CWM. Reported results represent most recent detections of the constituents noted.

Table By: RJM
Checked By: AML
Reviewed By: DCW







| Chain of Custody ID | RMU2-W1(8-10) | RMU2-W2(9-11) | RMU2-W3(6-8) | RMU2-W4 | RMU2-W4(5-6) | RMU2-W5(6-8) | RMU2-W6 | RMU2-W6(8-9) | RMU2-W7 | RMU2-W7 (5-6) |
|--------------------------------------|---------------|---------------|--------------|-----------------|--------------|--------------|-------------|--------------|------------------|---------------|
| Media | Soil | Soil | Soil | GW | Soil | Soil | GW | Soil | GW | Soil |
| Lab Sample ID | RSB0354-01 | RSB0354-02 | RSB0354-03 | RSB0350-09 | RSB0354-04 | RSB0354-05 | RSB0350-18 | RSB0350-01 | RSB0350-11 | RSB0350-02 |
| Sample Date | 2/9/09 | 2/9/09 | 2/9/09 | 2/10/09 | 2/9/09 | 2/9/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 |
| Units | UG/KG | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/L | UG/KG | UG/L | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | |
| 1,2-Dichloroethane | | | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | |
| 2-Butanone | | | | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | | |
| Acetone | | 21.0 J | | | 49.0 | 35.0 | 18.0 P11, J | 20.0 J | 30.0 D11, P11, J | 8.1 J |
| Benzene | | | | | | 2.0 J | | | | |
| Carbon Disulfide | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | |
| Chlorobenzene | | | | | | 12.0 | | | | |
| Chloroform | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | |
| Ethylbenzene | | | | | | 15.0 | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | |
| Methylene Chloride | 5.7 | 5.8 | 5.6 J | 6.4 D11. P11. J | 7.1 | 6.9 | | 2.8 J | 4.6 D11, P11, J | 2.7 J |
| Tetrachloroethene (PERC) | | | | , , , | | | | | , , , , | |
| Toluene | | | | | | | 1.2 P11, J | | | |
| Xylene, Total | | | | | | 60.0 | , . | | | |
| Trichloroethene (TCE) | | | | | | 8.1 | | | | |
| Vinyl Chloride | | | | | | | | | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 5.7 | 26.8 | 5.6 | 6.4 | 56.1 | 139.0 | 19.2 | 22.8 | 34.6 | 10.8 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.006 | 0.027 | 0.006 | 0.006 | 0.056 | 0.139 | 0.019 | 0.023 | 0.035 | 0.011 |
| Total Petroleum Hydrocarbons (TPH) - | | . ,_, | | | | | | | | |
| UG/KG (ppb) | | | | | | | | | | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | | |
| MG/KG (ppm) | | | | | | | | | | |
| morro (ppin) | | | | | | | 1 | | | |



| Media Lab Sample ID | | | RMU2-W9 | RMU2-W9 (4-5) | RMU2-W10 | RMU2-W10 (6-8) | RMU2-W11 | RMU2-W11 (6.5-7.5) | RMU2-W12 | RMU2-W12 (4-5) |
|--------------------------------------|------------------|------------|-----------------|---------------|------------------|----------------|-----------------|--------------------|-----------------|----------------|
| Lah Sample ID | GW | Soil | GW | Soil | GW | Soil | GW | Soil | GW | Soil |
| Lan Sallible ID | RSB0350-12 | RSB0350-03 | RSB0350-15 | RSB0350-04 | RSB0350-16 | RSB0350-05 | RSB0350-17 | RSB0350-06 | RSB0350-18 | RSB0350-07 |
| Sample Date | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 | 2/10/09 |
| Units | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | 4.0 D11, P11, J | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | |
| 1,1,2-Trichloroethane | 7.2 D11, P11, J | | | | | | | | | |
| 1,1-Dichloroethane | | | | | | | | | | |
| 1,2-Dichloroethane | 30.0 D11, P11 | 1.3 J | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | | |
| 1,2-Dichloropropane | 5.1 D11, P11, J | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | |
| 2-Butanone | | | | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | | |
| Acetone | | 8.0 J | | 7.9 J | 23.0 D11, P11, J | 9.7 J | | 6.9 J | | |
| Benzene | 4.5 D11, P11, J | | | | | | | | | |
| Carbon Disulfide | | | | | | | | | | |
| Carbon Tetrachloride | | | | | | | | | | |
| Chlorobenzene | | | | | | | | | | |
| Chloroform | 17.0 D11, P11, J | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | |
| Methylene Chloride | 18.0 D11, P11, J | 2.4 J | 5.5 D11, P11, J | 2.4 J | 5.7 D11, P11, J | 2.3 J | 7.0 D11, P11, J | 2.8 J | 5.1 D11, P11, J | 2.5 J |
| Tetrachloroethene (PERC) | | | | | | | | | | |
| Toluene | | | | | | | | | | |
| Xylene, Total | | | | | | | | | | |
| Trichloroethene (TCE) | 36.0 D11, P11 | 4.1 J | | | | | | | | |
| Vinyl Chloride | , | | | | | | | | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 121.8 | 15.8 | 5.5 | 10.3 | 28.7 | 12.0 | 7.0 | 9.7 | 5.1 | 2.5 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.122 | 0.016 | 0.006 | 0.010 | 0.029 | 0.012 | 0.007 | 0.010 | 0.005 | 0.003 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | | |
| UG/KG (ppb) | | | | | | | | | | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | | |
| MG/KG (ppm) | | | | | | | | | | |







| Chain of Custody ID | RMU2-W13 | RMU2-W13 (6-8) | RMU2-W14 | RMU2-W14 (3-4) | RMU2-W15 | RMU2-W15(2.5-3.5) | RMU2-W16 | RMU2-W16(2.5-3.5) | RMU2-W17 | RMU2-W17(2-3) | RMU2-W18 |
|--------------------------------------|------------------|----------------|----------------|----------------|---------------|-------------------|----------------|-------------------|---------------|---------------|---------------|
| Media | GW | Soil | GW | Soil | GW | Soil | GW | Soil | GW | Soil | GW |
| Lab Sample ID | RSB0350-19 | RSB0350-08 | RSB0376-11 | RSB0376-01 | RSB0376-15 | RSB0376-02 | RSB0376-13 | RSB0376-03 | RSB0376-09 | RSB0376-04 | RSB0376-10 |
| Sample Date | 2/10/09 | 2/10/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 | 2/11/09 |
| Units | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L |
| | | | | | | | | | | | |
| Volatiles | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | 130.0 P11, D0 | В | 730.0 P11, D08 | | | | |
| 1,1,2-Trichloroethane | | | 290.0 P11, D08 | | 260.0 P11, D0 | В | 920.0 P11, D08 | | 15.0 P11, D11 | | |
| 1,1-Dichloroethane | | | 13.0 P11, D08 | | | | · | | · | | |
| 1,2-Dichloroethane | | 1.2 J | 210.0 P11, D08 | 6.8 | | | | | 11.0 P11, D11 | | |
| 1,1-Dichloroethene | | | 120.0 P11, D08 | 2.7 | 240.0 P11, D0 | В | 570.0 P11, D08 | | 12.0 P11, D11 | | |
| 1,2-Dichloroethene (Total) | 21.0 D11, P11, J | | 770.0 P11, D08 | 50.0 | 950.0 P11, D0 | В | 1400 P11, D08 | | 35.0 P11, D11 | | |
| 1,2-Dichloropropane | | | 190.0 P11, D08 | | 78.0 P11, D0 | В | 170.0 P11, D08 | | 7.0 P11, D11 | | |
| trans-1,3-Dichloropropene | | | | | | | | | | | |
| 2-Butanone | | | | | | 14.0 | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | | | |
| Acetone | | 8.3 J | | 100.0 | | 52.0 | | 31.0 | | 22.0 | 17.0 P11, D11 |
| Benzene | | | | | | | | 2.7 | | | |
| Carbon Disulfide | | | | 1.8 | | 1.3 | | 1.6 | | 2.9 | |
| Carbon Tetrachloride | | | | | | | | | | | |
| Chlorobenzene | | | | 3.0 | | 5.6 | | 15.0 | | | 9.0 P11, D11 |
| Chloroform | | | 54.0 P11, D08 | | 23.0 P11, D0 | 8 | 63.0 P11, D08 | | | | |
| cis-1,3-Dichloropropene | | | | | | | · | | | | |
| Dichlorobromomethane | | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | | |
| Methylene Chloride | 6.6 D11, P11, J | 2.5 J | 11.0 P11, D08 | | 23.0 P11, D0 | 8 | 57.0 P11, D08 | | | | |
| Tetrachloroethene (PERC) | , , , , | | 38.0 P11, D08 | | 410.0 P11, D0 | | 1100 P11, D08 | | 4.8 P11, D11 | | |
| Toluene | | | , , , , | 1.8 | , , | | , | 2.6 | | | |
| Xylene, Total | | | | | | | | 6.7 | | | |
| Trichloroethene (TCE) | | | 340.0 P11, D08 | 97.0 | 270.0 P11, D0 | 8 | 950.0 P11, D08 | 7.2 | 13.0 P11, D11 | | |
| Vinyl Chloride | | 6.3 J | 730.0 P11, D08 | | 180.0 P11, D0 | | 290.0 P11, D08 | | 37.0 P11, D11 | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 27.6 | 18.3 | 2766.0 | 272.8 | 2564.0 | 72.9 | 6250.0 | 66.8 | 134.8 | 24.9 | 26.0 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.028 | 0.018 | 2.766 | 0.273 | 2.564 | 0.073 | 6.250 | 0.067 | 0.135 | 0.025 | 0.026 |
| Total Petroleum Hydrocarbons (TPH) - | 0.320 | 3.310 | 200 | 5.276 | 2.004 | 2.070 | 5.200 | 5.567 | 0.100 | 0.320 | 0.020 |
| UG/KG (ppb) | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | | | |
| MG/KG (ppm) | | | | | | | | | | | |
| monto (ppm) | | | | | | | | | 1 | | |



TABLE 4

RMU-2 PHASE I WESTERN BOUNDARY INVESTIGATION SAMPLING
SOIL AND GROUNDWATER ANALYTICAL RESULTS

VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS
CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| Chain of Custody ID | RMU2-W18R(6-8) | RMU2-W | /19 | RMU2-W19(5-7) | RMU2-W19R(6-8) | RMU2-W19-E1 | RMU2-W19-E1 | RMU2-W19-E2 | RMU2-W19-E2(10-12) | RMU2-W19-E2(10-12) |
|--------------------------------------|----------------|---------|---------|----------------|----------------|--------------|-------------|-------------|--------------------|--------------------|
| Media | Soil | GW | | Soil | Soil | GW | Soil | GW | Soil | Soil |
| Lab Sample ID | RSB0376-05 | RSB0376 | i-14 | RSB0376-06/RE1 | RSB0495-09 | RSB0376-15 | RSB0376-08 | RSB0496-09 | RSB0496-05 | RSB0496-06 |
| Sample Date | 2/11/09 | 2/11/09 | • | 2/11/09 | 2/16/09 | 2/11/09 | 2/11/09 | 2/16/09 | 2/16/09 | 2/16/09 |
| Units | UG/KG | UG/L | | UG/KG | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | | 1.1 | P11 | | | | | 5.3 D11, J | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | 14.0 D11, J | | |
| 1,1-Dichloroethane | 1.6 | 15.0 | P11 | 9.0 | | 19.0 P11, D1 | 1 | 45.0 D11 | 2.3 J | |
| 1,2-Dichloroethane | | 1.9 | P11 | | | | | 27.0 D11 | | |
| 1,1-Dichloroethene | | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | 130.0 P | 11, D08 | 32.0 | | 17.0 P11, D1 | 1 | 160.0 D11 | | |
| 1,2-Dichloropropane | | 4.5 | P11 | 2.1 | | 10.0 P11, D1 | 1 | 140.0 D11 | | |
| trans-1,3-Dichloropropene | | | | | | | | | | |
| 2-Butanone | | | | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | | |
| Acetone | 28.0 | 6.8 | P11 | 33.0 | | 28.0 P11, D1 | 1 | 32.0 D11, J | 27.0 J | |
| Benzene | | 6.0 | P11 | 4.6 | | 11.0 P11, D1 | 1 5.1 | 20.0 D11, J | 3.3 J | |
| Carbon Disulfide | 3.4 | | | 5.8 | | | 40.0 | 4.2 D11, J | 2.9 J | |
| Carbon Tetrachloride | | | | | | | | | | |
| Chlorobenzene | 79.0 | 70.0 | P11 | 240.0 * | | 45.0 P11, D1 | 1 200.0 | 97.0 D11 | 100.0 | |
| Chloroform | | | | | | | | 31.0 D11 | | |
| cis-1,3-Dichloropropene | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | |
| Ethylbenzene | | 18.0 | P11 | 26.0 | | 16.0 P11, D1 | 1 13.0 | 77.0 D11 | 27.0 | |
| Methyl Ethyl Ketone | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | |
| Methylene Chloride | | 2.4 | P11 | | | 4.2 P11, D1 | 1 | 7.3 D11, J | 3.2 J | |
| Tetrachloroethene (PERC) | | | | | | | | | 2.4 J | |
| Toluene | | 12.0 | P11 | 17.0 | | 17.0 P11, D1 | 1 7.6 | 290.0 D11 | 210.0 | |
| Xylene, Total | 14.0 | 54.0 | P11 | 180.0 * | | 30.0 P11, D1 | 1 42.0 | 150.0 D11 | 92.0 | |
| Trichloroethene (TCE) | | 3.1 | P11 | 1.7 | | 4.4 P11, D1 | | 13.0 D11, J | 2.1 J | |
| Vinyl Chloride | | 42.0 | P11 | 8.5 | | 5.4 P11, D1 | 1 | 42.0 D11 | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 126.0 | 366.8 | | 559.7 | | 207.0 | 307.7 | 1154.8 | 472.2 | |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.126 | 0.367 | | 0.560 | | 0.207 | 0.308 | 1.155 | 0.472 | |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | | |
| UG/KG (ppb) | | | | | 820000 | | | | | 901000 |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | | |
| MG/KG (ppm) | | | | | 820.000 | | | | | 901.000 |







| Chain of Custody ID | RMU2-W19-E3 | RMU2-W19-E3(6-8) | RMU2-W19-E3(6-8) | RMU2-W19-W1 | RMU2-W19-W1(6-8) | RMU2-W19-W1(6-8) | RMU2-W19-W2 | RMU2-W19-W2(6-8) | RMU2-W19-W3 |
|--------------------------------------|-------------|------------------|------------------|-------------|------------------|------------------|-------------|------------------|-------------|
| Media | GW | Soil | Soil | GW | Soil | Soil | GW | Soil | GW |
| Lab Sample ID | RSB0496-12 | RSB0496-10 | RSB0496-11 | RSB0495-06 | RSB0495-01 | RSB0495-04 | RSB0495-07 | RSB0495-02 | RSB0495-08 |
| Sample Date | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 |
| Units | UG/L | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/L | UG/KG | UG/L |
| | | | | | | | | | |
| Volatiles | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | |
| 1,1-Dichloroethane | | | | 25.0 D11 | 1.7 J | | 20.0 D11, J | | 6.6 D11, J |
| 1,2-Dichloroethane | | | | | 4.0 J | | | | |
| 1,1-Dichloroethene | | | | | | | | | |
| 1,2-Dichloroethene (Total) | | | | 14.0 D11, J | 13.0 | | | | |
| 1,2-Dichloropropane | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | |
| 2-Butanone | | 12.0 J | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | |
| Acetone | 22.0 D11, J | 33.0 | | | | | | | |
| Benzene | 6.4 D11, J | 2.6 J | | 15.0 D11, J | | | 10.0 D11, J | | 6.8 D11, J |
| Carbon Disulfide | | | | | 32.0 | | | | |
| Carbon Tetrachloride | | | | | | | | | |
| Chlorobenzene | 6.0 D11, J | 6.4 | | 130.0 D11 | 41.0 | | 84.0 D11 | 1400 D04 | 58.0 D11 |
| Chloroform | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | |
| Ethylbenzene | | | | 47.0 D11 | 6.2 | | 26.0 D11 | 800.0 D04 | 21.0 D11 |
| Methyl Ethyl Ketone | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | |
| Methylene Chloride | 5.9 D11, J | 4.8 J | | 6.5 D11, J | 8.3 | | 6.8 D11, J | | 5.7 D11, J |
| Tetrachloroethene (PERC) | | | | | 2.3 J | | | | |
| Toluene | 3.7 D11, J | | | 380.0 D11 | 3.7 J | | 240.0 D11 | 4500 D04 | 10.0 D11, J |
| Xylene, Total | | | | 110.0 D11 | 17.0 J | | 59.0 D11 | 2700 D04 | 62.0 D11 |
| Trichloroethene (TCE) | | | | 7.2 D11, J | 4.0 J | | 5.8 D11, J | | 3.3 D11, J |
| Vinyl Chloride | | | | 14.0 D11, J | | | 9.1 D11, J | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 44.0 | 58.8 | | 748.7 | 133.2 | | 460.7 | 9400.0 | 173.4 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.044 | 0.059 | | 0.749 | 0.133 | | 0.461 | 9.400 | 0.173 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | |
| UG/KG (ppb) | | | | | | 211000 | | 1840000 | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | |
| MG/KG (ppm) | | | | | | 211.000 | | 1840.000 | |







| Chain of Custody ID | RMU2-W19-W3(6-8 | RMU2-W19-W3(6-8) | RMU2-W19-W4 | RMU2-W19-W4(6-7.8) | RMU2-W19-W4(6-7.8) | RMU2-W19-W4-N1 | RMU2-W19-W4-N1(8-11) | RMU2-W19-W4-N1(8-11) | RMU2-W19-W4-S1 |
|--------------------------------------|-----------------|------------------|-------------|--------------------|--------------------|----------------|----------------------|----------------------|----------------|
| Media | Soil | Soil | GW | Soil | Soil | GW | Soil | Soil | GW |
| Lab Sample ID | RSB0495-03 | RSB0495-05 | RSB0495-12 | RSB0495-10 | RSB0495-11 | RSB0496-07 | RSB0496-01/RE1 | RSB0496-02 | RSB0496-08 |
| Sample Date | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 | 2/16/09 |
| Units | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/L | UG/KG | UG/KG | UG/L |
| | | | | | | | | | |
| Volatiles | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | 210.0 | | |
| 1,1,2,2-Tetrachloroethane | | | | | | 7100 D08 | 75000 D08 | | 3.4 D11, J |
| 1,1,2-Trichloroethane | | | | | | 12000 D08 | 95000 D08 | | 24.0 D11 |
| 1,1-Dichloroethane | | | 12.0 D11, J | | | | 500.0 | | 4.8 D11, J |
| 1,2-Dichloroethane | | | | | | 710.0 D08, J | 4200 D08 | | 7.4 D11, J |
| 1,1-Dichloroethene | | | | | | | | | 4.0 D11, J |
| 1,2-Dichloroethene (Total) | | | | | | | | | 46.0 D11 |
| 1,2-Dichloropropane | | | | | | 2100 D08, J | 17000 D08 | | 12.0 D11, J |
| trans-1,3-Dichloropropene | | | | | | | 99.0 | | |
| 2-Butanone | | | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | 65.0 J | | |
| Acetone | | | | | | | | | 37.0 D11, J |
| Benzene | | | 11.0 D11, J | | | | | | 3.3 D11, J |
| Carbon Disulfide | 300.0 D04 | l e | | | | | 170.0 | | |
| Carbon Tetrachloride | | | | | | | 650.0 | | |
| Chlorobenzene | 120.0 D04 | | 54.0 D11 | | | | 250.0 | | 6.0 D11, J |
| Chloroform | | | | | | | 720.0 | | |
| cis-1,3-Dichloropropene | | | | | | | 60.0 | | |
| Dichlorobromomethane | | | | | | | | | |
| Ethylbenzene | 100.0 D04 | l e | 22.0 D11 | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | |
| Methylene Chloride | | | 5.5 D11, J | | | 750 D08, J | | | 6.0 D11, J |
| Tetrachloroethene (PERC) | | | | | | 1200 D08, J | 210000 D08 | | |
| Toluene | | | 12.0 D11, J | | | | 500.0 | | 6.0 D11, J |
| Xylene, Total | 260.0 D04 | | 58.0 D11 | | | | 320.0 | | 8.2 D11, J |
| Trichloroethene (TCE) | | | 4.0 D11, J | | | 2300 D08, J | 66000 D08 | | 7.5 D11, J |
| Vinyl Chloride | | | 15.0 D11, J | | | | | | 37.0 D11 |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 780.0 | | 193.5 | 0.0 D02 | - | 26160 | 470744.0 | | 212.6 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.780 | | 0.194 | 0.000 | | 26.160 | 470.744 | | 0.213 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | |
| UG/KG (ppb) | | 433000 R3 | | | | | | | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | |
| MG/KG (ppm) | | 433.000 | | | | | | | |







| Chain of Custody ID | RMU2-W19-W4-S1(3-5) | RMU2-W19-W4-S1(3-5) | RMU2-W20 | RMU2-W20(4-6) | RMU2-W21 | RMU2-W21 (5-6) | RMU2-W22 | RMU2-W22 (10-12) | RMU2-W23 | RMU2-W23 (8.5-9.5) |
|--------------------------------------|---------------------|---------------------|---------------|---------------|------------------|----------------|------------------|------------------|------------|--------------------|
| Media | Soil | Soil | GW | Soil | GW | Soil | GW | Soil | GW | Soil |
| Lab Sample ID | RSB0496-03 | RSB0496-04 | RSB0376-16 | RSB0376-07 | RSB0426-04 | RSB0426-01 | RSB0426-05 | RSB0426-02 | RSB0426-06 | RSB0426-03 |
| Sample Date | 2/16/09 | 2/16/09 | 2/11/09 | 2/11/09 | 2/12/09 | 2/12/09 | 2/12/09 | 2/12/09 | 2/12/09 | 2/12/09 |
| Units | UG/KG | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | | | | | | | 13.0 D11, P11, J | 28.0 | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | |
| 1,1,2-Trichloroethane | | | | | | | | | | |
| 1,1-Dichloroethane | | | 7.1 P11, D11 | | | | 86.0 D11, P11 | 37.0 | | |
| 1,2-Dichloroethane | | | | | | | | | | |
| 1,1-Dichloroethene | | | | | | | 8.3 D11, P11, J | 31.0 | | |
| 1,2-Dichloroethene (Total) | | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | |
| trans-1,3-Dichloropropene | | | | | | | | | | |
| 2-Butanone | | | | | | | | | | |
| 4-Methyl-2-pentanone | | | | | | | | | | |
| Acetone | | | 11.0 P11, D11 | 6.9 | 22.0 D11, P11, J | | 48.0 D11, P11, J | | 4.3 J | |
| Benzene | | | 5.7 P11, D11 | | | | | | | |
| Carbon Disulfide | 3.0 J | | | | | 1.5 J | | | | |
| Carbon Tetrachloride | | | | | | | | | | |
| Chlorobenzene | 2.1 J | | 15.0 P11, D11 | | | | | | | |
| Chloroform | | | | | | | | | | |
| cis-1,3-Dichloropropene | | | | | | | | | | |
| Dichlorobromomethane | | | | | | | | | | |
| Ethylbenzene | | | | | | | | | | |
| Methyl Ethyl Ketone | | | | | | | | | | |
| Methyl Isobutyl Ketone | | | | | | | | | | |
| Methylene Chloride | 12.0 | | | | | | 4.6 D11, P11, J | | | |
| Tetrachloroethene (PERC) | | | | | | | | | | |
| Toluene | | | | | 16.0 D11, P11 | 6.7 | | | 1.4 J | |
| Xylene, Total | | | | | | 6.8 J | | | | |
| Trichloroethene (TCE) | | | | | | | | | | |
| Vinyl Chloride | | | 3.0 P11, D11 | | | | | | | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 17.1 | | 41.8 | 6.9 | 38.0 | 15.0 | 159.9 | 96.0 | 5.7 | 0.0 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.017 | | 0.042 | 0.007 | 0.038 | 0.015 | 0.160 | 0.096 | 0.006 | 0.000 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | | |
| UG/KG (ppb) | | 191000 | | | | | | | | |
| Total Petroleum Hydrocarbons (TPH)- | | | | | | | | | | |
| MG/KG (ppm) | | 191.000 | | | | | | | | |



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TABLE 4

RMU-2 PHASE I WESTERN BOUNDARY INVESTIGATION SAMPLING SOIL AND GROUNDWATER ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

USEPA Defined Organic Data Qualifiers:

D02 = Dilution required due to sample matrix effects.

D04 = Dilution required due to high levels of non-target compounds.

D08 = Dilution required due to high concentration of target analyte(s).

D11 = Insufficient volume for lower dilution

P11 = Sample was not sufficiently preserved at time of collection. Sample pH is >2

J = Estimated concentration value; Result is below the PQL but criteria are met.

R3 = The RPD exceeded the acceptance limit due to sample matrix effects.

* = Result is considered a medium level dillution (methanol extraction) by the

analytical lab due to elevated target analyte concentrations in origianl sample.

Blank = Non-detect for individual constituents.

Notes:

UG/L= micrograms per liter

MG/L= milligrams per liter

UG/KG= micrograms per kilogram

MG/KG= millligrams per kilogram

ppm= Parts per million

ppb= Parts per billion

Not analyzed for.

= Groundwater sample

= Soil sample

Table by: AML Checked by: RJM Reviewed by: DCW



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TABLE 5 RMU-2 PHASE I WESTERN BOUNDARY INVESTIGATION SAMPLING SUMMARY AND BORING LOCATION DATA CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| | NORTH (1) | EAST (1) | GROUND | | <u>Lab ID:</u> | | Soil | | GW | |
|-------------------------|-----------|----------|-----------|------------------------------|----------------|------------------------------|--|------|-------|------------------|
| Field/Boring ID: | COORD: | COORD: | (1) ELEV: | <u>Soil</u> | <u>TPH</u> | <u>GW</u> | VOCs: | TPH: | VOCs: | Date Sampled: |
| RMU2-W1 | 9968.94 | 10161.16 | 316.12 | RSB0354-01 | | | Х | | | 2/9/2009 |
| RMU2-W2 | 9923.62 | 10177.35 | 316.90 | RSB0354-02 | | | Х | | | 2/9/2009 |
| RMU2-W3 | 9870.90 | 10204.53 | 316.54 | RSB0354-03 | | | Х | | | 2/9/2009 |
| RMU2-W4 | 9825.91 | 10229.88 | 317.16 | RSB0354-04 | | RSB0350-09 | Х | | Х | 2/9 - 2/10/2009* |
| RMU2-W5 | 9781.60 | 10253.65 | 317.84 | RSB0354-05 | | | Х | | | 2/9/2009 |
| RMU2-W6 | 9743.54 | 10269.34 | 317.90 | RSB0350-01 | | RSB0350-18 | Х | | Х | 2/10/2009 |
| RMU2-W7 | 9683.83 | 10300.03 | 317.47 | RSB0350-02 | | RSB0350-11 | Х | | Х | 2/10/2009 |
| RMU2-W8 | 9634.87 | 10315.98 | 317.74 | RSB0350-03 | | RSB0350-12 | Х | | Х | 2/10/2009 |
| RMU2-W9 | 9587.98 | 10342.24 | 318.28 | RSB0350-04 | | RSB0350-15 | Х | | Х | 2/10/2009 |
| RMU2-W10 | 9550.53 | 10367.82 | 319.32 | RSB0350-05 | | RSB0350-16 | Х | | Х | 2/10/2009 |
| RMU2-W11 | 9474.75 | 10376.22 | 319.15 | RSB0350-06 | | RSB0350-17 | Х | | Х | 2/10/2009 |
| RMU2-W12 | 9443.54 | 10389.99 | 319.68 | RSB0350-07 | | RSB0350-18 | Х | | Х | 2/10/2009 |
| RMU2-W13 | 9412.71 | 10395.53 | 320.73 | RSB0350-08 | | RSB0350-19 | Х | | Х | 2/10/2009 |
| RMU2-W14 | 9389.27 | 10404.05 | 320.50 | RSB0376-01 | | RSB0376-11 | Х | | Х | 2/11/2009 |
| RMU2-W15 | 9365.91 | 10411.85 | 320.02 | RSB0376-02 | | RSB0376-15 | Х | | Х | 2/11/2009 |
| RMU2-W16 | 9341.84 | 10419.94 | 319.82 | RSB0376-03 | | RSB0376-13 | Х | | Х | 2/11/2009 |
| RMU2-W17 | 9318.27 | 10427.19 | 319.94 | RSB0376-04 | | RSB0376-09 | Х | | Х | 2/11/2009 |
| RMU2-W18 ⁽²⁾ | 9291.13 | 10434.15 | 320.23 | | | | | | | |
| RMU2-W18R | 9290.04 | 10444.01 | 320.37 | RSB0376-05 | | RSB0376-10 | Х | | Х | 2/11/2009 |
| RMU2-W19 | 9269.93 | 10442.36 | 320.80 | RSB0376-06/ RSB0376-06RE1 | | RSB0376-14/ RSB0376-14RE1 | Х | | Х | 2/11/2009 |
| RMU2-W19R | | | | 11020010 001121 | RSB0495-09 | 11020010 111121 | | Х | | 2/16/2009 |
| RMU2-W19-E1 | 9272.46 | 10453.10 | 320.70 | RSB0376-08 | 11000-100-00 | RSB0376-15 | Х | | Х | 2/11/2009 |
| RMU2-W19-E2 | | | | RSB0496-05 | RSB0496-06 | RSB0496-09 | X | Х | X | 2/16/2009 |
| RMU2-W19-E3 | | | | RSB0496-10 | RSB0496-11 | RSB0496-12 | X | X | X | 2/16/2009 |
| RMU2-W19-W1 | 9269.48 | 10432.39 | 320.66 | RSB0495-01 | RSB0495-04 | RSB0495-06 | X | X | X | 2/16/2009 |
| RMU2-W19-W2 | 9269.52 | 10432.64 | 320.48 | RSB0495-02 | RSB0495-04 | RSB0495-07 | X | X | X | 2/16/2009 |
| RMU2-W19-W3 | | | | RSB0495-03 | RSB0495-05 | RSB0495-08 | X | X | X | 2/16/2009 |
| RMU2-W19-W4 | | | | RSB0495-10 | RSB0495-11 | RSB0495-12 | X | X | X | 2/16/2009 |
| 111102-1119-114 | | | | RSB0496-01/ | 11000493-11 | 1000493-12 | _ ^ | ^ | ^ | 2/10/2009 |
| RMU2-W19-W4-N1 | | | | RSB0496-01RE1 | RSB0496-02 | RSB0496-07 | X | Х | х | 2/16/2009 |
| RMU2-W19-W4-S1 | | | | RSB0496-03 | RSB0496-04 | RSB0496-08 | Х | Х | Х | 2/16/2009 |
| RMU2-W20 | 9245.16 | 10449.30 | 320.73 | RSB0376-07 | | RSB0376-16 | Х | | Х | 2/11/2009 |
| RMU2-W21 | 9222.29 | 10456.42 | 320.57 | RSB0426-01 | | RSB0426-04 | Х | | Х | 2/12/2009 |
| RMU2-W22 | 9199.28 | 10459.95 | 320.37 | RSB0426-02 | | RSB0426-05 | Х | | Х | 2/12/2009 |
| RMU2-W23 | 9156.31 | 10497.23 | 320.63 | RSB0426-03 | | RSB0426-06 | X | | X | 2/12/2009 |
| 63ER1** | 9266.00 | 10383.24 | 320.35 | ** | ** | ** | | | | 2/12/2009** |
| 63ER2** | 9265.89 | 10388.74 | 320.40 | ** | ** | ** | | | | 2/12/2009** |
| 63NR1** | 9270.76 | 10377.38 | 320.70 | ** | ** | ** | | | | 2/12/2009** |
| 63NR2** | 9276.28 | 10377.30 | 320.40 | ** | ** | ** | | | | 2/12/2009** |
| 63SR1** | 9261.86 | 10377.50 | 320.70 | ** | ** | ** | | 1 | } | 2/12/2009** |
| 63SR2** | 9256.06 | 10377.59 | 320.70 | ** | ** | ** | 1 | | | 2/12/2009** |

NOTES:

- (1) =Survey data taken by Wendel-Duchscherer on February 13, 2009.
- (2) =Original boring RMU2-W18 not sampled, due to several geoprobe refusal attempts.
- **VOCs** =Volatile Organic Compounds
- **TPH** =Total Petroleum Hydrocarbons
- **GW** =Groundwater
- **RE1** =Indicates a sample dilution was run due to high concentrations of target analytes in original sample.
 - X =Indicates a sample collected by Golder for the respective sample media and parameter.
 - * =Second date shown is for GW sampling.
 - ** These borings installed for radiation screening purposes only. Samples collected by EnSol from these borings sent to separate analytical laboratory and analytical results are addressed under URS Corporation report entitled "Results of Subsurface Soil and Sediment Sampling for RMU-2", dated April 2009.
 - -- =No survey data available for these "tracking" borings.

Blank =No sample collected by Golder for submission to Test America.

Table by: RJM
Checked by: AML
Reviewed by: DCW



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TABLE 6 RMU-2 PHASE II WESTERN BOUNDARY SAMPLING SOIL AND GROUNDWATER ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS

CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| Chain of Custody ID | RMU2-W19-W4-N2 | RMU2-W19-W4-N2(4-5) | RMU2-W19-W4-N3 | RMU2-W19-W4-N3(4-5) | RMU2-W19-W4-N4 | RMU2-W19-W4-N4(6-8) | RMU2-W19-W4-N4(6-8) | RMU2-W24 | RMU2-W24(4-6) |
|--------------------------------------|-----------------------|---------------------|----------------|---------------------|------------------------|---------------------|---------------------|---------------------------------------|---------------|
| Media | GW | Soil | GW | Soil | GW | Soil | Soil | GW | Soil |
| Lab Sample ID | RSD0907-05/RE1 | RSD0907-01/RE1 | RSD0907-06 | RSD0907-02 | RSD0907-07 | RSD0907-03/RE1 | RSD0907-04 | RSD0849-05 | RSD0849-01 |
| Sample Date | 4/22/09 | 4/22/09 | 4/22/09 | 4/22/09 | 4/22/09 | 4/22/09 | 4/22/09 | 4/20/09 | 4/20/09 |
| Units | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | MG/KG | UG/L | UG/KG |
| | | | | | | | | | |
| <u>Volatiles</u> | | | | | | | | | |
| 1,1,1-Trichloroethane | P6, S6 | | P6, S6 | | D08, P6 | | - | P6, S6 | |
| 1,1,2,2-Tetrachloroethane | P6, S6 | | P6, S6 | | 270 D08, P6 | 79 | - | P6, S6 | |
| 1,1,2-Trichloroethane | 7.4 P6, S6 | | 3.1 P6, S6, J | | 280 D08, P6 | 200 | - | P6, S6 | |
| 1,1-Dichloroethane | 11 P6, S6 | 12 | 3.4 P6, S6 | | D08, P6 | | - | P6, S6 | |
| 1,1-Dichloroethene | 25 P6, S6 | 6.8 | 18 P6, S6 | | 160 D08, P6 | 53 | - | P6, S6 | |
| 1,2-Dichloroethane | 130 D08, P6 | 9 | 10 P6, S6 | | 16 D08, P6, J | 9.7 | - | 1.9 P6, S6, J | 1.7 J |
| 1,2-Dichloroethene (Total) | 200 D08, P6 | 160 | 23 P6, S6 | | 230 D08, P6 | 91 | - | P6, S6 | |
| 1,2-Dichloropropane | 52 P6, S6 | 88 | 4.8 P6, S6, J | | 50 D08, P6, J | 27 | - | P6, S6 | |
| 2-Butanone | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| 2-Hexanone | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| 4-Methyl-2-pentanone | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Acetone | 18 P6, S6, J | 25 J | 8 P6, S6, J | 1100 | D08, P6 | | _ | 8.6 P6, S6, J | 12 J |
| Benzene | 4.1 P6, S6, J | 16 | 1.8 P6, S6, J | | D08, P6 | | _ | 1.3 P6, S6, J | |
| Bromodichloromethane | P6, S6 | .• | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Bromoform | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Bromomethane | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Carbon Disulfide | 2.3 P6, S6, J | 4.5 J | 1.1 P6, S6, J | 2.4 J | D08, P6 | | _ | P6, S6 | 1.3 J |
| Carbon Tetrachloride | P6, S6 | 4.0 | P6, S6 | 2.7 | 13 D08, P6, J | 12 | | P6, S6 | 1.0 |
| Chlorobenzene | 18 P6, S6 | 130 | 2.6 P6, S6, J | | D08, P6 | | _ | P6, S6 | |
| Chloroethane | P6, S6 | 100 | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Chloroform | 3 P6, S6, J | 1.5 J | 1.1 P6, S6, J | | 55 D08, P6 | | | P6, S6 | |
| Chloromethane | P6, S6 | 1.0 | P6, S6 | | D08, P6 | | | P6, S6 | |
| cis-1,3-Dichloropropene | P6, S6 | | P6, S6 | | D08, P6 | | | P6, S6 | |
| Dibromochloromethane | P6, S6 | | P6, S6 | | D08, P6 | | _ | P6, S6 | |
| Ethylbenzene | 18 P6, S6 | 170 | P6, S6 | | D08, P6 | | - | P6, S6 | 4.6 J |
| Methylene Chloride | 1.9 P6, S6, J | 9.7 | P6, S6 | 11 | 33 D08, P6, J | 12 | - | 3.1 P6, S6, J | 4.0 3 |
| Styrene | P6, S6 | 9.1 | P6, S6 | 11 | D08, P6 | | - | 96, S6 | 10 10 |
| Tetrachloroethene (PERC) | 7.6 P6, S6 | 170 D08 | 1.5 P6, S6, J | | 490 D08, P6 | | - | 1.4 P6, S6, J | 9.6 |
| Toluene | 8.8 P6, S6 | 12 | 2.2 P6, S6, J | | D08, P6 | | - | 1.4 P6, S6, J 1.8 P6, S6, J | 9.6 3.1 J |
| trans-1,3-Dichloropropene | P6, S6 | 12 | P6, S6 | | D08, P6 | | - | P6, S6 | 3.1 |
| Trichloroethene (TCE) | | 70 | | | | | - | | 9.6 |
| \ / | 10 P6, S6 | 70 | 8.5 P6, S6 | | | | - | · · · · · · · · · · · · · · · · · · · | 9.0 |
| Vinyl acetate Vinyl Chloride | P6, S6 170 D08, P6 | 47 | P6, S6 | | D08, P6 160 D08, P6 | | - | P6, S6 P6, S6 | |
| Xylene, Total | | 47 | 33 P6, S6 | | | | - | | 07 |
| | 16 P6, S6 | | 2.4 P6, S6, J | | D08, P6 | | - | 3.7 P6, S6, J | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 703.1 | 1091.5 | 124.5 | 1113.4 | 2247 | 1269.5 | - | 24 | 94.9 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.703 | 1.092 | 0.125 | 1.113 | 2.247 | 1.270 | - | 0.024 | 0.095 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | |
| UG/KG (ppb) | - | - | - | - | - | - | 421 | - | - |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | |
| MG/KG (ppm) | - | - | - | - | - | - | 0.421 | - | - |





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TABLE 6 RMU-2 PHASE II WESTERN BOUNDARY SAMPLING SOIL AND GROUNDWATER ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS

CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| Chain of Custody ID | RMU2-W25 | RMU2-W25(4-6) | RMU2-W26 | RMU2-W26(6-8) | RMU2-W27 | RMU2-W27(5-6) | RMU2-W28 | RMU2-W28(6-7) | RMU2-W29 | RMU2-W29(4-6) |
|--------------------------------------|------------|---------------|------------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
| Media | GW | Soil | GW | Soil | GW | Soil | GW | Soil | GW | Soil |
| Lab Sample ID | RSD0849-06 | RSD0849-02 | RSD0849-07 | RSD0849-03 | RSD0849-08 | RSD0849-04 | RSD0849-12 | RSD0849-09 | RSD0851-01 | RSD0849-10 |
| Sample Date | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 | 4/20/09 |
| Units | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,1,2,2-Tetrachloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,1,2-Trichloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,1-Dichloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,1-Dichloroethene | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,2-Dichloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 1,2-Dichloroethene (Total) | P6 | | P6 | | P6, S6 | 4.6 J | P6, S6 | | P6 | |
| 1,2-Dichloropropane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 2-Butanone | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | 170 |
| 2-Hexanone | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| 4-Methyl-2-pentanone | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Acetone | 30 P6, J | 94 | 7.7 P6, J | 22 J | 11 P6, S6, J | 120 | 11 P6, S6, J | 12 J | P6 | 450 |
| Benzene | P6 | | P6 | | 3.8 P6, S6, J | 7.2 | P6, S6 | | P6 | |
| Bromodichloromethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Bromoform | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Bromomethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Carbon Disulfide | P6 | | P6 | | P6, S6 | 4.5 J | P6, S6 | | P6 | |
| Carbon Tetrachloride | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Chlorobenzene | P6 | | P6 | | 1.6 P6, S6, J | 12 | P6, S6 | | P6 | |
| Chloroethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Chloroform | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Chloromethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| cis-1,3-Dichloropropene | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Dibromochloromethane | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Ethylbenzene | P6 | | P6 | | 9.4 P6, S6 | 72 | P6, S6 | | P6 | |
| Methylene Chloride | P6 | 6.5 B | P6 | 11 B | P6, S6 | 10 B | P6, S6 | 7.7 B | P6 | 13 B |
| Styrene | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Tetrachloroethene (PERC) | P6 | | P6 | | 1.5 P6, S6, J | 1.5 J | P6, S6 | | P6 | |
| Toluene | 1.9 P6, J | | 1.6 P6, J | | 1.4 P6, S6, J | | 1.4 P6, S6, J | | P6 | |
| trans-1,3-Dichloropropene | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Trichloroethene (TCE) | P6 | | P6 | | 8.1 P6, S6 | 29 | P6, S6 | | P6 | |
| Vinyl acetate | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Vinyl Chloride | P6 | | P6 | | P6, S6 | | P6, S6 | | P6 | |
| Xylene, Total | P6 | | P6 | | 26 P6, S6 | 85 | P6, S6 | | P6 | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | 31.9 | 100.5 | 9.3 | 33 | 62.8 | 345.8 | 12.4 | 19.7 | 0 | 633 |
| TOTAL VOCs - MG/KG or MG/L (ppm) | 0.032 | 0.101 | 0.009 | 0.033 | 0.063 | 0.346 | 0.012 | 0.020 | 0.000 | 0.633 |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | | |
| UG/KG (ppb) | - | - | - | - | - | - | - | - | - | - |
| Total Petroleum Hydrocarbons (TPH) - | | | | | | | | | | |
| MG/KG (ppm) | - | - | - | - | - | - | - | - | - | - |





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TABLE 6 RMU-2 PHASE II WESTERN BOUNDARY SAMPLING SOIL AND GROUNDWATER ANALYTICAL RESULTS

VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| Chain of Custody ID RMU2-W30R RMU2-W30R RMU2-W31 RMU2-W31 RMU2-W32 RMU2-W32 RMU2-W32 RMU2-W33 RMU2-W34 RMU3 RMU | |
|--|--------------------------------|
| Radio Radi | RSD0851-06 4/21/09 UG/KG |
| Sample Date 4/21/09 | 4/21/09 UG/KG |
| Units UG/L UG/KG UG/KG UG/KG UG/KG UG | UG/KG |
| Volatiles 1,1,1-Trichloroethane P6 < | |
| 1,1,1-Trichloroethane P6 P6 </td <td></td> | |
| 1,1,1-Trichloroethane P6 P6 </td <td></td> | |
| 1,1,2,2-Tetrachloroethane P6 | |
| 1,1,2-Trichloroethane P6 P6 </td <td></td> | |
| 1,1-Dichloroethane P6 0.76 P6, J P6 P6 <td< td=""><td></td></td<> | |
| 1,1-Dichloroethene P6 | i |
| 1,2-Dichloroethane P6 1.2 P6, J P6 | |
| 1,2-Dichloroethene (Total) P6 3.4 P6, J P6 P6 </td <td></td> | |
| 1,2-Dichloropropane P6 P6 <td></td> | |
| 2-Butanone P6 | |
| 2-Hexanone P6 | |
| 4-Methyl-2-pentanone P6 P6 <td></td> | |
| Acetone 15 P6, J 15 J 11 P6, J 480 22 P6, J 390 26 P6, J 60 11 P6, J P6 P6 </td <td></td> | |
| Benzene P6 P6 <t< td=""><td></td></t<> | |
| Bromodichloromethane P6 P6 <td>270</td> | 270 |
| Bromoform P6 | |
| Bromomethane P6 P6 P6 P6 P6 P6 P6 P6 P6 P6 P6 P6 P6 | |
| Carbon Disulfide P6 P6 P6 P6 P6 P6 P6 | |
| | |
| | |
| Carbon Tetrachloride P6 P6 P6 P6 | |
| Chlorobenzene P6 P6 P6 P6 P6 | |
| Chloroethane P6 P6 P6 P6 P6 | |
| Chloroform P6 P6 P6 P6 P6 P6 P6 | |
| Chloromethane P6 P6 P6 P6 P6 | |
| cis-1,3-Dichloropropene P6 P6 P6 P6 | |
| Dibromochloromethane P6 P6 P6 P6 P6 | |
| Ethylbenzene P6 P6 P6 P6 P6 | |
| Methylene Chloride P6 9.8 P6 10 B P6 4 J P6 8.6 P6 | 5.9 |
| Styrene P6 P6 P6 P6 | |
| Tetrachloroethene (PERC) P6 P6 P6 P6 | |
| Toluene 1.5 P6, J 0.8 P6, J 1.1 P6, J 1.3 P6, J 1.4 P6, J | |
| trans-1,3-Dichloropropene P6 P6 P6 P6 | |
| Trichloroethene (TCE) P6 P6 P6 P6 | |
| Vinyl acetate P6 P6 P6 P6 P6 | |
| Vinyl Chloride P6 1.2 P6, J P6 P6 1 P6, J | |
| Xylene, Total P6 P6 P6 P6 P6 | |
| TOTAL VOCs - UG/KG or UG/L (ppb) 16.5 24.8 20.26 490 23.1 395.4 27.3 68.6 13.4 | 277.2 |
| TOTAL VOCs - MG/KG or MG/L (ppm) 0.017 0.025 0.020 0.490 0.023 0.395 0.027 0.069 0.013 | 0.277 |
| Total Petroleum Hydrocarbons (TPH) - | |
| UG/KG (ppb) | |
| Total Petroleum Hydrocarbons (TPH) - | - |
| MG/KG (ppm) | - |





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TABLE 6

RMU-2 PHASE II WESTERN BOUNDARY SAMPLING SOIL AND GROUNDWATER ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

| Chain of Custody ID | RMU2-W35 | RMU2-W35(6-7) | RMU2-W36 | RMU2-W36(3-4) | RMU2-W37 | RMU2-W37(8-9) | RMU2-W38 | RMU2-W38(4-5) | RMU2-W39 | RMU2-W39(4-6) |
|---|------------|---------------|----------------|---------------|---------------|----------------|--------------|---------------|----------------|---------------|
| Media | GW | Soil | GW | Soil | GW | Soil | GW | Soil | GW | Soil |
| Lab Sample ID | RSD0851-12 | RSD0851-07 | RSD0850-06 | RSD0850-01 | RSD0850-05 | RSD0850-02/RE1 | RSD0850-04 | RSD0850-03 | RSD0910-02 | RSD0910-01 |
| Sample Date | 4/21/09 | 4/21/09 | 4/21/09 | 4/21/09 | 4/21/09 | 4/21/09 | 4/21/09 | 4/21/09 | 4/22/09 | 4/22/09 |
| Units | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG | UG/L | UG/KG |
| | | | | | | | | | | |
| Volatiles | | | | | | | | | | |
| 1,1,1-Trichloroethane | P6 | | P6, S6 | | 77 P6, S6 | 180 D08 | P6, S6 | | P6, S13 | |
| 1,1,2,2-Tetrachloroethane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| 1,1,2-Trichloroethane | P6 | | P6, S6 | | 1.9 P6, S6, J | 2.2 J | P6, S6 | | P6, S13 | |
| 1,1-Dichloroethane | P6 | | P6, S6 | | 94 P6, S6 | 83 | P6, S6 | | P6, S13 | |
| 1,1-Dichloroethene | P6 | | P6, S6 | | 39 P6, S6 | 180 | P6, S6 | | P6, S13 | |
| 1,2-Dichloroethane | P6 | | 2.4 P6, S6, J | | P6, S6 | | P6, S6 | | P6, S13 | |
| 1,2-Dichloroethene (Total) | P6 | | P6, S6 | | 3.6 P6, S6, J | | P6, S6 | | P6, S13 | |
| 1,2-Dichloropropane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| 2-Butanone | P6 | | P6, S6 | 19 J | P6, S6 | | P6, S6 | | P6, S13 | |
| 2-Hexanone | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| 4-Methyl-2-pentanone | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Acetone | 9.5 P6, J | 19 J | 12 P6, S6, J | 140 | 6 P6, S6, J | 340 | 17 P6, S6, J | 120 | 7.6 P6, S13, J | 62 |
| Benzene | 1.8 P6, J | | 2.5 P6, S6, J | | P6, S6 | 0.0 | P6, S6 | | P6, S13 | |
| Bromodichloromethane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Bromoform | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Bromomethane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Carbon Disulfide | P6 | | P6, S6 | 1.3 J | P6, S6 | | P6, S6 | | P6, S13 | |
| Carbon Tetrachloride | P6 | | P6, S6 | 1.0 | P6, S6 | | P6, S6 | | P6, S13 | |
| Chlorobenzene | P6 | | 5.4 P6, S6, J | 6.9 | P6, S6 | | P6, S6 | | P6, S13 | |
| Chloroethane | P6 | | P6, S6 | 0.0 | P6, S6 | | P6, S6 | | P6, S13 | |
| Chloroform | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Chloromethane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| cis-1,3-Dichloropropene | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Dibromochloromethane | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Ethylbenzene | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | 1.2 P6, S13, J | |
| Methylene Chloride | P6 | 6.5 | P6, S6 | 10 | P6, S6 | 5.2 J | P6, S6 | | P6, S13 | 40 B |
| Styrene | P6 | 0.0 | P6, S6 | 10 | P6, S6 | 0.2 | P6, S6 | | P6, S13 | .0 2 |
| Tetrachloroethene (PERC) | P6 | | P6, S6 | | 2.9 P6, S6, J | | P6, S6 | | P6, S13 | |
| Toluene | 3.3 P6, J | | 4.1 P6, S6, J | | P6, S6 | | 1 P6, S6, J | | 13 P6, S13 | 6.3 |
| trans-1,3-Dichloropropene | P6 | | P6, S6 | | P6, S6 | | P6, S6 | | P6, S13 | |
| Trichloroethene (TCE) | P6 | | 0.89 P6, S6, J | | 4.8 P6, S6, J | 1.9 J | P6, S6 | | P6, S13 | |
| Vinyl acetate | P6 | | P6, S6 | | P6, S6 | 1.0 | P6, S6 | | P6, S13 | |
| Vinyl Chloride | P6 | | 1.2 P6, S6, J | | 1.9 P6, S6, J | | P6, S6 | | P6, S13 | |
| Xylene, Total | 1.6 P6, J | | 5.8 P6, S6, J | 10 J | P6, S6 | | P6, S6 | | 5.2 P6, S13, J | |
| TOTAL VOCs - UG/KG or UG/L (ppb) | | 25.5 | | | | | | | | |
| W1.7 | 16.2 | 25.5 | 34.29 | 187.2 | 231.1 | 792.3 | 18 | 128.2 | 27 | 110.4 |
| TOTAL VOCs - MG/KG or MG/L (ppm) Total Petroleum Hydrocarbons (TPH) - | 0.016 | 0.026 | 0.034 | 0.187 | 0.231 | 0.792 | 0.018 | 0.128 | 0.027 | 0.110 |
| | | | | | | | | | | |
| UG/KG (ppb) Total Petroleum Hydrocarbons (TPH) - | - | - | - | - | - | - | - | - | - | - |
| MG/KG (ppm) | _ | _ | - | _ | _ | - | _ | _ | - | _ |





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TABLE 6

RMU-2 PHASE II WESTERN BOUNDARY SAMPLING ANALYTICAL QUALIFIERS AND FOOTNOTES VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS CWM/RMU-2 WESTERN BOUNDARY RELOCATION INVESTIGATION, MODEL CITY, NY

USEPA Defined Organic Data Qualifiers:

- P6 = Sample received unpreserved, however the sample was analyzed within 7 days per EPA recommendation.
- S6 = Sediment present.
- S13 = Due to the amount of sediment present in the sample vials, volumes from two or more separate vials were combined for analysis.
- D08 = Dilution required due to high concentration of target analyte(s).
- B = Analyte was detected in the associated Method Blank.
- J = Estimated concentration value; Result is below the PQL but criteria are met.
- GW = Groundwater
- Blank = Non-detect for individual constituents.

Notes:

UG/L= micrograms per liter

MG/L= milligrams per liter

UG/KG= micrograms per kilogram

MG/KG= millligrams per kilogram

ppm= Parts per million

ppb= Parts per billion

- = Not

= Not analyzed for. = Groundwater sample

= Soil sample

Table by: AML
Checked by: RJM
Reviewed by: DCW



TABLE 7 RMU-2 PHASE II WESTERN BOUNDARY INVESTIGATION SAMPLING SUMMARY AND BORING LOCATION DATA CWM/RMU-2 FOOTPRINT RELOCATION INVESTIGATION, MODEL CITY, NY

NYSDEC OHMS Document No. 201469232-00007

| | NORTH (1) | EAST ⁽¹⁾ | GROUND | <u>Lab ID:</u> | | | Soil | I TRUL GW | | |
|------------------|-----------|---------------------|-----------|------------------|------------|------------------|-------|-------------|-------|-----------------|
| Field/Boring ID: | COORD: | COORD: | (1) ELEV: | <u>Soil</u> | <u>TPH</u> | <u>GW</u> | VOCs: | <u>TPH:</u> | VOCs: | Date Sampled: |
| RMU2-W24 | 9638.21 | 10177.16 | 317.63 | RSD0849-01 | | RSD0849-05 | Х | | Х | 4/20/2009 |
| RMU2-W25 | 9596.64 | 10220.60 | 317.87 | RSD0849-02 | | RSD0849-06 | Х | | Χ | 4/20/2009 |
| RMU2-W26 | 9548.49 | 10254.86 | 319.28 | RSD0849-03 | | RSD0849-07 | Х | | Х | 4/20/2009 |
| RMU2-W27 | 9679.49 | 10123.58 | 317.67 | RSD0849-04 | | RSD0849-08 | Х | | X | 4/20/2009 |
| RMU2-W28 | 9487.73 | 10327.02 | 318.87 | RSD0849-09 | | RSD0849-12 | Х | | X | 4/20/2009 |
| RMU2-W29 | 9473.90 | 10350.42 | 318.88 | RSD0849-10 | | RSD0851-01 | Х | | Х | 4/20/2009 |
| RMU2-W30 (2) | 9443.65 | 10390.18 | 319.79 | | | | | | | |
| RMU2-W30R | 9440.99 | 10390.62 | 319.66 | RSD0851-03 | | RSD0851-08 | Х | | Х | 4/21/2009 |
| RMU2-W31 | 9420.14 | 10430.95 | 318.56 | RSD0849-11 | | RSD0851-02 | Х | | Х | 4/20-4/21/2009* |
| RMU2-W32 | 9378.19 | 10473.63 | 319.31 | RSD0851-04 | | RSD0851-09 | Х | | Х | 4/21/2009 |
| RMU2-W33 | 9357.83 | 10495.20 | 319.82 | RSD0851-05 | | RSD0851-10 | Х | | Х | 4/21/2009 |
| RMU2-W34 | 9334.52 | 10497.58 | 319.34 | RSD0851-06 | | RSD0851-11 | Х | | Х | 4/21/2009 |
| RMU2-W35 | 9309.52 | 10498.70 | 320.13 | RSD0851-07 | | RSD0851-12 | Х | | Х | 4/21/2009 |
| RMU2-W36 | 9284.32 | 10497.47 | 320.83 | RSD0850-01 | | RSD0850-06 | Х | | Х | 4/21/2009 |
| RMU2-W37 | 9205.03 | 10495.88 | 321.81 | RSD0850-02/02RE1 | | RSD0850-05 | Х | | Х | 4/21/2009 |
| RMU2-W38 | 8833.09 | 10484.53 | 320.39 | RSD0850-03 | | RSD0850-04 | Х | | Χ | 4/21/2009 |
| RMU2-W39 | 8471.95 | 10484.92 | 320.56 | RSD0910-01 | | RSD0910-02 | Х | | Х | 4/22/2009 |
| RMU2-W19-W4-N2 | 9289.97 | 10405.19 | 320.05 | RSD0907-01/01RE1 | | RSD0907-05/05RE1 | Х | | Х | 4/22/2009 |
| RMU2-W19-W4-N3 | 9299.59 | 10404.30 | 320.07 | RSD0907-02 | | RSD0907-06 | Х | | Х | 4/22/2009 |
| RMU2-W19-W4-N4 | 9321.28 | 10405.21 | 320.04 | RSD0907-03/03RE1 | RSD0907-04 | RSD0907-07 | Х | Х | Χ | 4/22/2009 |

NOTES:

(1) =Survey data taken by Wendel-Duchscherer on April 24, 2009.

(2) =Original boring RMU2-W30 not sampled, due to geoprobe refusal.

VOCs =Volatile Organic Compounds

TPH =Total Petroleum Hydrocarbons

GW =Groundwater

RE1 =Indicates a sample dilution was run due to high concentrations of target analytes in original sample.

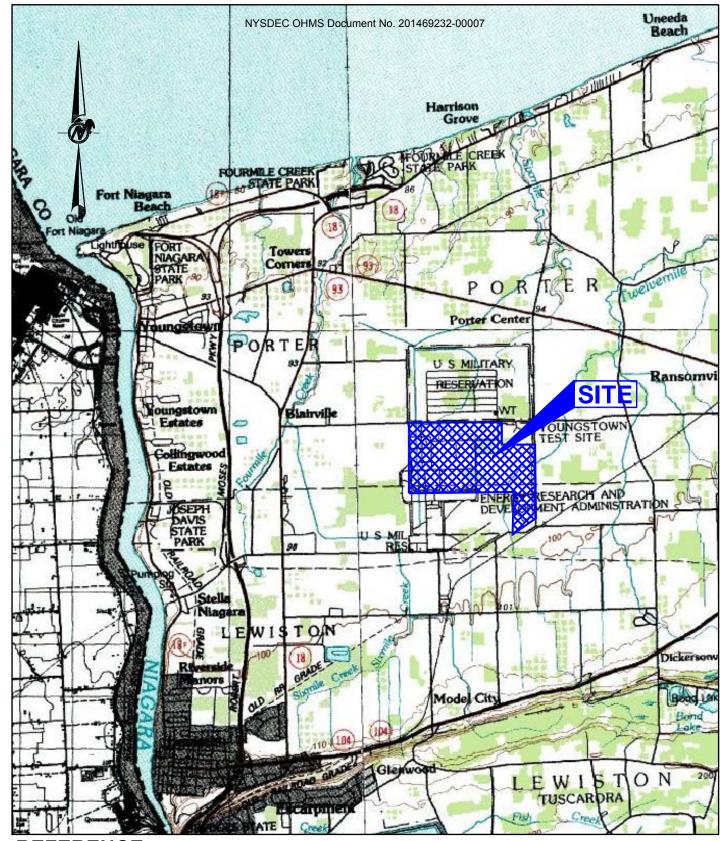
* =Second date shown is for GW sampling.

Blank =No sample collected.

Table by: RJM
Checked by: AML
Reviewed by: DCW



FIGURES



REFERENCE

PROJECT No.

1.) DRAWING WAS ADAPTED FROM THE USGS TOPOGRAPHIC QUADRANGLE OF RANSOMVILLE, NEW YORK, OBTAINED FROM www.topozone.com.

TITLE

1:28,000

| Golder Associates Buffalo, New York |
|---|
| FILE No. 007004444744 |

| Golder | | DATE | 8/31/09 | |
|----------------|------|--------|---------|-----|
| Associat | | DESIGN | AJN | |
| Buffalo, New Y | | CADD | AJN/AML | |
| 0838911 | 11A3 | 14 | CHECK | RJM |
| 083-89111 | REV. | Λ | REVIEW | DCW |

SCALE

SITE LOCATION MAP

CWM CHEMICAL SERVICES, L.L.C./MODEL CITY TSD FACILITY

FIGURE

