

## **ANALYTICAL RESULTS SUMMARY**

METALS  
GC SEMI-VOLATILES  
SEMI-VOLATILE ORGANICS  
VOLATILE ORGANICS

**PROJECT NAME : SOUTH RIVER WM REPLACEMENT**

**CDM SMITH**

**110 Fieldcrest Ave**

**Raritan Center**

**Edison, NJ - 08837**

**Phone No: 732-225-7000**

**ORDER ID : Q1982**

**ATTENTION : Marcie Ann Encinas**



**Laboratory Certification ID # 20012**



**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982  
**Client:** CDM Smith

| Sample ID         | Client ID    | Matrix | Parameter                   | Concentration | C | MDL  | RDL  | Units |
|-------------------|--------------|--------|-----------------------------|---------------|---|------|------|-------|
| <b>Client ID:</b> | <b>TP-1</b>  |        |                             |               |   |      |      |       |
| Q1982-01          | TP-1         | SOIL   | Acetone                     | 20.7          |   | 1.80 | 9.70 | ug/Kg |
| Q1982-01          | TP-1         | SOIL   | 2-Butanone                  | 2.50          | J | 2.50 | 9.70 | ug/Kg |
|                   |              |        | <b>Total Voc :</b>          | 23.2          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 23.2          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-2B</b> |        |                             |               |   |      |      |       |
| Q1982-02          | TP-2B        | SOIL   | unknown2.489                | * 3.10        | J | 0    | 0    | ug/Kg |
|                   |              |        | <b>Total Tics :</b>         | 3.10          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 3.10          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-3</b>  |        |                             |               |   |      |      |       |
| Q1982-03          | TP-3         | SOIL   | Acetone                     | 3.30          | J | 2.20 | 11.6 | ug/Kg |
|                   |              |        | <b>Total Voc :</b>          | 3.30          |   |      |      |       |
| Q1982-03          | TP-3         | SOIL   | 2-Chloroethanol             | * 3.20        | J | 0    | 0    | ug/Kg |
|                   |              |        | <b>Total Tics :</b>         | 3.20          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 6.50          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-4</b>  |        |                             |               |   |      |      |       |
| Q1982-04          | TP-4         | SOIL   | Acetone                     | 20.5          |   | 2.30 | 12.2 | ug/Kg |
|                   |              |        | <b>Total Voc :</b>          | 20.5          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 20.5          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-5</b>  |        |                             |               |   |      |      |       |
| Q1982-05          | TP-5         | SOIL   | Acetone                     | 9.40          | J | 2.60 | 13.5 | ug/Kg |
|                   |              |        | <b>Total Voc :</b>          | 9.40          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 9.40          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-6</b>  |        |                             |               |   |      |      |       |
| Q1982-06          | TP-6         | SOIL   | Acetone                     | 16.7          | J | 8.50 | 44.8 | ug/Kg |
|                   |              |        | <b>Total Voc :</b>          | 16.7          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 16.7          |   |      |      |       |
| <b>Client ID:</b> | <b>TP-8</b>  |        |                             |               |   |      |      |       |
| Q1982-07          | TP-8         | SOIL   | unknown2.489                | * 4.90        | J | 0    | 0    | ug/Kg |
|                   |              |        | <b>Total Tics :</b>         | 4.90          |   |      |      |       |
|                   |              |        | <b>Total Concentration:</b> | 4.90          |   |      |      |       |

### Hit Summary Sheet SW-846

**SDG No.:** Q1982  
**Client:** CDM Smith

| Sample ID                | Client ID | Matrix | Parameter                           | Concentration   | C  | MDL  | RDL | Units |
|--------------------------|-----------|--------|-------------------------------------|-----------------|----|------|-----|-------|
| <b>Client ID : TP-1</b>  |           |        |                                     |                 |    |      |     |       |
| Q1982-01                 | TP-1      | SOIL   | Bis(2-ethylhexyl)phthalate          | 180.000         | J  | 73   | 210 | ug/Kg |
|                          |           |        | <b>Total Svoc :</b>                 | <b>180.00</b>   |    |      |     |       |
| Q1982-01                 | TP-1      | SOIL   | Cycloeicosane *                     | 190.000         | J  | 0    | 0   | ug/Kg |
| Q1982-01                 | TP-1      | SOIL   | n-Hexadecanoic acid *               | 390.000         | J  | 0    | 0   | ug/Kg |
| Q1982-01                 | TP-1      | SOIL   | Octadecanoic acid *                 | 100.000         | J  | 0    | 0   | ug/Kg |
| Q1982-01                 | TP-1      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *   | 280.000         | AB | 0    | 0   | ug/Kg |
| Q1982-01                 | TP-1      | SOIL   | Benzophenone *                      | 330.000         | J  | 0    | 0   | ug/Kg |
|                          |           |        | <b>Total Tics :</b>                 | <b>1,290.00</b> |    |      |     |       |
|                          |           |        | <b>Total Concentration:</b>         | <b>1,470.00</b> |    |      |     |       |
| <b>Client ID : TP-2B</b> |           |        |                                     |                 |    |      |     |       |
| Q1982-02                 | TP-2B     | SOIL   | Bis(2-ethylhexyl)phthalate          | 180.000         | J  | 69.6 | 200 | ug/Kg |
|                          |           |        | <b>Total Svoc :</b>                 | <b>180.00</b>   |    |      |     |       |
| Q1982-02                 | TP-2B     | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *   | 250.000         | AB | 0    | 0   | ug/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Benzophenone *                      | 290.000         | J  | 0    | 0   | ug/Kg |
| Q1982-02                 | TP-2B     | SOIL   | n-Hexadecanoic acid *               | 230.000         | J  | 0    | 0   | ug/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Pentadecafluorooctanoic acid, pen * | 150.000         | J  | 0    | 0   | ug/Kg |
|                          |           |        | <b>Total Tics :</b>                 | <b>920.00</b>   |    |      |     |       |
|                          |           |        | <b>Total Concentration:</b>         | <b>1,100.00</b> |    |      |     |       |
| <b>Client ID : TP-3</b>  |           |        |                                     |                 |    |      |     |       |
| Q1982-03                 | TP-3      | SOIL   | Bis(2-ethylhexyl)phthalate          | 170.000         | J  | 65.1 | 190 | ug/Kg |
|                          |           |        | <b>Total Svoc :</b>                 | <b>170.00</b>   |    |      |     |       |
| Q1982-03                 | TP-3      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *   | 290.000         | AB | 0    | 0   | ug/Kg |
| Q1982-03                 | TP-3      | SOIL   | Benzophenone *                      | 250.000         | J  | 0    | 0   | ug/Kg |
| Q1982-03                 | TP-3      | SOIL   | Cycloeicosane *                     | 140.000         | J  | 0    | 0   | ug/Kg |
| Q1982-03                 | TP-3      | SOIL   | n-Hexadecanoic acid *               | 370.000         | J  | 0    | 0   | ug/Kg |
|                          |           |        | <b>Total Tics :</b>                 | <b>1,050.00</b> |    |      |     |       |
|                          |           |        | <b>Total Concentration:</b>         | <b>1,220.00</b> |    |      |     |       |
| <b>Client ID : TP-4</b>  |           |        |                                     |                 |    |      |     |       |
| Q1982-04                 | TP-4      | SOIL   | Fluorene                            | 100.000         | J  | 28.9 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Phenanthrene                        | 230.000         |    | 23.9 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Anthracene                          | 92.800          | J  | 38.1 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Fluoranthene                        | 510.000         |    | 34.3 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Pyrene                              | 450.000         |    | 41.2 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Benzo(a)anthracene                  | 290.000         |    | 26.3 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Chrysene                            | 260.000         |    | 22.8 | 190 | ug/Kg |
| Q1982-04                 | TP-4      | SOIL   | Bis(2-ethylhexyl)phthalate          | 180.000         | J  | 67.7 | 190 | ug/Kg |

### Hit Summary Sheet SW-846

**SDG No.:** Q1982  
**Client:** CDM Smith

| Sample ID            | Client ID | Matrix | Parameter                             | Concentration | C  | MDL  | RDL | Units |
|----------------------|-----------|--------|---------------------------------------|---------------|----|------|-----|-------|
| Q1982-04             | TP-4      | SOIL   | Benzo(b)fluoranthene                  | 380.000       |    | 21.7 | 190 | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Benzo(k)fluoranthene                  | 110.000       | J  | 25.6 | 190 | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Benzo(a)pyrene                        | 280.000       |    | 33.7 | 190 | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Indeno(1,2,3-cd)pyrene                | 110.000       | J  | 33.3 | 190 | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Benzo(g,h,i)perylene                  | 140.000       | J  | 29.4 | 190 | ug/Kg |
| Total Svoc :         |           |        |                                       | 3,132.80      |    |      |     |       |
| Q1982-04             | TP-4      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *     | 260.000       | AB | 0    | 0   | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | 4H-Cyclopenta[def]phenanthrene *      | 140.000       | J  | 0    | 0   | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | n-Hexadecanoic acid *                 | 310.000       | J  | 0    | 0   | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Benzophenone *                        | 140.000       | J  | 0    | 0   | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Fluoranthene, 2-methyl- *             | 98.700        | J  | 0    | 0   | ug/Kg |
| Q1982-04             | TP-4      | SOIL   | Heptafluorobutyric acid, pentadec *   | 140.000       | J  | 0    | 0   | ug/Kg |
| Total Tics :         |           |        |                                       | 1,088.70      |    |      |     |       |
| Total Concentration: |           |        |                                       | 4,221.50      |    |      |     |       |
| Client ID : TP-5     |           |        |                                       |               |    |      |     |       |
| Q1982-05             | TP-5      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *     | 240.000       | AB | 0    | 0   | ug/Kg |
| Q1982-05             | TP-5      | SOIL   | 5-Bromo-4-oxo-4,5,6,7-tetrahydr *     | 490.000       | J  | 0    | 0   | ug/Kg |
| Q1982-05             | TP-5      | SOIL   | Benzophenone *                        | 97.900        | J  | 0    | 0   | ug/Kg |
| Q1982-05             | TP-5      | SOIL   | n-Hexadecanoic acid *                 | 190.000       | J  | 0    | 0   | ug/Kg |
| Q1982-05             | TP-5      | SOIL   | Trifluoroacetoxy hexadecane *         | 120.000       | J  | 0    | 0   | ug/Kg |
| Total Tics :         |           |        |                                       | 1,137.90      |    |      |     |       |
| Total Concentration: |           |        |                                       | 1,137.90      |    |      |     |       |
| Client ID : TP-6     |           |        |                                       |               |    |      |     |       |
| Q1982-06             | TP-6      | SOIL   | 2,4a,8,8-Tetramethyldecahydrocyc *    | 180.000       | J  | 0    | 0   | ug/Kg |
| Q1982-06             | TP-6      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *     | 260.000       | AB | 0    | 0   | ug/Kg |
| Q1982-06             | TP-6      | SOIL   | Benzophenone *                        | 130.000       | J  | 0    | 0   | ug/Kg |
| Q1982-06             | TP-6      | SOIL   | Heptafluorobutyric acid, hexadecy *   | 120.000       | J  | 0    | 0   | ug/Kg |
| Q1982-06             | TP-6      | SOIL   | n-Hexadecanoic acid *                 | 230.000       | J  | 0    | 0   | ug/Kg |
| Total Tics :         |           |        |                                       | 920.00        |    |      |     |       |
| Total Concentration: |           |        |                                       | 920.00        |    |      |     |       |
| Client ID : TP-8     |           |        |                                       |               |    |      |     |       |
| Q1982-07             | TP-8      | SOIL   | Bis(2-ethylhexyl)phthalate            | 170.000       | J  | 70.5 | 200 | ug/Kg |
| Total Svoc :         |           |        |                                       | 170.00        |    |      |     |       |
| Q1982-07             | TP-8      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *     | 260.000       | AB | 0    | 0   | ug/Kg |
| Q1982-07             | TP-8      | SOIL   | Benzophenone *                        | 130.000       | J  | 0    | 0   | ug/Kg |
| Q1982-07             | TP-8      | SOIL   | Heptafluorobutyric acid, n-tetradec * | 140.000       | J  | 0    | 0   | ug/Kg |
| Q1982-07             | TP-8      | SOIL   | n-Hexadecanoic acid *                 | 210.000       | J  | 0    | 0   | ug/Kg |
| Total Tics :         |           |        |                                       | 740.00        |    |      |     |       |
| Total Concentration: |           |        |                                       | 910.00        |    |      |     |       |

### Hit Summary Sheet SW-846

**SDG No.:** Q1982  
**Client:** CDM Smith

| Sample ID                   | Client ID | Matrix | Parameter                           | Concentration   | C  | MDL  | RDL | Units |
|-----------------------------|-----------|--------|-------------------------------------|-----------------|----|------|-----|-------|
| <b>Client ID : TP-9</b>     |           |        |                                     |                 |    |      |     |       |
| Q1982-08                    | TP-9      | SOIL   | Fluoranthene                        | 120.000         | J  | 36.8 | 210 | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Pyrene                              | 230.000         |    | 44.2 | 210 | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Chrysene                            | 90.400          | J  | 24.4 | 210 | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Benzo(b)fluoranthene                | 130.000         | J  | 23.3 | 210 | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Benzo(a)pyrene                      | 140.000         | J  | 36.2 | 210 | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Benzo(g,h,i)perylene                | 120.000         | J  | 31.5 | 210 | ug/Kg |
| <b>Total Svoc :</b>         |           |        |                                     | <b>830.40</b>   |    |      |     |       |
| Q1982-08                    | TP-9      | SOIL   | 2(1H)-Phenanthrenone, 3,4,4a,4b, *  | 120.000         | J  | 0    | 0   | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | 2-Pentanone, 4-hydroxy-4-methyl *   | 190.000         | AB | 0    | 0   | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Benzophenone *                      | 140.000         | J  | 0    | 0   | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | Cyclopentadecane *                  | 150.000         | J  | 0    | 0   | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | D:A-Friedooleanan-3-ol, (3.alpha. * | 270.000         | J  | 0    | 0   | ug/Kg |
| Q1982-08                    | TP-9      | SOIL   | n-Hexadecanoic acid *               | 310.000         | J  | 0    | 0   | ug/Kg |
| <b>Total Tics :</b>         |           |        |                                     | <b>1,180.00</b> |    |      |     |       |
| <b>Total Concentration:</b> |           |        |                                     | <b>2,010.40</b> |    |      |     |       |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982

**Order ID:** Q1982

**Client:** CDM Smith

**Project ID:** South River WM Replacement

| Sample ID                   | Client ID | Matrix | Parameter       | Concentration | C  | MDL  | RDL  | Units |
|-----------------------------|-----------|--------|-----------------|---------------|----|------|------|-------|
| <b>Client ID : TP-8</b>     |           |        |                 |               |    |      |      |       |
| Q1982-07                    | TP-8      | SOIL   | alpha-Chlordane | 2.20          | P  | 0.14 | 2.00 | ug/kg |
| Q1982-07                    | TP-8      | SOIL   | gamma-Chlordane | 2.30          |    | 0.18 | 2.00 | ug/kg |
| <b>Total Concentration:</b> |           |        |                 | <b>4.500</b>  |    |      |      |       |
| <b>Client ID : TP-9</b>     |           |        |                 |               |    |      |      |       |
| Q1982-08                    | TP-9      | SOIL   | Dieldrin        | 0.77          | JP | 0.17 | 2.10 | ug/kg |
| Q1982-08                    | TP-9      | SOIL   | alpha-Chlordane | 1.70          | JP | 0.15 | 2.10 | ug/kg |
| Q1982-08                    | TP-9      | SOIL   | gamma-Chlordane | 2.00          | J  | 0.18 | 2.10 | ug/kg |
| <b>Total Concentration:</b> |           |        |                 | <b>4.470</b>  |    |      |      |       |



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,  
Fax : 908 789 8922

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982

**Order ID:** Q1982

**Client:** CDM Smith

**Project ID:** South River WM Replacement

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| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | RDL | Units |
|-----------|-----------|--------|-----------|---------------|---|-----|-----|-------|
|-----------|-----------|--------|-----------|---------------|---|-----|-----|-------|

Client ID :

**Total Concentration: 0.000**



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,  
Fax : 908 789 8922

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982

**Order ID:** Q1982

**Client:** CDM Smith

**Project ID:** South River WM Replacement

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| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | RDL | Units |
|-----------|-----------|--------|-----------|---------------|---|-----|-----|-------|
|-----------|-----------|--------|-----------|---------------|---|-----|-----|-------|

**Client ID :**

**Total Concentration:** 0.000

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982 **Order ID:** Q1982  
**Client:** CDM Smith **Project ID:** South River WM Replacement

| Sample ID                | Client ID | Matrix | Parameter | Concentration | C | MDL    | RDL   | Units |
|--------------------------|-----------|--------|-----------|---------------|---|--------|-------|-------|
| <b>Client ID : TP-1</b>  |           |        |           |               |   |        |       |       |
| Q1982-01                 | TP-1      | SOIL   | Aluminum  | 5780          |   | 0.98   | 5.80  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Arsenic   | 1.81          |   | 0.22   | 1.16  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Barium    | 31.4          |   | 0.85   | 5.80  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Beryllium | 0.49          |   | 0.029  | 0.35  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Calcium   | 560           |   | 12.9   | 116   | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Chromium  | 11.2          |   | 0.055  | 0.58  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Cobalt    | 3.32          |   | 0.12   | 1.74  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Copper    | 8.28          |   | 0.26   | 1.16  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Iron      | 8230          |   | 4.63   | 5.80  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Lead      | 9.47          |   | 0.15   | 0.70  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Magnesium | 903           |   | 13.9   | 116   | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Manganese | 29.5          |   | 0.16   | 1.16  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Mercury   | 0.018         |   | 0.0090 | 0.017 | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Nickel    | 6.62          |   | 0.15   | 2.32  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Potassium | 298           |   | 32.2   | 116   | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Sodium    | 94.5          | J | 20.7   | 116   | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Vanadium  | 17.0          |   | 0.29   | 2.32  | mg/Kg |
| Q1982-01                 | TP-1      | SOIL   | Zinc      | 21.2          |   | 0.27   | 2.32  | mg/Kg |
| <b>Client ID : TP-2B</b> |           |        |           |               |   |        |       |       |
| Q1982-02                 | TP-2B     | SOIL   | Aluminum  | 2680          |   | 0.90   | 5.37  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Arsenic   | 3.50          |   | 0.20   | 1.07  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Barium    | 15.4          |   | 0.78   | 5.37  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Beryllium | 0.38          |   | 0.027  | 0.32  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Calcium   | 315           |   | 11.9   | 107   | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Chromium  | 12.8          |   | 0.050  | 0.54  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Cobalt    | 1.00          | J | 0.11   | 1.61  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Copper    | 12.4          |   | 0.24   | 1.07  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Iron      | 7820          |   | 4.29   | 5.37  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Lead      | 10.8          |   | 0.14   | 0.65  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Magnesium | 463           |   | 12.9   | 107   | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Manganese | 21.2          |   | 0.15   | 1.07  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Nickel    | 2.26          |   | 0.14   | 2.15  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Potassium | 404           |   | 29.8   | 107   | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Sodium    | 40.9          | J | 19.1   | 107   | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Thallium  | 0.43          | J | 0.25   | 2.15  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Vanadium  | 11.8          |   | 0.27   | 2.15  | mg/Kg |
| Q1982-02                 | TP-2B     | SOIL   | Zinc      | 7.19          |   | 0.25   | 2.15  | mg/Kg |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982

**Order ID:** Q1982

**Client:** CDM Smith

**Project ID:** South River WM Replacement

| Sample ID               | Client ID | Matrix | Parameter | Concentration | C | MDL    | RDL   | Units |
|-------------------------|-----------|--------|-----------|---------------|---|--------|-------|-------|
| <b>Client ID : TP-3</b> |           |        |           |               |   |        |       |       |
| Q1982-03                | TP-3      | SOIL   | Aluminum  | 6860          |   | 0.88   | 5.23  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Arsenic   | 0.98          | J | 0.20   | 1.05  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Barium    | 32.2          |   | 0.76   | 5.23  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Beryllium | 0.54          |   | 0.026  | 0.31  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Cadmium   | 0.073         | J | 0.025  | 0.31  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Calcium   | 127           |   | 11.6   | 105   | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Chromium  | 4.97          |   | 0.049  | 0.52  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Cobalt    | 2.79          |   | 0.11   | 1.57  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Copper    | 2.12          |   | 0.23   | 1.05  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Iron      | 9220          |   | 4.17   | 5.23  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Lead      | 3.44          |   | 0.14   | 0.63  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Magnesium | 180           |   | 12.5   | 105   | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Manganese | 15.0          |   | 0.15   | 1.05  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Nickel    | 3.55          |   | 0.14   | 2.09  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Potassium | 121           |   | 28.9   | 105   | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Sodium    | 85.7          | J | 18.6   | 105   | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Vanadium  | 10.8          |   | 0.26   | 2.09  | mg/Kg |
| Q1982-03                | TP-3      | SOIL   | Zinc      | 9.47          |   | 0.24   | 2.09  | mg/Kg |
| <b>Client ID : TP-4</b> |           |        |           |               |   |        |       |       |
| Q1982-04                | TP-4      | SOIL   | Aluminum  | 5780          |   | 0.86   | 5.13  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Arsenic   | 3.25          |   | 0.20   | 1.03  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Barium    | 24.5          |   | 0.75   | 5.13  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Beryllium | 0.40          |   | 0.026  | 0.31  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Calcium   | 633           |   | 11.4   | 103   | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Chromium  | 10.3          |   | 0.048  | 0.51  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Cobalt    | 3.07          |   | 0.10   | 1.54  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Copper    | 7.56          |   | 0.23   | 1.03  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Iron      | 12400         |   | 4.09   | 5.13  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Lead      | 12.0          |   | 0.13   | 0.62  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Magnesium | 560           |   | 12.3   | 103   | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Manganese | 52.7          |   | 0.14   | 1.03  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Mercury   | 0.067         |   | 0.0080 | 0.014 | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Nickel    | 5.92          |   | 0.13   | 2.05  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Potassium | 210           |   | 28.4   | 103   | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Silver    | 0.27          | J | 0.12   | 0.51  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Sodium    | 82.9          | J | 18.3   | 103   | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Thallium  | 0.77          | J | 0.24   | 2.05  | mg/Kg |
| Q1982-04                | TP-4      | SOIL   | Vanadium  | 16.5          |   | 0.26   | 2.05  | mg/Kg |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982  
**Client:** CDM Smith

**Order ID:** Q1982  
**Project ID:** South River WM Replacement

| Sample ID               | Client ID | Matrix | Parameter | Concentration | C | MDL    | RDL   | Units |
|-------------------------|-----------|--------|-----------|---------------|---|--------|-------|-------|
| Q1982-04                | TP-4      | SOIL   | Zinc      | 31.1          |   | 0.24   | 2.05  | mg/Kg |
| <b>Client ID : TP-5</b> |           |        |           |               |   |        |       |       |
| Q1982-05                | TP-5      | SOIL   | Aluminum  | 2780          |   | 0.84   | 5.01  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Arsenic   | 2.96          |   | 0.19   | 1.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Barium    | 12.2          |   | 0.73   | 5.01  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Beryllium | 0.38          |   | 0.025  | 0.30  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Calcium   | 873           |   | 11.1   | 100   | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Chromium  | 7.77          |   | 0.047  | 0.50  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Cobalt    | 1.37          | J | 0.10   | 1.50  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Copper    | 7.46          |   | 0.22   | 1.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Iron      | 14800         |   | 4.00   | 5.01  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Lead      | 6.83          |   | 0.13   | 0.60  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Magnesium | 255           |   | 12.0   | 100   | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Manganese | 24.7          |   | 0.14   | 1.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Mercury   | 0.0080        | J | 0.0070 | 0.013 | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Nickel    | 2.38          |   | 0.13   | 2.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Potassium | 134           |   | 27.8   | 100   | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Silver    | 0.12          | J | 0.12   | 0.50  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Sodium    | 54.6          | J | 17.8   | 100   | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Thallium  | 1.11          | J | 0.23   | 2.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Vanadium  | 14.4          |   | 0.25   | 2.00  | mg/Kg |
| Q1982-05                | TP-5      | SOIL   | Zinc      | 13.6          |   | 0.23   | 2.00  | mg/Kg |
| <b>Client ID : TP-6</b> |           |        |           |               |   |        |       |       |
| Q1982-06                | TP-6      | SOIL   | Aluminum  | 1110          |   | 0.89   | 5.32  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Arsenic   | 1.26          |   | 0.20   | 1.06  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Barium    | 2.61          | J | 0.78   | 5.32  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Beryllium | 0.37          |   | 0.027  | 0.32  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Calcium   | 439           |   | 11.8   | 106   | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Chromium  | 4.85          |   | 0.050  | 0.53  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Cobalt    | 0.72          | J | 0.11   | 1.60  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Copper    | 6.37          |   | 0.23   | 1.06  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Iron      | 21500         |   | 4.25   | 5.32  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Lead      | 3.97          |   | 0.14   | 0.64  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Magnesium | 69.0          | J | 12.8   | 106   | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Manganese | 145           |   | 0.15   | 1.06  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Mercury   | 0.035         |   | 0.0080 | 0.014 | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Nickel    | 0.94          | J | 0.14   | 2.13  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Potassium | 139           |   | 29.5   | 106   | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Silver    | 0.30          | J | 0.13   | 0.53  | mg/Kg |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982  
**Client:** CDM Smith

**Order ID:** Q1982  
**Project ID:** South River WM Replacement

| Sample ID               | Client ID | Matrix | Parameter | Concentration | C | MDL    | RDL   | Units |
|-------------------------|-----------|--------|-----------|---------------|---|--------|-------|-------|
| Q1982-06                | TP-6      | SOIL   | Sodium    | 101           | J | 18.9   | 106   | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Thallium  | 1.78          | J | 0.25   | 2.13  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Vanadium  | 6.98          |   | 0.27   | 2.13  | mg/Kg |
| Q1982-06                | TP-6      | SOIL   | Zinc      | 8.05          |   | 0.25   | 2.13  | mg/Kg |
| <b>Client ID : TP-8</b> |           |        |           |               |   |        |       |       |
| Q1982-07                | TP-8      | SOIL   | Aluminum  | 2490          |   | 0.86   | 5.13  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Arsenic   | 4.06          |   | 0.20   | 1.03  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Barium    | 7.78          |   | 0.75   | 5.13  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Beryllium | 0.25          | J | 0.026  | 0.31  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Calcium   | 585           |   | 11.4   | 103   | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Chromium  | 7.08          |   | 0.048  | 0.51  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Cobalt    | 1.34          | J | 0.10   | 1.54  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Copper    | 10.3          |   | 0.23   | 1.03  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Iron      | 11200         |   | 4.09   | 5.13  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Lead      | 13.8          |   | 0.13   | 0.62  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Magnesium | 486           |   | 12.3   | 103   | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Manganese | 19.3          |   | 0.14   | 1.03  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Mercury   | 0.020         |   | 0.0080 | 0.015 | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Nickel    | 2.56          |   | 0.13   | 2.05  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Potassium | 183           |   | 28.4   | 103   | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Silver    | 0.16          | J | 0.12   | 0.51  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Sodium    | 352           |   | 18.3   | 103   | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Thallium  | 0.56          | J | 0.24   | 2.05  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Vanadium  | 16.9          |   | 0.26   | 2.05  | mg/Kg |
| Q1982-07                | TP-8      | SOIL   | Zinc      | 20.8          |   | 0.24   | 2.05  | mg/Kg |
| <b>Client ID : TP-9</b> |           |        |           |               |   |        |       |       |
| Q1982-08                | TP-9      | SOIL   | Aluminum  | 5380          |   | 0.97   | 5.77  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Arsenic   | 10.5          |   | 0.22   | 1.15  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Barium    | 3.89          | J | 0.84   | 5.77  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Beryllium | 1.27          |   | 0.029  | 0.35  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Calcium   | 460           |   | 12.8   | 115   | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Chromium  | 15.6          |   | 0.054  | 0.58  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Cobalt    | 1.72          | J | 0.12   | 1.73  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Copper    | 32.3          |   | 0.25   | 1.15  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Iron      | 81700         |   | 4.61   | 5.77  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Lead      | 3.22          |   | 0.15   | 0.69  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Magnesium | 46.8          | J | 13.9   | 115   | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Manganese | 1.98          |   | 0.16   | 1.15  | mg/Kg |
| Q1982-08                | TP-9      | SOIL   | Mercury   | 0.024         |   | 0.0080 | 0.015 | mg/Kg |

**Hit Summary Sheet**  
**SW-846**

**SDG No.:** Q1982  
**Client:** CDM Smith

**Order ID:** Q1982  
**Project ID:** South River WM Replacement

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL  | RDL  | Units |
|-----------|-----------|--------|-----------|---------------|---|------|------|-------|
| Q1982-08  | TP-9      | SOIL   | Nickel    | 1.04          | J | 0.15 | 2.31 | mg/Kg |
| Q1982-08  | TP-9      | SOIL   | Potassium | 177           |   | 32.0 | 115  | mg/Kg |
| Q1982-08  | TP-9      | SOIL   | Sodium    | 44.0          | J | 20.6 | 115  | mg/Kg |
| Q1982-08  | TP-9      | SOIL   | Thallium  | 7.36          |   | 0.27 | 2.31 | mg/Kg |
| Q1982-08  | TP-9      | SOIL   | Vanadium  | 22.0          |   | 0.29 | 2.31 | mg/Kg |
| Q1982-08  | TP-9      | SOIL   | Zinc      | 23.8          |   | 0.27 | 2.31 | mg/Kg |