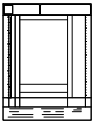


Appendix B

Boring Logs, Test Trench Logs, Sealing Records, Spatial Data Reporting Form, and Groundwater Sampling Forms



Client University of Minnesota

Drill Contractor Matrix Environmental LLC

LOG OF Boring SOC4-GP1

Project Name UMA SSI/RI

Drill Method Geoprobe

SHEET 1 OF 2

Number 23/19-0B05

Drilling Started 9/9/09 Ended 9/10/09

Elevation 945.9

Location 4951431.3 UTMN, 492604.5 UTME

Logged By EJC

Total Depth 55

Screened Interval 40-55'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, very dense. [Topsoil] | PRO. CASING | |
| | | | 1.3 | | Diameter: None | 945 |
| | | 1 | | Silt (ML): dark yellowish brown (10YR 4/4), moist. [Loess] | Type: None | |
| | | | 1.3 | | Interval: None | |
| 5 | | | | | RISER CASING | |
| | | | 1.3 | Sand with Gravel (SP): yellowish brown (10YR 5/4), dry, (20/80/0), medium to coarse-grained. [Outwash] | Diameter: 1" | |
| | | 2 | | | Type: PVC | 940 |
| | | | 1.3 | | Interval: 0-40' | |
| | | | | Moist | GROUT | |
| | | | 1.7 | | Type: None | |
| 10 | | 3 | | | Interval: None | |
| | | | 1.3 | | SEAL | |
| | | | | | Type: None | 935 |
| | | | | | Interval: None | |
| | | 4 | 1.3 | | SANDPACK | |
| 15 | | | 1.3 | | Type: None | |
| | | | | | Interval: None | |
| | | | 1.3 | | SCREEN | |
| | | 5 | | | Diameter: 1" | 930 |
| | | | 1.3 | | Type: 10 Slot, PVC | |
| | | | | | Interval: 40-55' | |
| 20 | | | 1.3 | | BOREHOLE | |
| | | | | | Diameter: 2" | |
| | | 6 | | | | 925 |
| 25 | | | | | | |
| | | 7 | | 26-29': 40% gravel. | | 920 |

(continued)

Remarks:

Background = 1.3 ppm. No unusual odor or discoloration observed. Temporary well set at 29-44' bgs on 9/9/09. Insufficient water to sample at 08:45 on 9/10/09. Borehole advanced and temporary well reset at 40-55' bgs on 9/10/09. Insufficient water on 9/11/09. No groundwater sample collected.

BGS = "below ground surface"

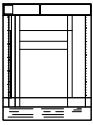
Additional data may have been collected in the field which is not included on this log.

UMP018300

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 1/6/10



Barr Engineering Company
 4700 West 77th Street
 Minneapolis, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601



Client University of Minnesota

Drill Contractor Matrix Environmental LLC

LOG OF Boring SOC4-GP1

Project Name UMA SSI/RI

Drill Method Geoprobe

SHEET 2 OF 2

Number 23/19-0B05

Drilling Started 9/9/09

Ended 9/10/09

Elevation 945.9

Location 4951431.3 UTMN, 492604.5 UTME

Logged By EJC

Total Depth 55

Screened Interval 40-55'

| DEPTH FEET | SAMP. LENGTH & RECOVERY øSAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|---|------------------|---|--|---------------|
| | | | Sandy Fat Clay (CH): reddish brown (10YR 5/3), wet, (0/30/70), with abundant fine-grained sand and silt seams up to 2" thick. Sand seams oxidized to orange, soft. [Till] | | 915 |
| 35 | 9 | | | | 910 |
| | 10 | | | | |
| 40 | | | | | |
| | 11 | | | | 905 |
| | 12 | | | | |
| 45 | | | | | 900 |
| | 13 | | Poorly Graded Sand (SP): yellowish brown, fine to medium-grained. | | |
| 50 | | | | | |
| | 14 | | Silty Sand (SM): yellowish brown (10YR 5/4), moist, (25/75/0), fine to medium-grained. | | 895 |
| 55 | | | End of Boring - 55 feet | | 890 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 1/6/10



Barr Engineering Company
4700 West 77th Street
Minneapolis, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

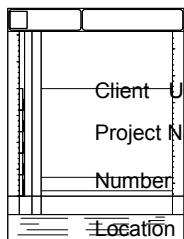
Remarks:

Background = 1.3 ppm. No unusual odor or discoloration observed. Temporary well set at 29-44' bgs on 9/9/09. Insufficient water to sample at 08:45 on 9/10/09. Borehole advanced and temporary well reset at 40-55' bgs on 9/10/09. Insufficient water on 9/11/09. No groundwater sample collected.

BGS = "below ground surface"

Additional data may have been collected in the field which is not included on this log.

UMP018301



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951179.3 UTMN, 492567.8 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/11/09 Ended 9/11/09

Logged By EJC

LOG OF Boring SOC4-GP2

SHEET 1 OF 1

Elevation 942.4

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Silty Soil (OL): very dark grayish brown (10YR 2/2), moist, gravel at 1' bgs. [Topsoil] | |
| | | 2.1 | | Silt (ML): dark yellowish brown (10YR 4/4), moist. [Loess] | |
| | 1 | | | | 940 |
| | | 1.7 | | | |
| | | | | Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium-grained. [Outwash] | |
| 5 | | 1.7 | | 3.5-5': 50% gravel. | |
| | 2 | | | | |
| | | 1.3 | | 6-11': Coarse-grained. | |
| | | 1.3 | | | 935 |
| | | 1.3 | | | |
| 10 | 3 | | | | |
| | | 1.3 | | | |
| | | 1.3 | | | 930 |
| | 4 | | | | |
| 15 | | 1.3 | | | |
| | | 0.9 | | | |
| | 5 | | | | 925 |
| | | 1.3 | | | |
| 20 | | | | End of Boring - 20 feet | |
| | | | | | 920 |
| 25 | | | | | |
| | | | | | 915 |

SIMPLE ENVIRO LOG 5 23190B05 GPJ BARRLOG6_28.GDT 10/22/09

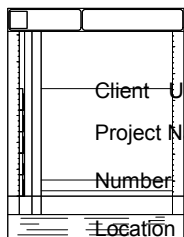


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 2.1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018302



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951067.3 UTMN, 492497.5 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/11/09 Ended 9/11/09

Logged By EJC

LOG OF Boring SOC4-GP3

SHEET 1 OF 1

Elevation 942.8

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, gravel at 0.5'. [Topsoil] | |
| | | 1 | 0.9 | Silt (ML): dark yellowish brown (10YR 4/4), moist. [Loess] | |
| | | | 0.9 | Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0). | 940 |
| 5 | | 2 | 0.9 | Two inches of silty sand at 6' bgs. | |
| | | | 0.9 | | 935 |
| | | | 0.9 | | |
| 10 | | 3 | 0.3 | | |
| | | | 0.3 | | 930 |
| | | 4 | 0.9 | Gravel at 14' bgs. | |
| 15 | | | 0.3 | | |
| | | 5 | 0.3 | | 925 |
| | | | 0.3 | | |
| 20 | | | | End of Boring - 20 feet | |
| | | | | | 920 |
| 25 | | | | | 915 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

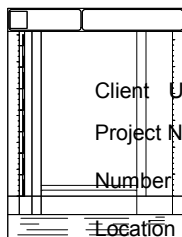


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 0.9 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018303



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4950954.3 UTMN, 492343.5 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/10/09 Ended 9/10/09

Logged By EJC

LOG OF Boring SOC4-GP4

SHEET 1 OF 2

Elevation 939.1

Total Depth 60

Screened Interval 50-60'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Silty Soil (OL): very dark brown (10YR 3/2), moist, (0/0/100), moderate organic content. [Topsoil] | PRO. CASING | |
| | | 1 | 2.5 | Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100). [Loess] | Diameter: None | |
| | | | 2.1 | Sand (SP): yellowish brown (10YR 5/4), moist, (5/95/0). [Outwash] | Type: None | |
| | | | | 2-3': 30% gravel. | Interval: None | |
| 5 | | | 1.3 | | RISER CASING | 935 |
| | | 2 | | | Diameter: 1" | |
| | | | 1.3 | 7-9': 30% gravel. | Type: PVC | |
| | | | 1.3 | | Interval: 0-50' | |
| 10 | | 3 | | | GROUT | |
| | | | 1.3 | | Type: None | |
| | | | 1.3 | | Interval: None | 930 |
| | | | 1.7 | | SEAL | |
| | | 4 | | | Type: None | |
| | | | 1.3 | | Interval: None | |
| 15 | | | | | SANDPACK | |
| | | | 1.3 | | Type: None | |
| | | 5 | | 40% gravel, two inches thick. | Interval: None | 925 |
| | | | 1.3 | | SCREEN | |
| 20 | | | | | Diameter: 1" | |
| | | 6 | | | Type: 10 Slot, PVC | |
| | | | | | Interval: 50-60' | |
| 25 | | 7 | | | BOREHOLE | 920 |
| | | | | | Diameter: 2" | |
| | | | | | | 915 |
| | | | | | | 910 |

(continued)

Remarks:

Background = 2.4 ppm. Advanced 3 additional macrocores to 3' bgs for duplicate and MS/MSD volumes. No unusual odor or discoloration observed.

BGS = "below ground surface"

Additional data may have been collected in the field which is not included on this log.

UMP018304

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4950954.3 UTMN, 492343.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/10/09 Ended 9/10/09
 Logged By EJC

LOG OF Boring SOC4-GP4

SHEET 2 OF 2

Elevation 939.1
 Total Depth 60
 Screened Interval 50-60'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Sand (SP): yellowish brown (10YR 5/4), moist, (5/95/0). [Outwash] <i>(continued)</i> | | |
| | | | | 31': Two inches gravel. | | |
| | | | | 32-40': Medium to coarse-grained sand. | | |
| 35 | | 9 | | | | 905 |
| | | | | | | |
| | | 10 | | | | |
| 40 | | | | 40-49': 10% gravel. | | 900 |
| | | 11 | | | | |
| | | | | | | |
| 45 | | 12 | | | | 895 |
| | | | | | | |
| | | | | | | |
| 50 | | 13 | | | | 890 |
| | | | | | | |
| | | | | | | |
| 55 | | 14 | | Wet starting at 54' bgs, coarse-grained sand and fine-grained gravel. | | 885 |
| | | | | | | |
| | | 15 | | | | |
| | | | | End of Boring - 60 feet | | 880 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

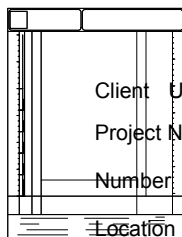


Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 2.4 ppm. Advanced 3 additional macrocores to 3' bgs for duplicate and MS/MSD volumes. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018305



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4950894.7 UTMN, 492254.5 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/10/09 Ended 9/10/09

Logged By EJC

LOG OF Boring SOC4-GP5

SHEET 1 OF 3

Elevation 935.5

Total Depth 62

Screened Interval 52-62'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | | Organic-rich Silty Soil with Sand (OL): very dark grayish brown (10YR 3/2), moist, (0/20/80). [Topsoil] | PRO. CASING Diameter: None | 935 |
| | | 1 | 2.1 | | Type: None | |
| | | | 1.3 | Sand (SP): yellowish brown (10YR 5/4): moist, (5/95/0), abundant gravel at 3' bgs. [Outwash] | Interval: None | |
| 5 | | | 1.7 | | RISER CASING Diameter: 1" | |
| | | 2 | 1.7 | | Type: PVC | 930 |
| | | | 1.7 | | Interval: 0-52' | |
| | | | | 8-10': Coarse-grained. | GROUT Type: None | |
| 10 | | 3 | 1.7 | | Interval: None | |
| | | | 1.3 | | SEAL | |
| | | | | 12-14': 20% gravel and cobbles. | Type: None | 925 |
| | | | 1.3 | | Interval: None | |
| | | 4 | 1.3 | | SANDPACK Type: None | |
| 15 | | | 1.7 | | Interval: None | |
| | | 5 | 1.7 | | SCREEN Diameter: 1" | 920 |
| | | | | | Type: 10 Slot, PVC | |
| | | | 1.3 | One inch of yellowish brown lean clay with granite cobble at 19' bgs, moist. | Interval: 52-62' | |
| 20 | | | | Drilled blind from 20' to 62'. Felt like sand and gravel. | BOREHOLE Diameter: 2" | 915 |
| 25 | | | | | | 910 |

(continued)

Remarks:
Background = 1.7 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018306

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4950894.7 UTMN, 492254.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/10/09 Ended 9/10/09
 Logged By EJC

LOG OF Boring SOC4-GP5

SHEET 2 OF 3

Elevation 935.5
 Total Depth 62
 Screened Interval 52-62'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Sand (SP): yellowish brown (10YR 5/4): moist, (5/95/0), abundant gravel at 3' bgs. [Outwash] <i>(continued)</i> | | 905 |
| 35 | | | | | | 900 |
| 40 | | | | | | 895 |
| 45 | | | | | | 890 |
| 50 | | | | | | 885 |
| 55 | | | | | | 880 |

(continued)

Remarks:
 Background = 1.7 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

UMP018307


| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4950894.7 UTMN, 492254.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/10/09 Ended 9/10/09
 Logged By EJC

LOG OF Boring SOC4-GP5

SHEET 3 OF 3

Elevation 935.5
 Total Depth 62
 Screened Interval 52-62'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---|---------------|
| | | | | Sand (SP): yellowish brown (10YR 5/4): moist, (5/95/0), abundant gravel at 3' bgs. [Outwash] <i>(continued)</i> |  | 875 |
| | | | | End of Boring - 62 feet | | |
| 65 | | | | | | 870 |
| 70 | | | | | | 865 |
| 75 | | | | | | 860 |
| 80 | | | | | | 855 |
| 85 | | | | | | 850 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

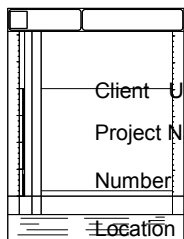


Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.7 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018308



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4950813.5 UTMN, 492141.1 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/9/09 Ended 9/9/09

Logged By EJC

LOG OF Boring SOC4-GP6

SHEET 1 OF 1

Elevation 934.8

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Silty Soil (OL): dark brown (10YR 3/3), moist, (5/10/85). [Topsoil] | |
| | | | 2.5 | Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] | |
| | | 1 | 2.1 | | |
| 5 | | | 2.1 | | 930 |
| | | | | 6-9': 60% gravel. | |
| | | 2 | 2.5 | | |
| | | | 2.1 | | |
| 10 | | | 2.1 | | 925 |
| | | 3 | 2.5 | 40% gravel. | |
| 15 | | | 2.5 | | 920 |
| | | 4 | 2.1 | 40% gravel. | |
| | | | 2.1 | | |
| 20 | | | | End of Boring - 20 feet | 915 |
| 25 | | | | | 910 |
| | | | | | 905 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

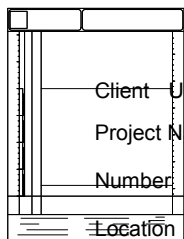


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 2.5 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018309



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4950994.8 UTMN, 492259.2 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/10/09 Ended 9/10/09

Logged By EJC

LOG OF Boring SOC4-GP7

SHEET 1 OF 1

Elevation 941.4

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Silty Soil (OL): dark yellowish brown (10YR 3/4), moist, low organic content. [Topsoil] | |
| | | | 2.5 | | 940 |
| | | 1 | 1.3 | Sand (SP): yellowish brown (10YR 5/4), moist, (5/95/0), medium-grained. [Outwash] | |
| 5 | | | 1.7 | | |
| | | | 1.3 | 6.5-7': 20% gravel. | 935 |
| | | 2 | | | |
| | | | 1.3 | | |
| 10 | | | 2.1 | 11-12': 40% gravel. | 930 |
| | | 3 | | | |
| | | | 1.3 | | |
| | | | | 14-16': 30% gravel. | |
| 15 | | | 1.3 | | |
| | | | | | 925 |
| | | 4 | | | |
| | | | 1.3 | | |
| 20 | | | | End of Boring - 20 feet | |
| | | | | | 920 |
| 25 | | | | | |
| | | | | | 915 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

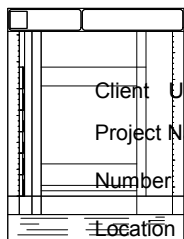


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1.7 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018310



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951536.4 UTMN, 492407.3 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/2/09 Ended 9/2/09

Logged By EJC

LOG OF Boring SOC5-GP1

SHEET 1 OF 1

Elevation 946.7

Total Depth 24

Screened Interval 14-24'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, (0/0/100). [Topsoil] | PRO. CASING | |
| | | | 0.2 | Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100). [Loess] | Diameter: None | 945 |
| | | 1 | | Well Graded Sand with Gravel (SW): pale brown (10YR 4/3), dry, well to subrounded. [Outwash] | Type: None | |
| | | | 0 | | Interval: None | |
| | | | | | RISER CASING | |
| 5 | | | 0 | | Diameter: 1" | |
| | | 2 | | Poorly Graded Sand with Gravel (SP): pale brown (10YR 6/3), dry, (5/95/0). [Outwash] | Type: PVC | |
| | | | 0 | | Interval: 0-14' | 940 |
| | | | | 8-12': 20% gravel. | GROUT | |
| | | | 0 | | Type: None | |
| | | | | | Interval: None | |
| 10 | | 3 | | | SEAL | |
| | | | 0 | | Type: None | |
| | | | | | Interval: None | 935 |
| | | | 0 | | SANDPACK | |
| | | 4 | | | Type: None | |
| | | | | | Interval: None | |
| 15 | | | 0 | | SCREEN | |
| | | | | 16-17': 35% gravel. | Diameter: 1" | |
| | | | 0 | Wet | Type: 10 Slot, PVC | 930 |
| | | 5 | | | Interval: 14-24' | |
| | | | 0 | Four inches of fine-grained silty sand at 19' bgs, fining downward below. | BOREHOLE | |
| | | | | Lean Clay with Gravel (CL): brownish yellow (10YR 6/6), moist, (10/10/80). [Till] | Diameter: 2" | |
| | | 6 | | | | 925 |
| | | | | End of Boring - 24 feet | | |
| 25 | | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

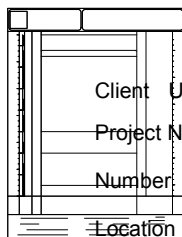


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Remarks:
Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018311



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951468.4 UTMN, 492408.8 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/2/09 Ended 9/2/09

Logged By EJC

LOG OF Boring SOC5-GP2

SHEET 1 OF 2

Elevation 947.1

Total Depth 46

Screened Interval 26-46'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, (0/0/100). [Topsoil] | PRO. CASING Diameter: None | |
| | | 1 | 0 | Silt (ML): yellowish brown (10YR 5/6), moist, (0/0/100). [Loess] | Type: None | 945 |
| | | | 0 | | Interval: None | |
| 5 | | | 0 | | RISER CASING Diameter: 1" | |
| | | 2 | 0 | Cobbles and gravel at 6' bgs. Dry below 6'. | Type: PVC | |
| | | | 0 | | Interval: 0-26' | 940 |
| | | | 0 | Well Graded Sand with Gravel (SW): yellowish brown (10YR 5/4), moist (30/70/0). [Outwash] | Type: None | |
| | | | 0 | | Interval: None | |
| 10 | | 3 | 0 | | SEAL Type: None | |
| | | | 0 | | Interval: None | |
| | | | 0.6 | Poorly Graded Sand (SP): pale brown (10YR 6/3), moist, (5/95/0), medium-grained, coarsening downward. [Outwash] Cobble at 12' bgs. | SANDPACK Type: None | 935 |
| | | 4 | 0 | | Interval: None | |
| 15 | | | 0 | | SCREEN Diameter: 1" | |
| | | | 0 | | Type: 10 Slot, PVC | 930 |
| | | 5 | 0 | | Interval: 26-46' | |
| | | | 0.3 | Cobbles at 19' bgs. | BOREHOLE Diameter: 2" | |
| 20 | | | 0 | | | |
| | | 6 | 0 | | | 925 |
| | | | 0 | | | |
| 25 | | | 1 | | | |
| | | 7 | 0 | Silty Sand (SM): yellowish brown (10YR 5/4), moist, (0/90/10), fine-grained. [Lacustrine] | | |
| | | | 0 | Lean Clay with Sand (CL): yellowish brown (10YR 5/4), moist, (2/15/83), coarse-grained sand. [Till] | | 920 |
| | | | 0 | | | |

(continued)

Remarks:
Background = 0 ppm. Dry - no water. Sealed on 9/3/09. No unusual odor or discoloration observed.

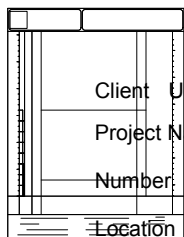
BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018312

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951468.4 UTMN, 492408.8 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/2/09 Ended 9/2/09

Logged By EJC

LOG OF Boring SOC5-GP2

SHEET 2 OF 2

Elevation 947.1

Total Depth 46

Screened Interval 26-46'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | 0 | Lean Clay with Sand (CL): very dark gray (10YR 3/1), moist, (2/15/83), coarse-grained sand. | | 915 |
| | | 9 | 0 | Lean Clay with Sand (CL): yellowish brown (10YR 5/6), gray mottling, moist, (0/10/90), very hard, coarse-grained sand. [Till] | | |
| 35 | | 10 | 1 | | | |
| | | | | Drilled blind, very hard. | | 910 |
| | | 11 | | | | |
| | | 12 | | | | |
| 40 | | | | | | |
| | | 13 | | | | 905 |
| | | 14 | | | | |
| 45 | | 15 | | | | |
| | | | | End of Boring - 46 feet | | 900 |
| 50 | | | | | | 895 |
| | | | | | | |
| 55 | | | | | | 890 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

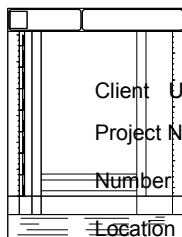


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Remarks:
Background = 0 ppm. Dry - no water. Sealed on 9/3/09. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018313



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951386.1 UTMN, 492378.4 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/2/09 Ended 9/2/09

Logged By EJC

LOG OF Boring SOC5-GP3

SHEET 1 OF 2

Elevation 941.6

Total Depth 52

Screened Interval 32-52'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, (0/0/100). [Topsoil] | PRO. CASING | |
| | | 1 | 0.8 | Sand with Silt (SP-SM): very dark grayish brown (10YR 3/2), moist, (0/90/10), fine to medium-grained. [Fill] | Diameter: None | 940 |
| | | | 0 | Well Graded Sand with Gravel (SW): dark yellowish brown (10YR 4/4), moist, (20/80/0). [Outwash] | Type: None | |
| 5 | | | 0 | Poorly Graded Sand with Gravel (SP): yellowish brown (10YR 5/4), moist, (20/80/0), medium to coarse-grained. [Outwash] | Interval: None | |
| | | 2 | | | RISER CASING | |
| | | | 0 | | Diameter: 1" | |
| | | | | | Type: PVC | |
| | | | 0 | | Interval: 0-32' | 935 |
| | | | | 8-11': Coarse-grained, moist. | GROUT | |
| | | | 0 | | Type: None | |
| 10 | | 3 | | | Interval: None | |
| | | | 0 | | SEAL | |
| | | | 0 | | Type: None | |
| | | | | | Interval: None | 930 |
| | | | 0 | | SANDPACK | |
| | | 4 | | 14-16': Medium-grained. | Type: None | |
| 15 | | | 0 | | Interval: None | |
| | | | | | SCREEN | |
| | | | 0 | | Diameter: 1" | |
| | | 5 | | 17-18': Cobbles. | Type: 10 Slot, PVC | 925 |
| | | | 0 | | Interval: 32-52' | |
| 20 | | 6 | | | BOREHOLE | |
| | | | 0 | | Diameter: 2" | |
| | | | | | | 920 |
| | | | 0.3 | | | |
| | | | | 24-31': 35% gravel, medium to coarse-grained sand. | | |
| 25 | | 7 | | | | 915 |
| | | | 0 | | | |
| | | | 0 | | | |
| | | | 0 | | | |

(continued)

Remarks:
Background = 3 ppm. No unusual odor or discoloration observed.

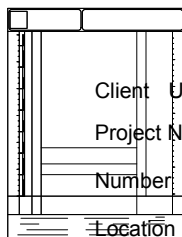
BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018314

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951405.7 UTMN, 492322.0 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 8/31/09 Ended 8/31/09

Logged By EJC

LOG OF Boring SOC5-GP4

SHEET 1 OF 2

Elevation 940.4

Total Depth 52

Screened Interval 42-52'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/2), moist, (0/0/100), decreasing organic content with depth. [Topsoil] | PRO. CASING Diameter: None | 940 |
| | | 1 | 1.6 | | Type: None | |
| | | | 1.6 | | Interval: None | |
| 5 | | | 1.6 | Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100), grading to lean clay below. [Loess] | RISER CASING Diameter: 1" | |
| | | 2 | 1.0 | Lean Clay (CL): dark yellowish brown (10YR 4/4), moist, (0/0/100), trace oxidation clasts. [Lacustrine] | Type: PVC | 935 |
| | | | | | Interval: 0-42' | |
| | | | 1.0 | Sand (SP): dark yellowish brown (10YR 4/6), moist, (0/100/0), medium to coarse-grained. [Outwash] | GROUT Type: None | |
| 10 | | 3 | 0.5 | | Interval: None | |
| | | | 1.0 | | SEAL Type: None | 930 |
| | | 4 | 1.0 | | Interval: None | |
| 15 | | | 1.0 | 16-18': 10% gravel, moist. | SANDPACK Type: None | |
| | | 5 | 1.0 | | Interval: None | |
| | | | 1.0 | | SCREEN Diameter: 1" | 925 |
| | | 6 | | 23-24': 30% sub to well-rounded gravel. | Type: 10 Slot, PVC | |
| | | | | | Interval: 42-52' | |
| 20 | | | | | BOREHOLE Diameter: 2" | 920 |
| | | 7 | | 27-31': 20% sub to well-rounded gravel. | | 915 |

(continued)

Remarks:
Background = 1.0 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018316

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951405.7 UTMN, 492322.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 8/31/09 Ended 8/31/09
 Logged By EJC

LOG OF Boring SOC5-GP4

SHEET 2 OF 2

Elevation 940.4
 Total Depth 52
 Screened Interval 42-52'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | | Sand (SP): dark yellowish brown (10YR 4/6), moist, (0/100/0), medium to coarse-grained. [Outwash] (<i>continued</i>) Fine-grained. | | 910 |
| | | | | 32-36': Medium-grained. | | |
| 35 | | 9 | | | | 905 |
| | | | | | | |
| | | 10 | | Cobbles at 38' bgs. | | |
| 40 | | | | | | 900 |
| | | 11 | | 42-44': Coarse-grained, saturated. | | |
| | | | | No recovery. Probably pushed down a cobble. | | |
| 45 | | | | | | 895 |
| | | 12 | | | | |
| | | | | | | |
| 50 | | 13 | | Lean Clay with Sand (CL): yellowish brown (10YR 5/4), moist, (5/15/80), low plasticity. [Till] | | 890 |
| | | | | | | |
| | | | | End of Boring - 52 feet | | |
| 55 | | | | | | 885 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 1.0 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018317

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951394.8 UTMN, 492233.6 UTME |

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 8/31/09 Ended 8/31/09

Logged By EJC

LOG OF Boring SOC5-GP5

SHEET 1 OF 1

Elevation 946.6

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Asphalt | |
| | | 2.6 | | Gravel (GW): 70% angular, class 5 fill. [Fill] | |
| | | | | Well Graded Sand (SW): yellowish brown (10YR 5/4), (5/95/0), medium-grained. [Fill] | 945 |
| | 1 | 1.6 | | Organic-rich Silt (OL): very dark grayish brown (10YR 3/2), moist, (0/0/100), low plasticity. [Topsoil] | |
| | | | | Silt (ML): brown (10YR 4/3), moist, (0/0/100), low plasticity. [Loess] | |
| 5 | | 2.1 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, medium-grained. [Outwash] | |
| | | | | | 940 |
| | 2 | 2.1 | | | |
| | | 0.5 | | | |
| 10 | | | | 30% well-rounded gravel. | |
| | | 3.2 | | | 935 |
| | 3 | 0 | | | |
| | | | | Medium to coarse-grained. | |
| 15 | | 0 | | | |
| | | | | | 930 |
| | 4 | 1.6 | | | |
| | | 0 | | | |
| 20 | | | | Granite cobble. | |
| | | | | End of Boring - 20 feet | |
| | | | | | 925 |
| 25 | | | | | |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

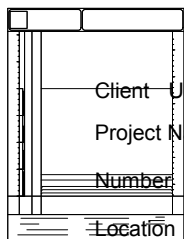


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018318



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951395.0 UTMN, 492251.9 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 7/31/09 Ended 7/31/09

Logged By EJC

LOG OF Boring SOC5-GP6

SHEET 1 OF 1

Elevation 947.2

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Asphalt | |
| | | 2.1 | | Gravel with Sand (GW): very pale brown, dry, (85/15/0), angular. [Fill] | |
| | | | | Sand with Gravel (SW): yellowish brown (10YR 5/4), moist, (20/80/0), subrounded to subangular. [Fill] | |
| | | 1 | | Organic-rich Silt (OL): very dark grayish brown (10YR 3/2), moist, (5/0/95), low plasticity, with trace well-rounded gravel. [Topsoil] | 945 |
| | | 0.5 | | Silt (ML): dark yellowish brown (10YR 3/4), moist, (0/0/100), low plasticity. [Loess] | |
| 5 | | 0 | | Poorly Graded Sand (SP): dark yellowish brown (10YR 5/4), barely moist, (0/100/0), medium-grained. [Outwash] | |
| | | | | Well-rounded gravel at 5' bgs, dominately granite. | |
| | | 2 | 0 | | 940 |
| | | | 0 | 9-10': 20% gravel, granite and basalt. | |
| 10 | | 1 | | Granite cobble at 11' bgs. | |
| | | 3 | 0 | | 935 |
| | | | 1 | | |
| 15 | | | | 16': 30% sub to well-rounded gravel. | |
| | | 4 | 2 | | 930 |
| | | | 1 | 50% subangular to subrounded granitic gravel, trace oxidation mottling. | |
| 20 | | | | End of Boring - 20 feet | |
| | | | | | 925 |
| 25 | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

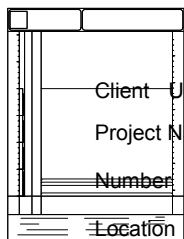


Barr Engineering Co.
4700 W 77th St. Suite 200
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Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018319



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951367.0 UTMN, 492236.2 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 8/31/09 Ended 8/31/09

Logged By EJC

LOG OF Boring SOC5-GP7

SHEET 1 OF 1

Elevation 946.1

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Gravel: angular, class 5 fill. [Fill] | |
| | | 3.2 | | Gravel and Sand (GW): very dark gray (10YR 3/1), (40/40/20), stained black, faint odor. [Fill] | 945 |
| | | 1 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (2/98/0), medium to coarse-grained. [Outwash] | |
| | | 1.6 | | Silt (ML): yellowish brown (10YR 5/4), (5/0/95). [Loess] | |
| | | | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), (10/90/0), sub to well-rounded, coarse-grained. [Outwash] | |
| 5 | | 2.6 | | | |
| | | | | Granite at 6' bgs; 20% gravel to 11' bgs. | 940 |
| | | 2 | 1.6 | | |
| | | | 1.6 | | |
| 10 | | | 1.6 | | 935 |
| | | 3 | 1 | | |
| 15 | | | 2.6 | | |
| | | | | 16-19': 20% granitic gravel. | 930 |
| | | 4 | 2.6 | | |
| | | | 1.0 | | |
| 20 | | | | End of Boring - 20 feet | 925 |
| 25 | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Remarks:
Background = 1.0 ppm

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018320

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951372.0 UTMN, 492247.3 UTME |

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 8/31/09 Ended 8/31/09

Logged By EJC

LOG OF Boring SOC5-GP8

SHEET 1 OF 1

Elevation 946.7

Total Depth 20

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Well Graded Sand (SW): yellowish brown (10YR 5/4), dry, (20/50/30). [Fill] | |
| | | 2.1 | | Silt (ML): brown (10YR 5/3), moist, (0/0/100). [Loess] | |
| | | 1 | | 1-1.5': Stained black, strong diesel-like odor. | 945 |
| | | 14.4 | | 1.5-4.5': Lessening black mottling, trace odor. No staining or odor below 4.5'. | |
| 5 | | 1.6 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, medium-grained. [Outwash] | |
| | | 2 | 2.1 | | 940 |
| | | | | 8-10': 40% gravel. | |
| 10 | | | 2.1 | | |
| | | | 1.6 | | 935 |
| | | 3 | 1.6 | | |
| 15 | | | 2.6 | | |
| | | 4 | 1.6 | | 930 |
| 20 | | | 1.6 | 20% gravel, granitic. | |
| | | | | End of Boring - 20 feet | |
| | | | | | 925 |
| 25 | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

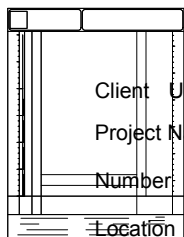


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Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1.6 ppm

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018321



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951326.9 UTMN, 492411.8 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/9/09 Ended 9/9/09

Logged By EJC

LOG OF Boring SOC5-GP9

SHEET 1 OF 2

Elevation 947.9

Total Depth 52

Screened Interval 37-52'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, roots. [Topsoil] | PRO. CASING Diameter: None | |
| | | 1 | 2.5 | | Type: None | |
| | | | 1.7 | Silt (ML): dark yellowish brown (10YR 4/4), moist. [Loess] | Interval: None | 945 |
| 5 | | | 1.7 | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] | RISER CASING Diameter: 1" | |
| | | 2 | 1.7 | | Type: PVC | |
| | | | 1.7 | | Interval: 0-37' | |
| 10 | | | 1.7 | | GROUT | |
| | | | 1.3 | | Type: None | 940 |
| | | | 1.3 | | Interval: None | |
| | | 3 | 1.3 | Less than one inch paleosol (?) at 12' bgs. 40% gravel. | SEAL | |
| | | | 1.3 | | Type: None | |
| 15 | | | 1.7 | | Interval: None | |
| | | 4 | 1.3 | | SANDPACK | |
| | | | 1.3 | | Type: None | 935 |
| | | | 1.3 | | Interval: None | |
| 20 | | | 1.3 | | SCREEN | |
| | | | 1.3 | | Diameter: 1" | |
| | | | 1.3 | | Type: 10 Slot, PVC | |
| | | | 1.3 | | Interval: 37-52' | 930 |
| | | | 1.3 | | BOREHOLE | |
| | | | 1.3 | | Diameter: 2" | |
| | | | 1.3 | Blind drilled from 20' to 52' bgs. | | |
| 25 | | | 1.3 | | | 925 |
| | | | 1.3 | | | 920 |

(continued)

Remarks:
Background = 2.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018322

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Fax: 952-832-2601

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951326.9 UTMN, 492411.8 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/9/09 Ended 9/9/09
 Logged By EJC

LOG OF Boring SOC5-GP9

SHEET 2 OF 2

Elevation 947.9
 Total Depth 52
 Screened Interval 37-52'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| 35 | | | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] <i>(continued)</i> | | 915 |
| 40 | | | | | | 910 |
| 45 | | | | 42-52': Till (clay on drilling rods). | | 905 |
| 50 | | | | Very hard from 50' to 52' bgs. | | 900 |
| 55 | | | | End of Boring - 52 feet | | 895 |
| | | | | | | 890 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

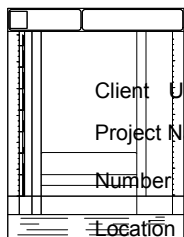


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 Fax: 952-832-2601

Remarks:
 Background = 2.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018323



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951195.0 UTMN, 492410.0 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/8/09 Ended 9/8/09

Logged By EJC

LOG OF Boring SOC5-GP10

SHEET 1 OF 3

Elevation 945.2

Total Depth 68

Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, roots. [Topsoil] | PRO. CASING Diameter: None | 945 |
| | | 1 | 0.2 | Silt (ML): dark yellowish brown (10YR 4/4), moist, cobbles at 2', grading to well graded sand (SW) over lower two inches. [Loess] | Type: None | |
| | | | 0.2 | | Interval: None | |
| 5 | | | 0 | Well Graded Sand with Silt (SW-SM): dark yellowish brown (10YR 4/4), moist, (5/85/10). [Outwash] | RISER CASING Diameter: 1" | 940 |
| | | 2 | 0 | Six inches of sandy silt at 6' bgs. | Type: PVC | |
| | | | 0 | Two inches of sandy silt at 7' bgs. | Interval: 0-58' | |
| | | | 0 | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (0/100/0), medium to coarse-grained. [Outwash] | GROUT Type: None | |
| | | | 0 | | Interval: None | |
| 10 | | 3 | 0 | | SEAL | 935 |
| | | | 0 | | Type: None | |
| | | | 0 | | Interval: None | |
| | | 4 | 0 | | SANDPACK Type: None | |
| | | | 0 | | Interval: None | |
| 15 | | | 0 | | SCREEN | 930 |
| | | | 0 | | Diameter: 1" | |
| | | | 0 | | Type: 10 Slot, PVC | |
| | | 5 | 0 | | Interval: 58-68' | |
| | | | 0 | | BOREHOLE | |
| | | | 0 | | Diameter: 2" | |
| 20 | | | 0 | Six inch zones of coarse-grained sand with up to 30% gravel spaced 1' to 4' apart. | | 925 |
| | | 6 | 0 | | | |
| | | | 0 | | | |
| 25 | | | 0 | | | 920 |
| | | 7 | 0 | | | |
| | | | 0 | | | |
| | | | 0 | | | |

(continued)

Remarks:
Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018324

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Fax: 952-832-2601

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951195.0 UTMN, 492410.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/8/09 Ended 9/8/09
 Logged By EJC

LOG OF Boring SOC5-GP10

SHEET 2 OF 3

Elevation 945.2
 Total Depth 68
 Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | 0 | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (0/100/0), medium to coarse-grained. [Outwash] <i>(continued)</i> | | 915 |
| | | | 0 | 32-34': Coarse-grained sand with 40% gravel. | | |
| 35 | | 9 | 0 | | | 910 |
| | | | 0 | | | |
| | | 10 | 0 | | | |
| 40 | | | 0 | | | 905 |
| | | | 0 | | | |
| | | 11 | 0 | 43-44': Cobbles and gravel with reddish oxidation staining. | | |
| | | | 0 | 44-54': 30% gravel. | | |
| 45 | | | 0 | | | 900 |
| | | 12 | | | | |
| | | | | | | |
| 50 | | 13 | | | | 895 |
| | | | | | | |
| | | 14 | | Cobbles. | | |
| 55 | | | | | | 890 |
| | | | | Cobbles. | | |
| | | 15 | | | | |

(continued)

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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UMP018325

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951195.0 UTMN, 492410.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/8/09 Ended 9/8/09
 Logged By EJC

LOG OF Boring SOC5-GP10

SHEET 3 OF 3

Elevation 945.2
 Total Depth 68
 Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| 65 | | 16 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (0/100/0), medium to coarse-grained. [Outwash] <i>(continued)</i> 60-64': Medium to coarse-grained. | | 885 |
| | | | | Wet | | |
| | | 17 | | | | 880 |
| | | | | End of Boring - 68 feet | | |
| 70 | | | | | | 875 |
| 75 | | | | | | 870 |
| 80 | | | | | | 865 |
| 85 | | | | | | 860 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018326

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951060.8 UTMN, 492409.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/8/09 Ended 9/8/09
 Logged By EJC

LOG OF Boring SOC5-GP11

SHEET 1 OF 3

Elevation 945.3
 Total Depth 68
 Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|--|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | PRO. CASING Diameter: None | 945 |
| | | 1 | 2.0 | | Type: None | |
| | | | 1.4 | Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100). [Loess] | Interval: None | |
| 5 | | | 1.4 | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] | RISER CASING Diameter: 1" | |
| | | 2 | | | Type: PVC | 940 |
| | | | 1.4 | | Interval: 0-58' | |
| | | | 1.4 | | GROUT Type: None | |
| | | | 1.4 | | Interval: None | |
| 10 | | 3 | | 10-22': No gravel. | SEAL | |
| | | | 1.4 | | Type: None | 935 |
| | | | 2 | | Interval: None | |
| | | 4 | | | SANDPACK Type: None | |
| | | | 2 | | Interval: None | |
| 15 | | | 2 | | SCREEN | |
| | | | 2 | | Diameter: 1" | 930 |
| | | | 2 | | Type: 10 Slot, PVC | |
| | | 5 | | | Interval: 58-68' | |
| | | | 1.4 | | BOREHOLE | |
| 20 | | | 1.4 | | Diameter: 2" | |
| | | 6 | | | | 925 |
| | | | 1.4 | | | |
| | | | 2 | | | |
| 25 | | 7 | | | | 920 |
| | | | 2 | | | |
| | | | 1.4 | | | |

(continued)

Remarks:
 Background = 2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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UMP018327

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951060.8 UTMN, 492409.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/8/09 Ended 9/8/09
 Logged By EJC

LOG OF Boring SOC5-GP11

SHEET 2 OF 3

Elevation 945.3
 Total Depth 68
 Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] <i>(continued)</i> | | 915 |
| | | | 1.4 | | | |
| | | | 1.4 | 32-38': 20% gravel. | | |
| | | 9 | | | | |
| 35 | | | 1.4 | | | 910 |
| | | | 1.4 | | | |
| | | 10 | | | | |
| | | | 1.4 | | | |
| 40 | | | | 40-46': 40% gravel. | | 905 |
| | | | 1.4 | | | |
| | | 11 | | | | |
| | | | 1.4 | | | |
| 45 | | | 1.4 | | | 900 |
| | | 12 | | | | |
| | | | | | | |
| 50 | | 13 | | 50-58': Greater than 50% gravel. | | 895 |
| | | | | | | |
| | | 14 | | Two inches of dark yellowish brown lean clay. | | |
| 55 | | | | | | 890 |
| | | | | Two inches of dark yellowish brown lean clay. | | |
| | | 15 | | | | |

(continued)

Remarks:
 Background = 2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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UMP018328

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951060.8 UTMN, 492409.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/8/09 Ended 9/8/09
 Logged By EJC

LOG OF Boring SOC5-GP11

SHEET 3 OF 3

Elevation 945.3
 Total Depth 68
 Screened Interval 58-68'

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | WELL OR PIEZOMETER CONSTRUCTION DETAIL AND DRILLING REMARKS | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|--|---------------|
| | | 16 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium to coarse-grained. [Outwash] <i>(continued)</i> 60-68': 80% gravel, wet. | | 885 |
| 65 | | 17 | | | | 880 |
| 70 | | | | End of Boring - 68 feet | | 875 |
| 75 | | | | | | 870 |
| 80 | | | | | | 865 |
| 85 | | | | | | 860 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018329

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951446.3 UTMN, 492359.7 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP12A

SHEET 1 OF 1

Elevation 939.3
 Total Depth 12
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil: dark brown (10YR 3/3), moist, (10/30/60). [Fill/Topsoil] | |
| | | 1 | | | |
| | | 1 | 0.6 | Organic-rich Clayey/Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| 5 | | 1 | | Silty Lean Clay (CL): dark yellowish brown (10YR 3/4), moist, (0/0/100). [Loess] | 935 |
| | | 2 | 0.6 | Clayey Sand (CL): dark yellowish brown (10YR 3/4), moist, (0/80/20). [Till] | |
| | | | 0.3 | | 930 |
| 10 | | 3 | 1 | | |
| | | | | End of Boring - 12 feet | |
| 15 | | | | | 925 |
| 20 | | | | | 920 |
| 25 | | | | | 915 |
| | | | | | 910 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018330

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951444.8 UTMN, 492359.6 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP12B

SHEET 1 OF 1

Elevation 939.4
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Soil (OL/ML): very dark grayish brown (10YR 3/2), moist, (10/30/60). [Fill/Topsoil] | |
| | | 1 | | | |
| | | 1 | | Organic-rich Silty/Clayey Soil (OL): black, (10YR 2/1), (0/0/100). [Topsoil] | |
| | | 1 | | | |
| 5 | | 0.6 | | Silty Lean Clay (CL): very dark grayish brown (10YR 3/2), moist, (0/0/100). [Loess] | 935 |
| | | | | End of Boring - 5 feet | |

10

930

15

925

920

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018331

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951448.1 UTMN, 492360.9 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP12C

SHEET 1 OF 1

Elevation 939.5
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil (ML): very dark grayish brown (10YR 3/2), moist, (10/30/60). [Fill/Topsoil] | |
| | | 1 | | Organic-rich Silty/Clayey Soil (OL): black, (10YR 2/1), (0/0/100). [Topsoil] | |
| 5 | | | | End of Boring - 5 feet | 935 |
| 10 | | | | | 930 |
| 15 | | | | | 925 |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

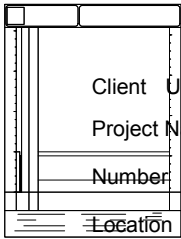


Barr Engineering Co.
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 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018332



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951447.0 UTMN, 492357.9 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/1/09 Ended 9/1/09

Logged By EJC

LOG OF Boring SOC5-GP12D

SHEET 1 OF 1

Elevation 939.5

Total Depth 5

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | | | Soil (ML): very dark grayish brown (10YR 3/2), moist, (10/30/60). [Fill/Topsoil] | |
| | | 1 | | Organic-rich Silty Soil (OL): black, (10YR 3/1), (0/0/100). [Topsoil] | |
| | | 1 | 1 | | |
| | | | 0.6 | Silty Lean Clay (CL): dark yellowish brown (10YR 3/4), moist, (0/0/100). [Loess] | 935 |
| | | | | End of Boring - 5 feet | |
| 10 | | | | | 930 |
| 15 | | | | | 925 |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

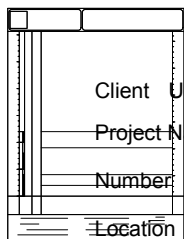


Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018333



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951425.7 UTMN, 492358.6 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/1/09 Ended 9/1/09

Logged By EJC

LOG OF Boring SOC5-GP13A

SHEET 1 OF 1

Elevation 938.8

Total Depth 12

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil/Fill: black (10YR 2/1), moist, 5/25/70. [Topsoil/Fill] | |
| | | 1 | 0.6 | Clayey/Silty Organic-rich Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| 5 | | | 0.6 | Clayey Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100), red oxidation mottling. [Loess] | 935 |
| | | 2 | 0.6 | | |
| 10 | | | 0.6 | Poorly Graded Sand (SP): yellowish brown (10RY 5/4), moist, (5/95/0). [Outwash] | 930 |
| | | 3 | | 10-12': 20% gravel. | |
| | | | | End of Boring - 12 feet | |
| 15 | | | | | 925 |
| | | | | | |
| 20 | | | | | 920 |
| | | | | | |
| 25 | | | | | 915 |
| | | | | | |
| | | | | | 910 |

SIMPLE ENVIRO LOG 5 23190B05 GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018334

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951425.4 UTMN, 492361.4 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP13B

SHEET 1 OF 1

Elevation 939.2
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Silty Soil (OL): dark grayish brown (10YR 4/2), moist, (5/10/85), roots. [Topsoil/Fill] | |
| | | | 0.6 | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/80/10). [Fill] | |
| | | | | Silty Organic-rich Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | 1 | | | |
| | | | 0.6 | Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/0/100). [Loess] | |
| 5 | | | 0.6 | End of Boring - 5 feet | 935 |
| 10 | | | | | 930 |
| 15 | | | | | 925 |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018335

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951427.2 UTMN, 492358.4 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP13C

SHEET 1 OF 1

Elevation 938.8
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil (OL/CL): very dark grayish brown (10YR 3/2), moist, (5/25/70). [Topsoil/Fill] | |
| | | 1 | | | |
| | | 1 | | Organic-rich Clayey/Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | 1 | | Clayey Silt (ML): brown (10YR 4/3), moist, (0/0/100). [Loess] | 935 |
| 5 | | 1 | | End of Boring - 5 feet | |
| 10 | | | | | 930 |
| 15 | | | | | 925 |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018336

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951425.0 UTMN, 492357.1 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP13D

SHEET 1 OF 1

Elevation 938.7
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil: dark grayish brown (10YR 3/2), moist, (5/30/65). [Topsoil/Fill] | |
| | | 1 | | | |
| | | 1 | | Organic-rich Clayey/Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | | 0.6 | | |
| | | | | Clayey Silt (CL): dark yellowish brown (10YR 3/4), moist, (0/0/100). [Loess] | 935 |
| 5 | | 1 | | End of Boring - 5 feet | |
| | | | | | 930 |
| 10 | | | | | |
| | | | | | 925 |
| 15 | | | | | |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05 GPJ BARRLOG6_28.GDT 10/22/09

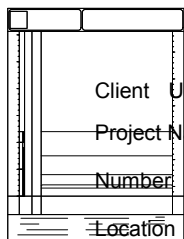


Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.0 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018337



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951460.2 UTMN, 492394.1 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/1/09 Ended 9/1/09

Logged By EJC

LOG OF Boring SOC5-GP14A

SHEET 1 OF 1

Elevation 946.8

Total Depth 12

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil (ML/OL): very dark grayish brown (10YR 3/2), moist, (5/0/85). [Fill] | |
| | | 1 | 1 | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | 945 |
| | | 1 | 1 | Silt (ML): yellowish brown (10YR 5/4), moist, (0/0/100). [Loess] | |
| 5 | | | 0.6 | Silty Sand (SM): yellowish brown (10YR 5/4), dry, (15/50/35), fine-grained. [Outwash] | |
| | | 2 | 1 | Well Graded Sand with Gravel (SW): light yellowish brown (10YR 6/4), dry (15/85/0), gravel well-rounded to subround. [Outwash] | 940 |
| 10 | | | 1 | | |
| | | 3 | 1.6 | Cobbles at 12' bgs. | 935 |
| | | | | End of Boring - 12 feet | |
| 15 | | | | | |
| | | | | | 930 |
| 20 | | | | | |
| | | | | | 925 |
| 25 | | | | | |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
4700 W 77th St. Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-832-2601

Remarks:
Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018338

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951460.3 UTMN, 492392.8 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP14B

SHEET 1 OF 1

Elevation 946.4
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | | | Soil (ML/OL): very dark grayish brown (10YR 5/2), moist, (5/10/85). [Fill/Topsoil] | |
| | | 1 | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | 945 |
| | | 1 | | Silt (ML): yellowish brown (10YR 5/4), moist, (0/0/100). [Loess] | |
| | | 1 | | | |
| | | 1.6 | | End of Boring - 5 feet | |
| 10 | | | | | 940 |
| 15 | | | | | 935 |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018339

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951460.7 UTMN, 492396.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP14C

SHEET 1 OF 1

Elevation 946.9
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Soil (ML/OL): very dark grayish brown (10YR 3/2), moist, (5/10/85). [Fill] | |
| | | 1 | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist. [Topsoil] | |
| | | 1 | | Silt (ML): yellowish brown (10YR 5/4), moist grading to dry. [Loess] | 945 |
| | | 1 | | | |
| 5 | | 1.6 | | End of Boring - 5 feet | |
| | | | | | 940 |
| 10 | | | | | |
| | | | | | 935 |
| 15 | | | | | |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018340

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951458.5 UTMN, 492395.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP14D

SHEET 1 OF 1

Elevation 946.9
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Soil (OL/ML): very dark grayish brown (10RY 3/2), moist, (10/20/70). [Topsoil/Fill] | |
| | | | 0 | | |
| | | | | Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | 945 |
| | | 1 | | Silt (ML): yellowish brown (10YR 5/4), moist, (0/0/100). [Loess] | |
| | | | 0 | | |
| 5 | | | 0.6 | Dry End of Boring - 5 feet | |
| | | | | | 940 |
| 10 | | | | | |
| | | | | | 935 |
| 15 | | | | | |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018341

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951454.1 UTMN, 492388.1 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP15

SHEET 1 OF 1

Elevation 950.0
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| 5 | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, (5/10/85). [Topsoil] Silty Sand (SM): dark brown (10YR 4/3), moist, (5/75/20). [Fill] | 945 |
| 10 | | 1 | 0.8 | | |
| 15 | | | 0 | End of Boring - 4 feet | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018342

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951447.6 UTMN, 492403.1 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP16

SHEET 1 OF 1

Elevation 949.6
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | 0 | | | |
| | | 1 | | Silt (ML): dark yellowish brown (10YR 3/4), moist, (0/0/100). [Loess] | |
| | | 0 | | | |
| | | | | End of Boring - 4 feet | 945 |

5

10

15

940

935

930

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018343

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951441.6 UTMN, 492390.9 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP17

SHEET 1 OF 1

Elevation 950.8
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark gray (10YR 3/1), moist, (5/0/95). [Topsoil/Fill] | 950 |
| | | 1 | 0 | | |
| 5 | | | 0 | Well Graded Sand (SW): brown (10YR 4/3), moist, (2/90/8). [Fill] End of Boring - 4 feet | 945 |
| 10 | | | | | 940 |
| 15 | | | | | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018344

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951323.0 UTMN, 492394.2 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP18

SHEET 1 OF 1

Elevation 951.7
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | 0 | | | |
| | | 1 | | | 950 |
| | | 0 | | Silt (ML): very dark grayish brown (10YR 3/2), dry. [Fill] | |
| | | | | End of Boring - 4 feet | |
| 5 | | | | | |
| | | | | | 945 |
| 10 | | | | | |
| | | | | | 940 |
| 15 | | | | | |
| | | | | | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.4 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018345

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951318.0 UTMN, 492402.8 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP19

SHEET 1 OF 1

Elevation 949.5
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | | | Poorly Graded Gravel (GP): dark brown (10YR 3/3), dry, subangular to subround, remains of a stock pile. Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | 945 |
| 10 | | 1 | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, (10/90/0), medium-grained, cobbles from 3.5' to 4'. [Outwash] | 940 |
| 15 | | | | End of Boring - 4 feet | 935 |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.4 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018346

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951307.5 UTMN, 492385.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP20

SHEET 1 OF 1

Elevation 951.2
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | | 0 | Silty Sand (SM): dark yellowish brown (10YR 4/4), moist, (5/65/30), fine-grained. [Fill] | 950 |
| | | 1 | | | |
| | | | 0 | | |
| | | | | End of Boring - 4 feet | |
| 10 | | | | | 945 |
| 15 | | | | | 940 |
| | | | | | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 1.4 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018347

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951189.0 UTMN, 492389.9 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP21

SHEET 1 OF 1

Elevation 950.4
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark gray (10YR 3/1), moist, (0/0/100). [Topsoil] | 950 |
| | | | 0 | Sandy Silt (ML): dark yellowish brown (10YR 4/4), moist, (10/20/70), with cobbles. [Fill] | |
| | | 1 | | | |
| | | | 0.2 | | |
| | | | | End of Boring - 4 feet | |
| 5 | | | | | 945 |
| 10 | | | | | 940 |
| 15 | | | | | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09

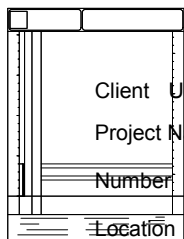


Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018348



Client University of Minnesota

Project Name UMA SSI/RI

Number 23/19-0B05

Location 4951182.5 UTMN, 492403.9 UTME

Drill Contractor Matrix Environmental LLC

Drill Method Geoprobe

Drilling Started 9/3/09 Ended 9/3/09

Logged By EJC

LOG OF Boring SOC5-GP22

SHEET 1 OF 1

Elevation 947.7

Total Depth 4

Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| 5 | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | |
| | | 1 | 0.2 | Sandy Silt (ML): brown (10YR 4/3), dry, (0/30/70). [Fill] | |
| | | 0 | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/0/100). [Topsoil] | 945 |
| | | | | Silt (ML): dark grayish brown (10YR 4/2), moist. [Loess] | |
| | | | | End of Boring - 4 feet | |
| 10 | | | | | 940 |
| 15 | | | | | 935 |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Fax: 952-832-2601

Remarks:
Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
Additional data may have been collected in the field which is not included on this log.

UMP018349

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951176.0 UTMN, 492391.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP23

SHEET 1 OF 1

Elevation 949.3
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark grayish brown (10YR 3/2), moist, (0/20/80), decreasing sand and organics with depth. [Topsoil/Fill] | |
| | | 1 | 0 | Two inches of yellowish brown lean clay at 2' bgs. | |
| | | | 0 | | |
| 5 | | | | End of Boring - 4 feet | 945 |

10

940

15

935

930

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.2 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018350

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951057.2 UTMN, 492383.7 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP24

SHEET 1 OF 1

Elevation 945.6
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| 5 | | | 0.8 | Organic-rich Sandy Soil (OL): very dark grayish brown, moist, (0/60/40). [Topsoil] Well Graded Sand (SW): brown (10YR 4/3), moist, (20/80/0). Two inches of yellowish brown lean clay at 0.75'. [Fill] | 945 |
| | | 1 | 0.8 | Probably pulverized red brick at 2.5'. Gravel: light yellowish brown (10YR 6/4), dry, (70/30/0), possibly old concrete. Poorly Graded Sand (SP): yellowish brown (10YR 5/4), moist, medium-grained. [Outwash] | |
| | | | | End of Boring - 4 feet | |
| 10 | | | | | 940 |
| 15 | | | | | 935 |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.8 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018351

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951051.5 UTMN, 492400.8 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP25

SHEET 1 OF 1

Elevation 946.3
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | | | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/10/90). [Topsoil/Fill] 0.25-1': Shiny, brittle, black fragments about 1 mm in diameter. | |
| | | 0.2 | | Well Graded Sand (SW): yellowish brown (10YR 5/4), moist, (15/85/0). [Fill] | 945 |
| | | 1 | | | |
| | | 0 | | Gravel: light yellowish brown (10YR 6/4), dry, (70/20/10), possibly old concrete. | |
| | | | | End of Boring - 4 feet | |
| 10 | | | | | 940 |
| 15 | | | | | 935 |
| | | | | | 930 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 0.8 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018352

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951044.6 UTMN, 492389.2 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/3/09 Ended 9/3/09
 Logged By EJC

LOG OF Boring SOC5-GP26

SHEET 1 OF 1

Elevation 952.0
 Total Depth 4
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| 5 | | 1 | 0.8 | Organic-rich Silty Soil (OL): black (10YR 2/1), moist, (0/20/80). [Topsoil/Fill] | 950 |
| | | 0 | | Sand lens at 3' bgs. 30% gravel in upper six inches. | |
| | | | | End of Boring - 4 feet | |
| 10 | | | | | 945 |
| 15 | | | | | 940 |
| | | | | | 935 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 0.8 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018353

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951429.9 UTMN, 492375.5 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP27A

SHEET 1 OF 1

Elevation 943.2
 Total Depth 12
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Soil (OL): dark yellowish brown (10YR 3/4), moist, (5/15/80), abundant roots. [Topsoil/Fill] | |
| | | | 1 | Clayey Silt with Gravel (CL): dark yellowish brown (10RY 4/4), moist, (5/0/95). [Fill] | |
| | | 1 | 1 | Sand with Gravel (SP): yellowish brown (10YR 5/4), moist, (10/90/0), abundant granitic clasts, medium to coarse-grained. [Outwash] | 940 |
| 5 | | 1 | 1 | 5-6': 20% gravels and cobbles. | |
| | | 2 | 1 | 8-10': Medium-grained. | 935 |
| 10 | | 3 | 1 | 11-12': 30% gravel. | |
| | | | | End of Boring - 12 feet | 930 |
| 15 | | | | | 925 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 1 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018354

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951428.9 UTMN, 492377.6 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP27B

SHEET 1 OF 1

Elevation 943.9
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Silty Soil (OL): very dark grayish brown (10YR 3/2), moist, (0/0/100), roots. [Topsoil] | |
| | | | 0.6 | Clayey Silt with Gravel (CL): yellowish brown (10YR 5/6), moist, (5/0/95), oxidation mottling. | |
| | | 1 | | | |
| | | | 1 | Silt (ML): dark yellowish brown (10YR 5/4), dry, (0/0/100). [Loess] | |
| | | | | Poorly Graded Sand (SP): dark yellowish brown (10YR 5/4), dry, (5/95/0), medium to coarse-grained. [Outwash] | 940 |
| 5 | | | 0.6 | End of Boring - 5 feet | |
| | | | | | 935 |
| 10 | | | | | |
| | | | | | 930 |
| 15 | | | | | |
| | | | | | 925 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018355

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951431.6 UTMN, 492374.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP27C

SHEET 1 OF 1

Elevation 943.2
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Silty Soil (OL): dark brown (10YR 3/3), moist, (0/5/95), roots. [Topsoil] | |
| | | | 0.6 | Clayey Silt (ML): dark yellowish brown (10YR 5/4), moist, (5/10/85). [Fill] | |
| | | | | Organic-rich Silty Soil (OL): very dark brown (10YR 2/2), moist, (0/0/100). [Topsoil] | |
| | | | | Silt (ML): dark brown (10YR 4/4), moist, (0/0/100). [Loess] | |
| | | 1 | | Poorly Graded Sand (SP): dark yellowish brown (10YR 4/4), moist, (5/95/0), medium to coarse-grained. [Outwash] | |
| | | | 0.6 | | 940 |
| 5 | | | 0.6 | End of Boring - 5 feet | |

935

10

930

15

925

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018356

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951428.2 UTMN, 492373.9 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/1/09 Ended 9/1/09
 Logged By EJC

LOG OF Boring SOC5-GP27D

SHEET 1 OF 1

Elevation 943.3
 Total Depth 5
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|--|---------------|
| | | | | Organic-rich Silty Soil (OL): very dark grayish brown (10YR 3/2), moist, (5/10/85). [Fill] | |
| | | | 0.6 | Clayey Silt (ML): dark yellowish brown (10YR 4/4), moist, (0/10/90). [Fill] | |
| | | | | Organic-rich Silty Soil (OL): very dark grayish brown (10YR 3/2), (0/0/100). [Topsoil] | |
| | | | | Silt (ML): dark yellowish brown (10YR 3/4), (0/0/100). [Loess] | |
| | | 1 | 0.6 | Poorly Graded Sand (SP): dark yellowish brown (10YR 5/4), moist, medium to coarse-grained. [Outwash] | 940 |
| 5 | | | 0.6 | End of Boring - 5 feet | |
| 10 | | | | | 935 |
| 15 | | | | | 930 |
| | | | | | 925 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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 Fax: 952-832-2601

Remarks:
 Background = 0.6 ppm. No unusual odor or discoloration observed.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018357

| | |
|--------------|-------------------------------|
| Client | University of Minnesota |
| Project Name | UMA SSI/RI |
| Number | 23/19-0B05 |
| Location | 4951327.8 UTMN, 492329.0 UTME |

Drill Contractor Matrix Environmental LLC
 Drill Method Geoprobe
 Drilling Started 9/2/09 Ended 9/2/09
 Logged By EJC

LOG OF Boring SOC5-GP28

SHEET 1 OF 1

Elevation 947.2
 Total Depth 20
 Screened Interval NA

| DEPTH FEET | SAMP. LENGTH & RECOVERY | SAMP. NUMBER | Headspace ppm | DESCRIPTION | ELEV. FEET |
|---------------|----------------------------|--------------|------------------|---|---------------|
| | | | | Well Graded Sand (SW): yellowish brown (10YR 5/4), moist, (5/95/0), subrounded. [Fill] | |
| | | 1 | 0.8 | | 945 |
| 5 | | | 0.8 | | |
| | | 2 | 0.2 | | 940 |
| | | | 0.2 | Two inches of dark grayish brown lean clay at 9' bgs. | |
| 10 | | | | Poorly Graded Sand (SP): yellowish brown (10YR 5/4), (0/100/0), medium-grained. [Outwash] | |
| | | 3 | 0 | | 935 |
| 15 | | | 0.8 | | |
| | | 4 | 0.2 | | 930 |
| | | | 0 | | |
| 20 | | | | End of Boring - 20 feet | |
| | | | | | 925 |
| 25 | | | | | |
| | | | | | 920 |

SIMPLE ENVIRO LOG 5 23190B05.GPJ BARRLOG6_28.GDT 10/22/09



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Remarks:
 Background = 0.8 ppm.

BGS = "below ground surface"
 Additional data may have been collected in the field which is not included on this log.

UMP018358

UMP018359

Project Name: UMore Park

Client: University of Minnesota

Number: 23190B05.07

Location: SOC4

Contractor: Stevens Drilling and Environmental Services, Inc.

Log of Test Pit No. SOC4-TT2

Elevation: 943.279 - 945.653' MSL

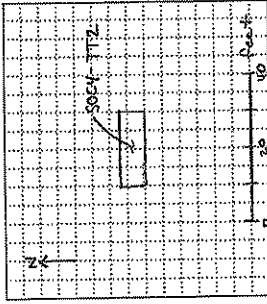
Total Depth: 19 feet

Date Started: 9/17/09

Ended: 9/17/09

Logged By: KCB

Map View



BARR
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Fax: 952-862-2601

Project Name: UMore Park

Client: University of Minnesota

Number: 23190B05.07

Location: SOC4

Contractor: Stevens Drilling and Environmental Services, Inc.

Log of Test Pit No. SOC4 - TT5

Elevation: 937.969 - 938.551' MSL

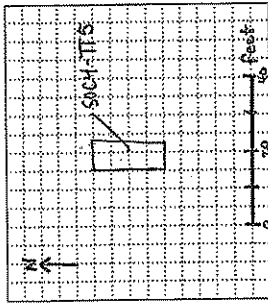
Total Depth: 10 feet

Date Started: 9/18/09

Ended: 9/18/09

Logged By: KLB

Map View



Remarks:

No analytical soil
Samples were collected
from test trench
SOC4-TT5

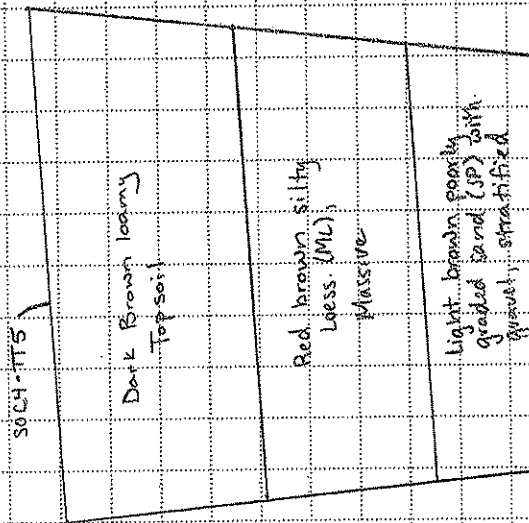
Figure

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BARR

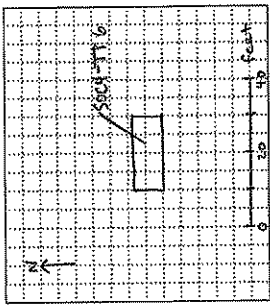
DESCRIPTION

| Sample Length & Recovery | OVM Reading (gpm) | Odor | Discoloration | Depth (feet) |
|-----------------------------|----------------------|------|---------------|-----------------|
| SOC4-TT5 0.0 | None | None | None | 1 |
| SOC4-TT5 0.0 | None | None | None | 6 |





LENGTH (feet)

ELEVATION (feet MSL)

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| Project Name: UMore Park | | Log of Test Pit No. SOC4-TT6 | | | | Map View  | |
| Client: University of Minnesota | | Elevation: 936.828 - 937.220' MSL | | | | Total Depth: 20 feet | |
| Number: 23190B05.07 | | Date Started: 9/10/09 | | | | Ended: 9/10/09 | |
| Location: SOC4 | | Logged By: KCB | | | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | | | | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|---|----------------------|
| SOC4-TT6-0.5 | 0.0 | None | None | 0.5 | SOC4-TT6 Dark brown foamy topsoil | 936 |
| SOC4-TT6 | 0.0 | None | None | 6 | Red brown silty loess (ML) massive | 934 |
| | | | | | Light brown poorly graded sand (SP) with gravel, stratified | 930 |
| | | | | | | 926 |
| | | | | | | 922 |
| | | | | | | 918 |
| | | | | | | 914 |





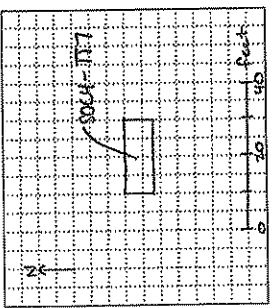
Remarks:

- Collected soil sample SOC4-TT6-0.5' from Test trench SOC4-TT6

⊗ = Approximate Sample Location

Figure

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 Telephone: 952-832-2600
 Fax: 952-862-2601

| | | | | | |
|---|--|-------------------------------------|--|---|--|
| Project Name: UMore Park | | Log of Test Pit No. SOC4-TT7 | |  | |
| Client: University of Minnesota | | | | | |
| Number: 23190B05.07 | | Elevation: 943.414 ~ 943.425' MSL | | | |
| Location: SOC4 | | Total Depth: 6 feet | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Date Started: 9/18/09 | | | |
| | | Ended: 9/18/09 | | | |
| | | Logged By: KCB | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|--|
| SOC4-TT7 | 0.0 | None | None | 2 | <div style="border: 1px solid black; padding: 10px; margin: 10px;"> <p style="text-align: center;">SOC4-TT7</p> <p>Dark brown loamy topsoil</p> <p>Red brown silty loess (ML), massive</p> <p>Light brown poorly graded sand (SP) with gravel, stratified</p> </div> |

Remarks:

- No analytical soil
- Samples were collected from test trench SOC4-TT7

ELEVATION (feet MSL)

944

942

940

938

936

934

LENGTH (feet)

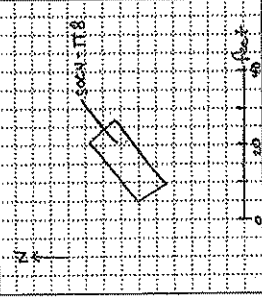
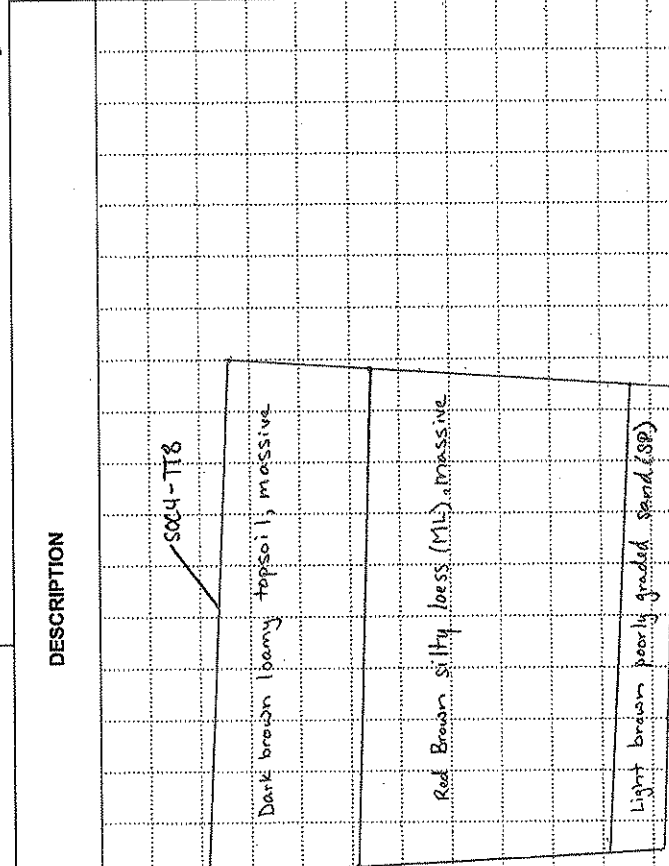
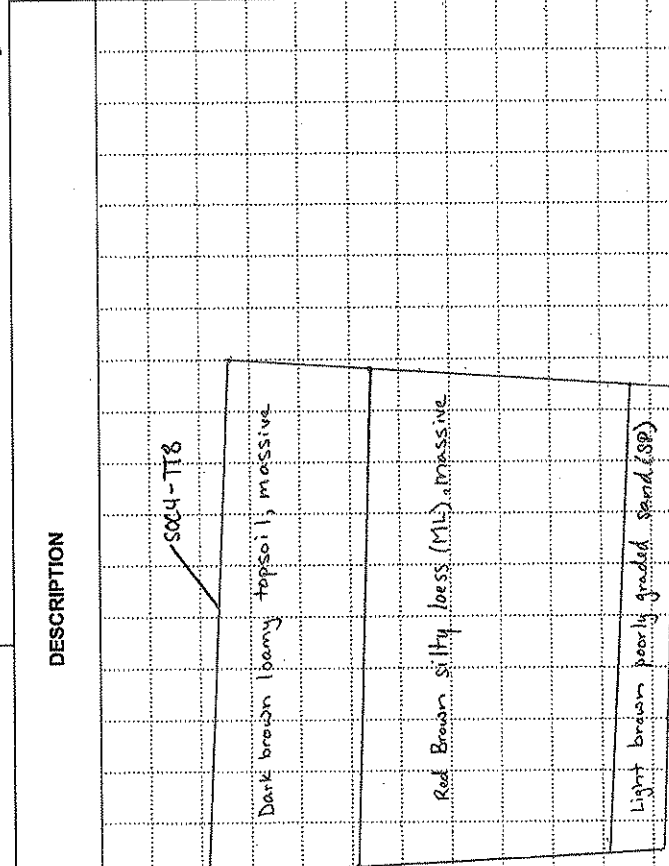
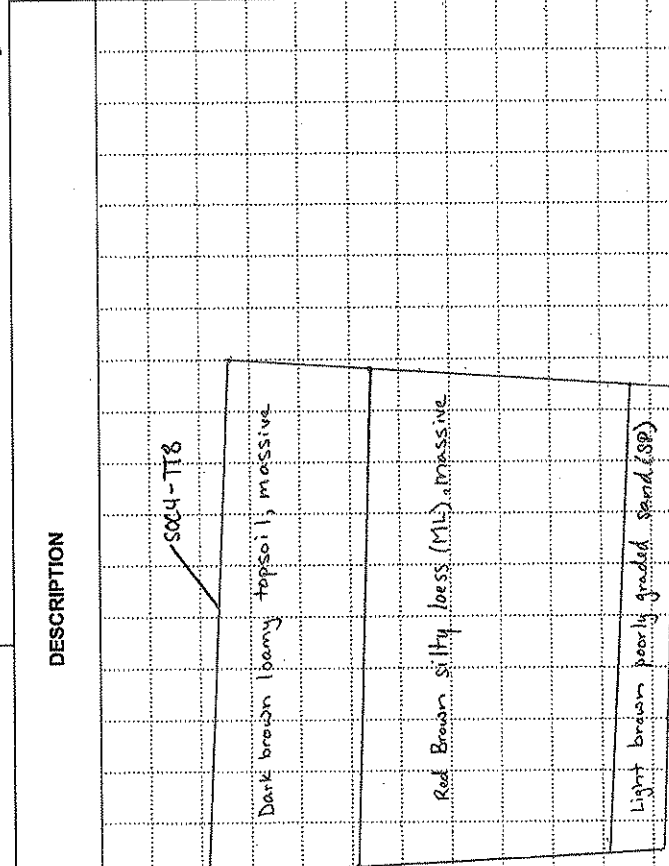
0 4 8 12 16 20

Figure

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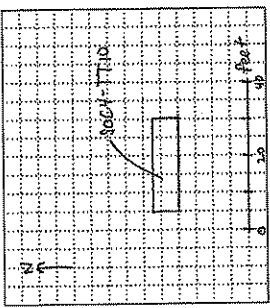
BARR

TEST PIT LOG PAGE 2382884.GPJ BARR LOG.GPJ 09/18/09

| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOC4 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC4-TT8 Elevation: 942.406 - 942.875' MSL Date Started: 9/17/09 Total Depth: 9 feet Ended: 9/17/09 Logged By: KLB | | Map View  | | Remarks: • No analytical soil samples were collected from test trench SOC4-TT8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|------|--|------|--|-------------------|--|--|--|--|------|--|--|--|--|---------------|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|-------------|---------------|----------------------|---|---|---|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Sample Length</td> <td style="width: 20%;">0.5</td> <td style="width: 20%;">None</td> <td style="width: 20%;">None</td> <td style="width: 20%;">5</td> </tr> <tr> <td>OVM Reading (ppm)</td> <td colspan="4"></td> </tr> <tr> <td>Odor</td> <td colspan="4"></td> </tr> <tr> <td>Discoloration</td> <td colspan="4"></td> </tr> <tr> <td>Depth (feet)</td> <td colspan="4"></td> </tr> </table> | | Sample Length | 0.5 | None | None | 5 | OVM Reading (ppm) | | | | | Odor | | | | | Discoloration | | | | | Depth (feet) | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">DESCRIPTION</th> <th style="width: 20%;">LENGTH (feet)</th> <th style="width: 50%;">ELEVATION (feet MSL)</th> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;"> 0 4 8 12 16 20 </td> <td style="text-align: center;"> 944 942 940 938 936 934 932 </td> </tr> </table> | | | | | DESCRIPTION | LENGTH (feet) | ELEVATION (feet MSL) |  | 0 4 8 12 16 20 | 944 942 940 938 936 934 932 |
| Sample Length | 0.5 | None | None | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OVM Reading (ppm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Odor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Discoloration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Depth (feet) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESCRIPTION | LENGTH (feet) | ELEVATION (feet MSL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 0 4 8 12 16 20 | 944 942 940 938 936 934 932 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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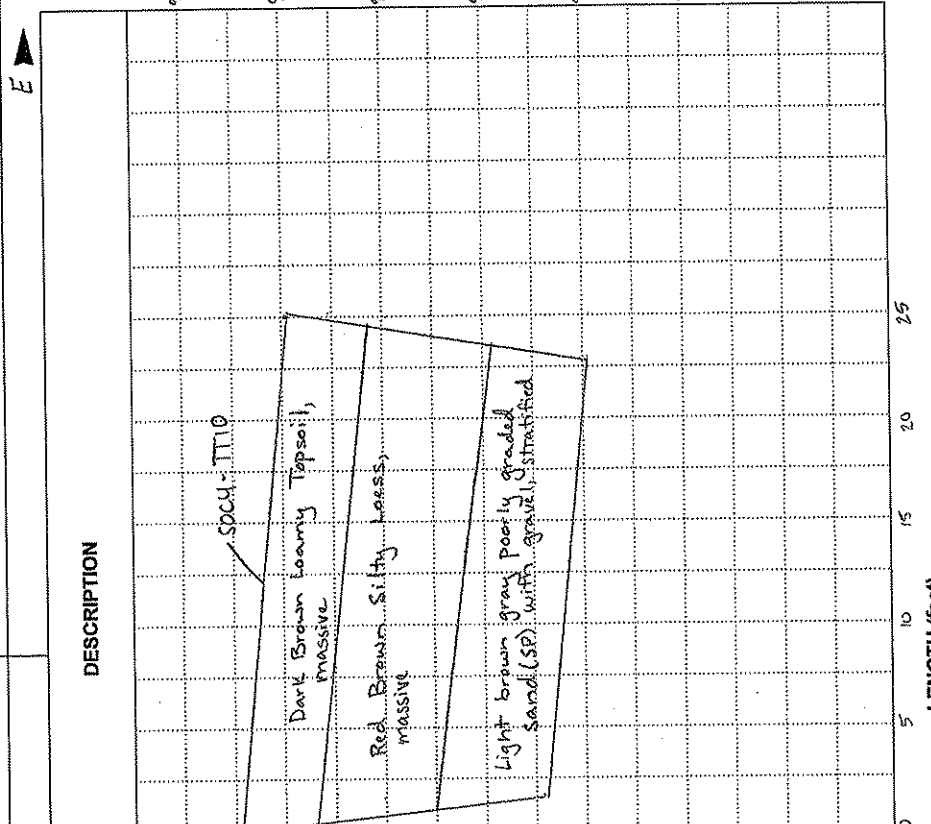
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOC4 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC4-TT9 Elevation: 943.556-944.417' MSL Total Depth: 6 feet Date Started: 7/10/09 Ended: 7/10/09 Logged By: KLB | | | | | | | | | | | |
|---|------------------|---|------------------|--------------|---------------|--------------|-------------|-----|------|------|---|---|--|
| <table border="1"> <thead> <tr> <th>Sample Length & Recovery</th> <th>OD Reading (ppm)</th> <th>Odor</th> <th>Discoloration</th> <th>Depth (feet)</th> </tr> </thead> <tbody> <tr> <td>SOC4-TT9-6'</td> <td>0.0</td> <td>None</td> <td>None</td> <td>6</td> </tr> </tbody> </table> | | Sample Length & Recovery | OD Reading (ppm) | Odor | Discoloration | Depth (feet) | SOC4-TT9-6' | 0.0 | None | None | 6 | <div style="text-align: right;">E</div> | |
| Sample Length & Recovery | OD Reading (ppm) | Odor | Discoloration | Depth (feet) | | | | | | | | | |
| SOC4-TT9-6' | 0.0 | None | None | 6 | | | | | | | | | |
| Map View | | Remarks: * Sample SOC4-TT9-6' collected from test trench SOC4-TT9 | | | | | | | | | | | |
| | | ⊗ = Approximate Sample Location | | | | | | | | | | | |
| | | Figure | | | | | | | | | | | |
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| | | | | | |
|--|--|--|--|--|--|
| Project Name: UMore Park | | Log of Test Pit No. SOC4-TT10 | | Map View  | |
| Client: University of Minnesota | | Elevation: 941.720 - 942.884' MSL | | Total Depth: 6 feet | |
| Number: 23190B05.07 | | Date Started: 9/17/09 | | Ended: 9/17/09 | |
| Location: SOC4 | | Logged By: KCB | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|----------------------|
| SOC4-TT10 | 0.0 | None | | 5 | <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Dark Brown Loamy Topsoil, massive Red Brown Silty Loess, massive Light brown gray poorly graded sand (SP) with gravel, stratified </div> | 934 |
| | | | | | | 936 |
| | | | | | | 938 |
| | | | | | | 940 |
| | | | | | | 942 |
| | | | | | | 944 |

Remarks:

No analytical soil samples were collected from test trench SOC4-TT10



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Project Name: Umore Park

Client: University of Minnesota

Number: 23190B05.07

Location: SOC4

Contractor: Stevens Drilling and Environmental Services, Inc.

Log of Test Pit No. SOC4-TT11

Elevation: 936.826-937.378' MSL

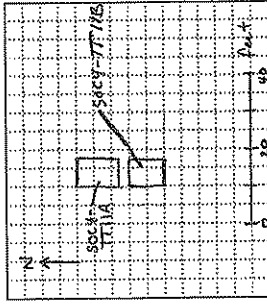
Total Depth: 9 feet

Date Started: 9/17/09

Ended: 9/17/09

Logged By: KCB

Map View

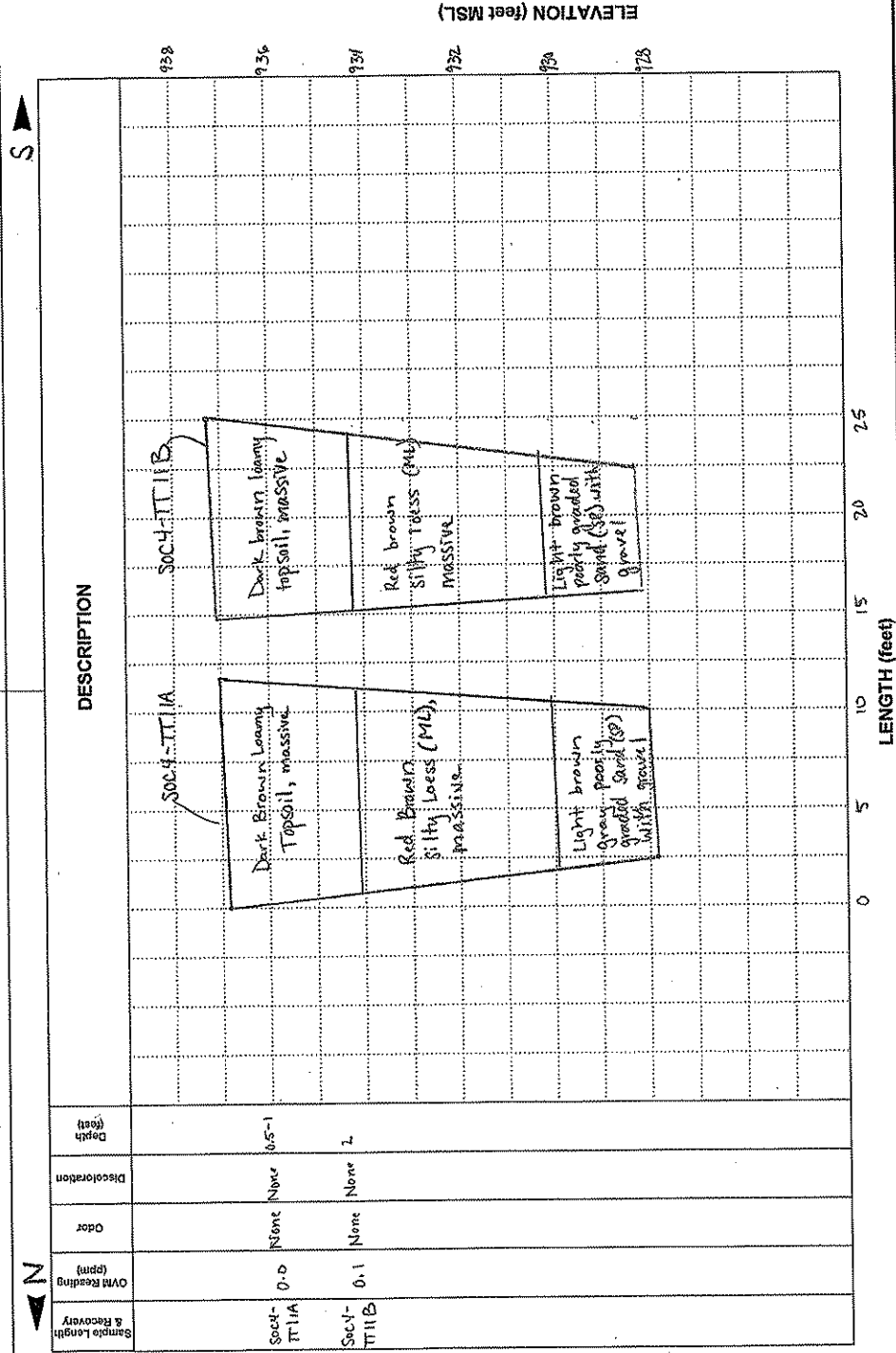


Remarks:

No analytical soil sample was collected from test trench SOC4-TT11

Figure

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Project Name: UMore Park

Log of Test Pit No. SOC4-TT 13

Client: University of Minnesota

Number: 23190B05.07

Location: SOC4

Contractor: Stevens Drilling and Environmental Services, Inc.

Elevation: 935.878 - 936.072' MSL

Total Depth: 5 feet

Date Started: 9/17/09

Ended: 9/17/09

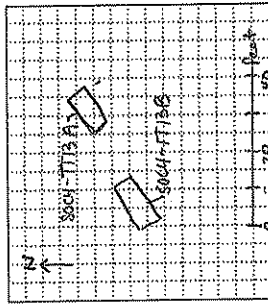
Logged By: KLB

NE

SW

| Sample Length & Recovery | QVM Reading (gpm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) | LENGTH (feet) |
|--------------------------|-------------------|------|---------------|--------------|---|--|---------------|
| Soc4-TT13A | 6.0 | None | None | 1 | <p>Soc4-TT13B</p> <p>Brown fine grained silty sandy sand (SP), cobbles present at surface</p> <p>Light brown poorly graded sand (SP) with gravel stratified</p> | 938 | 0 |
| Soc4-TT13B | 6.0 | None | None | 4 | <p>Soc4-TT13A</p> <p>Brown fine grained silty sandy sand (SP), cobbles present at surface</p> <p>Light brown poorly graded sand (SP) with gravel stratified</p> | 938 936 934 932 930 928 | 40 |

Map View



Remarks:

- No analytical soil samples were collected from test trench SOC4-TT13

Figure

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| | | | | | |
|--|--|--|--|--|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190E05.07 Location: SOC4 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC4-TT15 Elevation: 934.207-934.670' MSL Date Started: 9/17/09 Logged By: KLB Total Depth: 5 feet Ended: 9/17/09 | | <div style="text-align: center;"> </div> | |
| Remarks: • No analytical soil samples were collected from test trench SOC4-TT15 | | | | | |
| | | | | | |

| Sample Length & Recovery | QVH Reading (ppm) | Odor | Discoloration | Depth (feet) | Description | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|--|
| SOC4-TT15A | 0.0 | None | None | 2 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Brown silty sand (SM) Red brown silty loess (ML), massive Light brown poorly graded sand (SP), Stratified </div> <div style="border: 1px solid black; padding: 5px;"> Brown silty sand (SM) Light brown poorly graded sand (SP), bedded </div> | 936 934 932 930 928 926 |
| SOC4-TT15B | 0.0 | None | None | 4 | | |

SW
NE

0
5
10
15
20
25
30
35

LENGTH (feet)

TEST PIT LOG PAGE 238284.GPJ BARR-09-09T BRISB

| | | | | | | | |
|--|--|--|--|-----------------|--|----------------------------|--|
| Project Name: UMore Park | | Log of Test Pit No. SOC4-TT16 | | Map View | | | |
| Client: University of Minnesota | | | | | | | |
| Number: 23190B05.07 | | Elevation: 942.184 - 943.273' MSL | | | | Total Depth: 5 feet | |
| Location: SOC4 | | Date Started: 9/18/09 | | | | Ended: 9/18/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Logged By: KCB | | | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|--|
| SOC4-TT16B | 0.0 | None | None | 3 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> SOC4-TT16B Brown silty sand (SM) Light brown poorly graded sand (SP) with gravel, stratified </div> <div style="border: 1px solid black; padding: 5px;"> SOC4-TT16A Brown silty sand (SM) Light brown poorly graded sand (SP) with gravel, stratified </div> | 944 942 940 938 936 934 |
| SOC4-TT16A | None | None | None | 5 | | |

Remarks:

- Test trench SOC4-TT16 added based on field observations (discolored soil, vegetative stress)
- No analytical soil
- Samples were collected from test trench SOC4-TT16

Figure

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Project Name: UMore Park

Client: University of Minnesota

Number: 23190B05.07

Location: SOC 5

Contractor: Stevens Drilling and Environmental Services, Inc.

Log of Test Pit No. SOC5-TT1

Elevation: 949.540-949.758' MSL

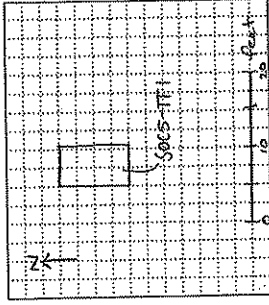
Total Depth: 5 feet

Date Started: 7/3/09

Ended: 9/3/09

Logged By: KCB

Map View



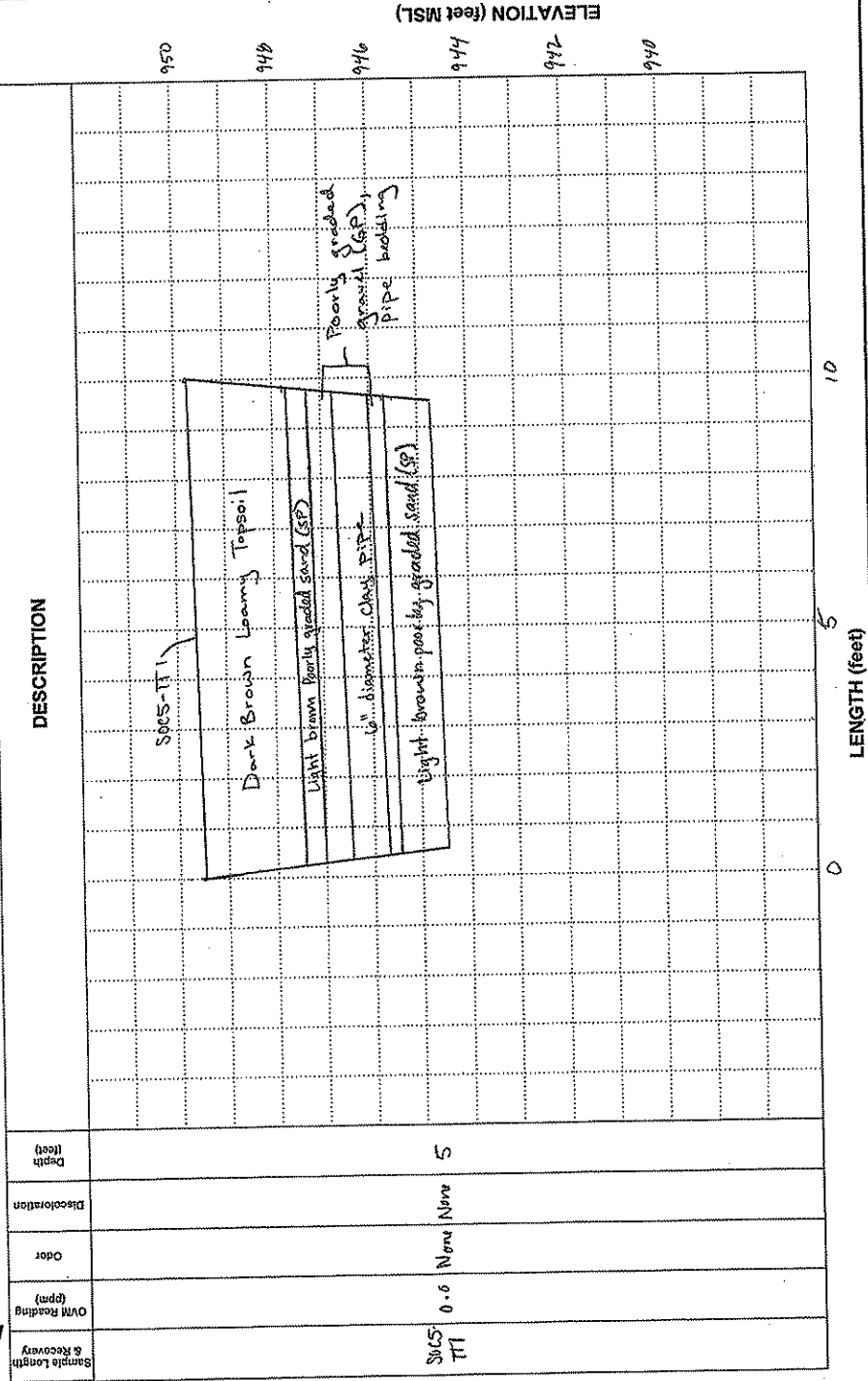
Remarks:

No analytical soil sample was collected from test trench SOC5-TT1

Figure

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DESCRIPTION



LENGTH (feet)

10

0

5

10

ELEVATION (feet MSL)

950

948

946

944

942

940

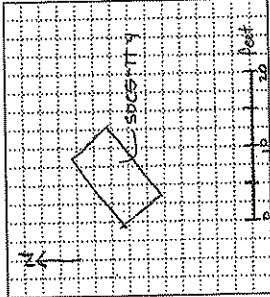
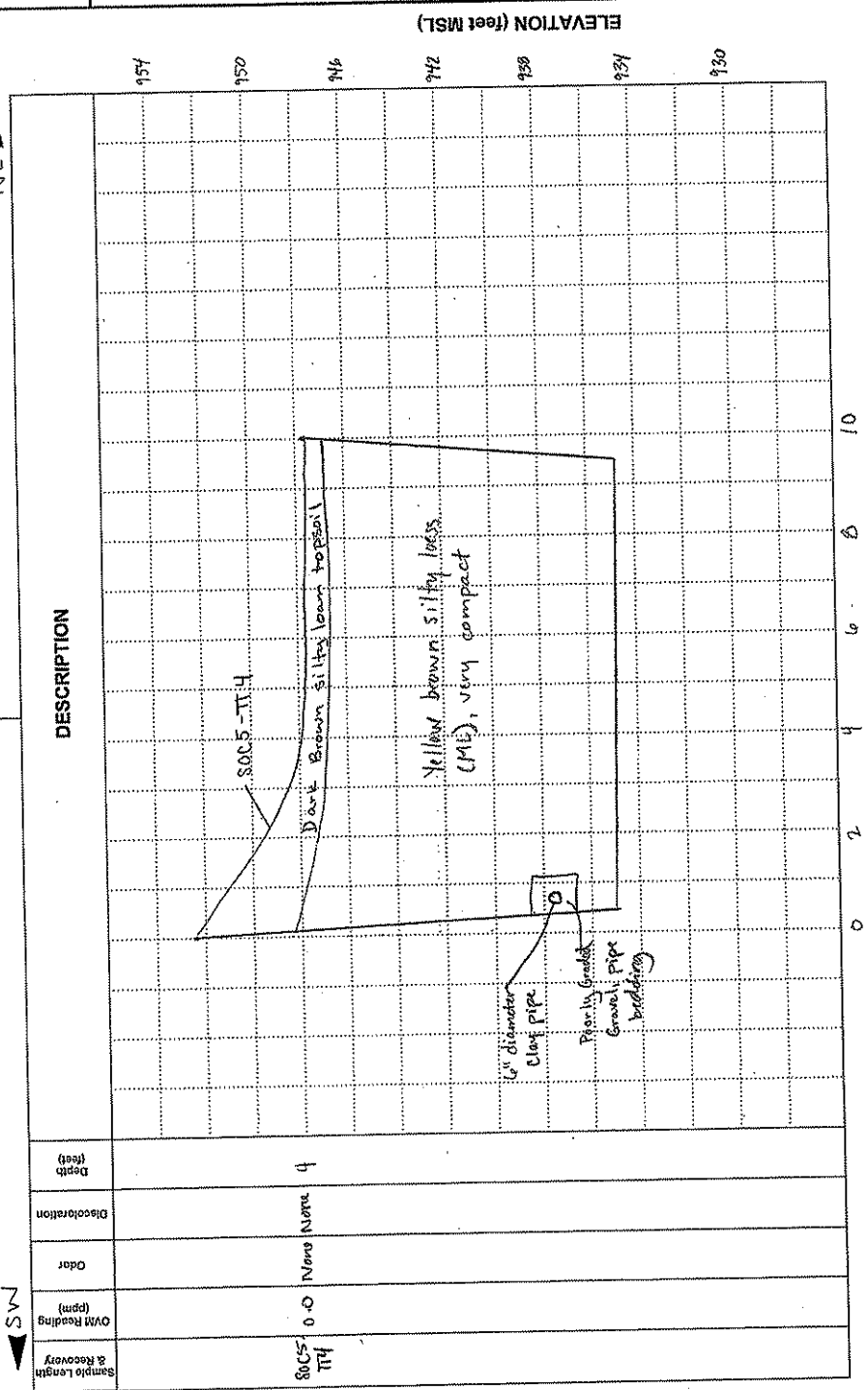
| | | | | | |
|--|--|--|--|---------------------|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS-TT2 Elevation: 948.159-952.687 MSL Total Depth: 8 feet Date Started: 9/3/09 Ended: 9/3/09 Logged By: KCB | | Map View | |
| Remarks: • Analytical soil sample SOCS-TT2-3' was collected from test trench SOCS-TT2 | | | | | |
| Approximate sample Location Figure | | | | | |
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| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | Description | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|---|----------------------|
| SOCS-TT2-3' | 0.0 | None | None | 3 | Light brown poorly graded sand (SP) with gravel | 942 |
| | | | | | 6" diameter clay pipe | 944 |
| | | | | | Yellow brown silty loess (ML), massive | 946 |
| | | | | | Dark brown silty loam topsoil | 948 |
| | | | | | Yellow Brown silty loess (ML) with gravel | 950 |
| | | | | | SOCS-TT2 | 952 |
| | | | | | | 954 |

LENGTH (feet)
 0 5 10 15

| | | | | | |
|--|--|---|--|--|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS-TT3 Elevation: 942.107 - 942.361' MSL Total Depth: 7 feet Date Started: 9/1/09 Ended: 9/1/09 Logged By: KCB | | <div style="text-align: center;"> </div> | |
| Remarks: • No analytical soil sample collected at test trench SOCS-TT3 | | | | | |
| | | | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) | LENGTH (feet) |
|--------------------------|-------------------|------|---------------|--------------|---|----------------------|---------------|
| SOCS-TT3B | 0.0 | None | None | 2 | Dark brown loamy topsoil | 944 | 0 |
| | | | | | Red brown silty loess (ML) | 942 | 5 |
| | | | | | Light brown poorly graded sand (SP) with gravel | 940 | 10 |
| SOCS-TT3A | 0.0 | None | None | 6 | Dark brown silt to silty sand | 938 | 20 |
| | | | | | Red brown silty loess (ML) | 936 | 25 |
| | | | | | Light brown poorly graded sand (SP) with gravel | 934 | 30 |
| | | | | | Poorly graded gravel with silt | 932 | 30 |

| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS-TT4 <div style="display: flex; justify-content: space-between;"> <div> Elevation: 147.502-952.322 Date Started: 9/3/09 Logged By: KCB </div> <div> Total Depth: 14 feet Ended: 9/3/09 </div> </div> | | <div style="text-align: center;">  <p>Map View</p> </div> <div style="margin-top: 20px;"> <p>Remarks:</p> <ul style="list-style-type: none"> No analytical soil samples were collected from test trench SOCS-TT4 </div> | | | | | | | | | | |
|---|-------------------|--|-------------------|---|---------------|--------------|----------|-----|------|------|---|--|--|--|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Sample Length & Recovery</th> <th style="width: 20%;">OVM Reading (ppm)</th> <th style="width: 20%;">Odor</th> <th style="width: 20%;">Discoloration</th> <th style="width: 20%;">Depth (feet)</th> </tr> </thead> <tbody> <tr> <td>SOCS TT4</td> <td>0-0</td> <td>None</td> <td>None</td> <td>4</td> </tr> </tbody> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | SOCS TT4 | 0-0 | None | None | 4 | <div style="display: flex; align-items: center;"> <div style="width: 20%; text-align: center;"> <p>SW</p> <p>NE</p> </div> <div style="width: 80%;">  </div> </div> | | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | | | | | | | | | | |
| SOCS TT4 | 0-0 | None | None | 4 | | | | | | | | | | |

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Project Name: UMore Park

Log of Test Pit No. SOC5-TT5

Client: University of Minnesota

Number: 23190B05.07

Location: SOC5

Contractor: Stevens Drilling and Environmental Services, Inc.

Elevation: 943.476 - 947.140' MSL

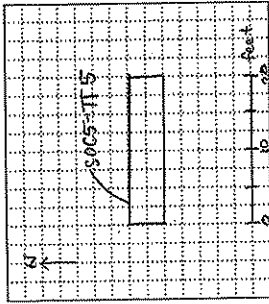
Total Depth: 5 feet

Date Started: 9/3/09

Ended: 9/3/09

Logged By: KCB

Map View



Remarks:

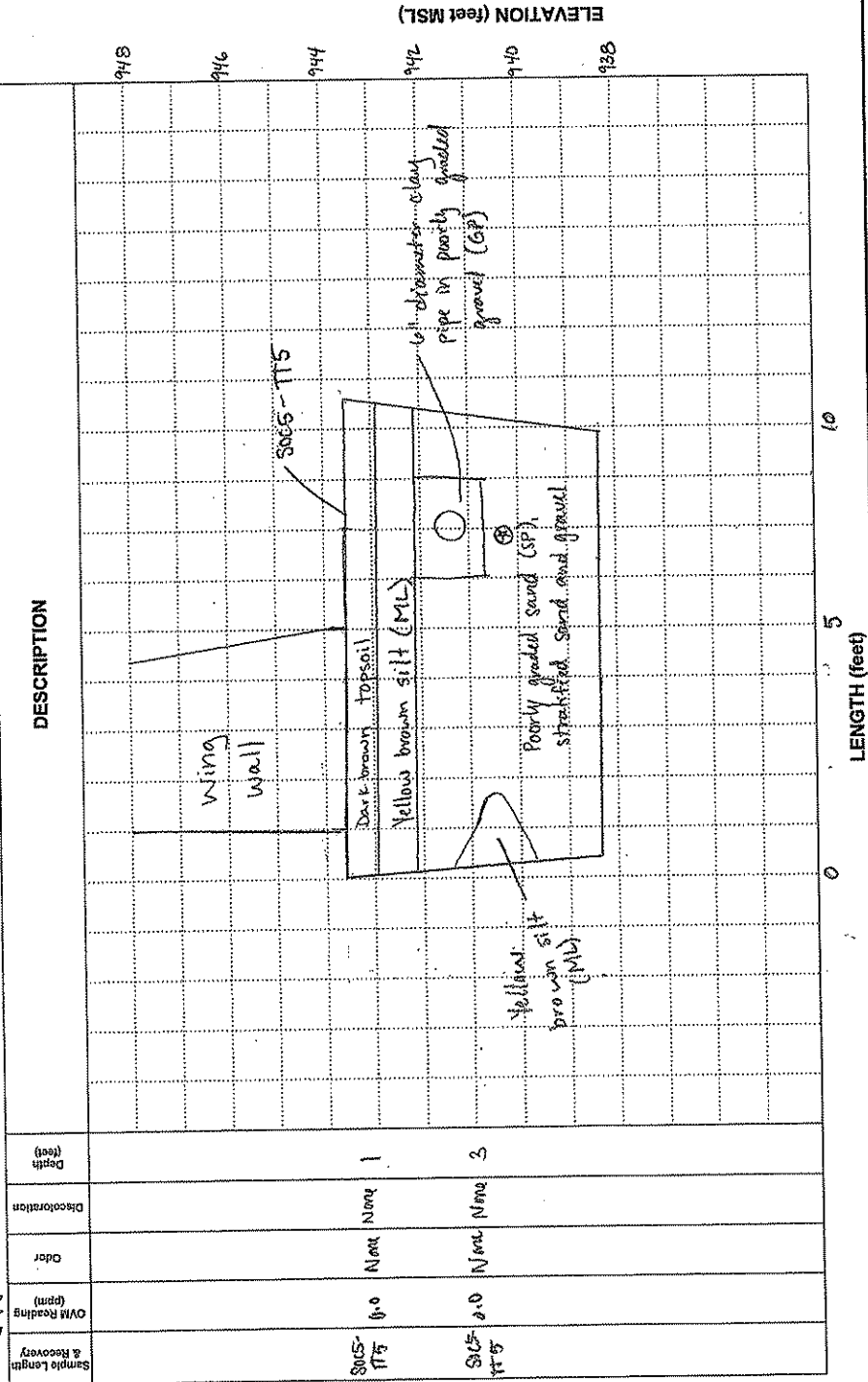
* Analytical soil sample SOC5-TT5-4' was collected below clay pipe in test trench SOC5-TT5-4'

(*) = Approximate analytical soil sample location

Figure

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DESCRIPTION



| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT6 | |
|---|--|-----------------------------------|--|
| Client: University of Minnesota | | Elevation: 946.841 - 947.672' MSL | |
| Number: 23190B05.07 | | Total Depth: 8 feet | |
| Location: S0C5 | | Date Started: 9/3/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 9/3/09 | |
| Logged By: KLB | | | |

| Sample Length & Recovery | QVH Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|---|
| S0C5-TT6 | 0.0 | None | None | 3 | <p>Dark Brown silty loam topsoil</p> <p>Red brown silty loess, blocky</p> <p>Dark brown silty loam topsoil</p> <p>6" diameter clay pipe</p> <p>poorly graded gravel, pipe bedding</p> <p>Light brown poorly graded sand (SP) with gravel, massive</p> |
| S0C5-TT6 | 0.0 | None | None | 8 | |

Map View

Remarks:

- Tar debris observed in top 2 feet of Soil.
- No analytical soil sample collected from test trench S0C5-TT6.

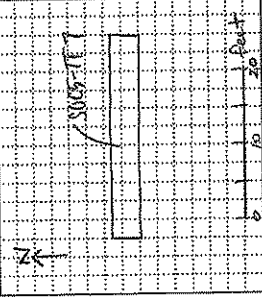
Figure

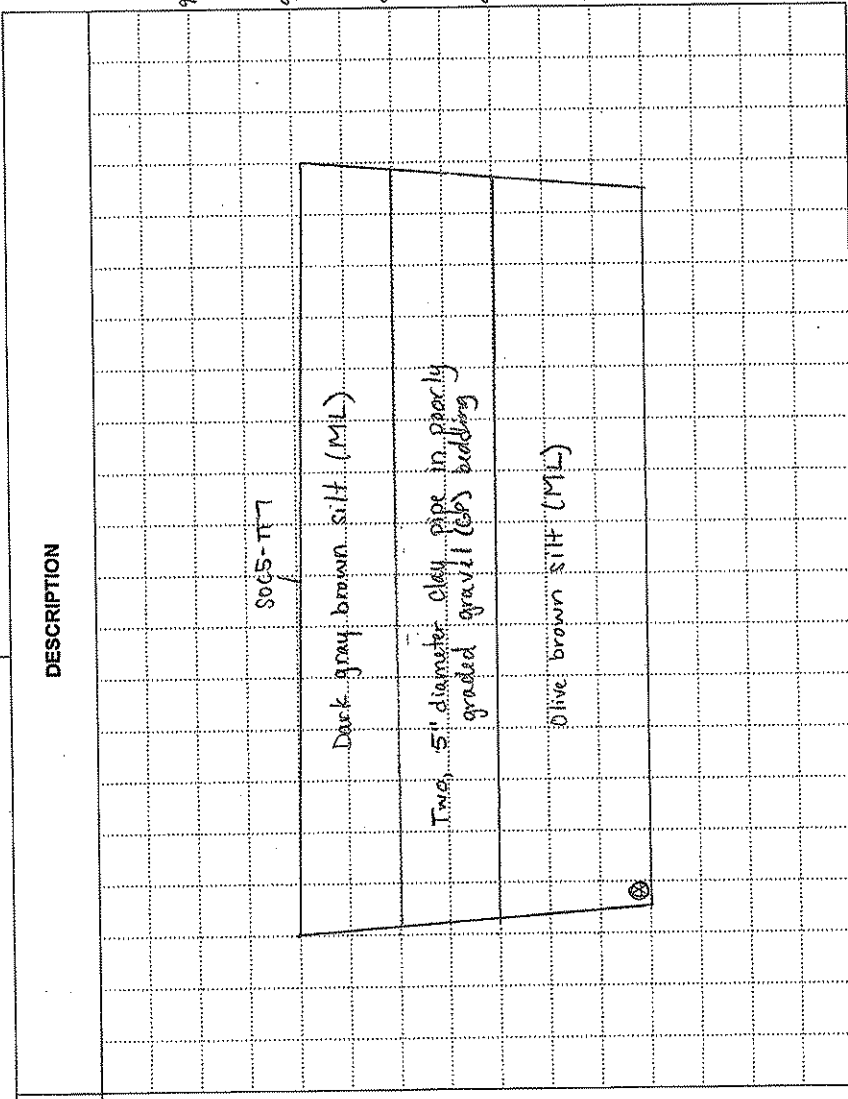
Figure

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TEST PIT LOG PAGE 206884.GPJ BARRLOG.GDT 8/18/09

| | | |
|--|---|---|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | Log of Test Pit No. SOCS-TT7 Elevation: 946.849-947.066' MSL Date Started: 7/8/09 Total Depth: 3.5 feet Ended: 7/8/09 Logged By: KCB | <div style="text-align: right; margin-bottom: 10px;"> Map View  </div> <div style="margin-bottom: 10px;"> Remarks: • 5" diameter pipes appear to extend approximately two feet west of building 602 wing wall • Analytical soil sample SOCS-TT7-4 was collected from test trench SOCS-TT7 </div> <div style="text-align: right; margin-bottom: 10px;"> ⊗ = Approximate Sample Location </div> <div style="text-align: right;"> Figure </div> |
|--|---|---|

| Sample Length & Recovery | QVA Reading (ppm) | Color | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|-------|---------------|--------------|---|
| SOCS-TT7 | 0.0 | Nine | None | 2.5 | <div style="text-align: center;">  </div> |

| | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|----------------------|
| E | 948 | 947 | 946 | 945 | 944 | 943 | |
| | | | | | | | ELEVATION (feet MSL) |
| | | | | | | | LENGTH (feet) |

TEST PIT LOG PAGE 2302884.GPJ BARR/08.00T 09/09

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT8 | |
|---|--|-----------------------------------|--|
| Client: University of Minnesota | | Elevation: 947.128 - 947.373' MSL | |
| Number: 23190B05.07 | | Total Depth: 3.5 feet + | |
| Location: S0C5 | | Date Started: 7/6/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 7/6/09 | |
| | | Logged By: KCB | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | Description |
|--------------------------|-------------------|------|---------------|--------------|--|
| S0C5-TT8 | 0-0 | None | None | 3 | <div style="text-align: center;"> </div> |

Map View

Remarks:

- Trace tar debris observed within surface soils approximately 3 feet east of building 602
- No analytical soil sample was collected from test trench S0C5-TT8

Figure

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Map View

| | | | | | | | |
|--|--|---|--|---|--|---|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS-TT10 Elevation: 948.802 - 954.758' MSL Total Depth: 13 feet Date Started: 7/8/09 Ended: 7/8/09 Logged By: KCB | | Map View | | Remarks: • No analytical soil sample was collected from test trench SOCS-TT10 | |
| DESCRIPTION | | | | Figure Barr Engineering Co. 4700 W 77th St. Suite 200 Edina, MN 55435 Telephone: 952-832-2600 Fax: 952-862-2601 | | | |

Project Name: UMore Park

Log of Test Pit No. SACS-TT11

Client: University of Minnesota

Number: 23190B05.07

Location: SACS

Contractor: Stevens Drilling and Environmental Services, Inc.

Elevation: 946.782-954.073' MSL

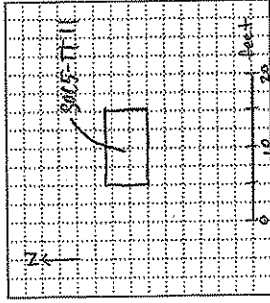
Total Depth: 12 feet

Date Started: 9/8/09

Ended: 9/8/09

Logged By: KCB

Map View



Remarks:

No analytical soil sample was collected from test trench SACS-TT11

Figure

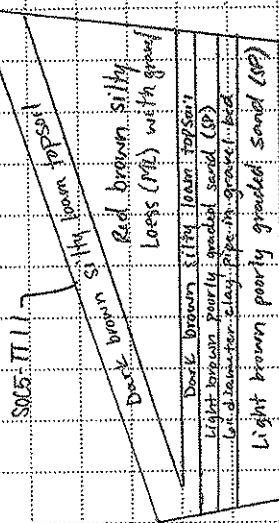
Barr Engineering Co.
4700 W 77th St, Suite 200
Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-862-2601



DESCRIPTION

| Sample Length & Recovery | QVA Reading (ppm) | Odor | Discoloration | Depth (feet) |
|--------------------------|-------------------|------|---------------|--------------|
|--------------------------|-------------------|------|---------------|--------------|

SACS-TT11 1.5 None None 12



LENGTH (feet)

ELEVATION (feet MSL)

| | | | |
|---|--|--|--|
| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT12 | |
| Client: University of Minnesota | | Elevation: 948.660 - 953.033 MSL Total Depth: 16 feet | |
| Number: 23190B05.07 | | Date Started: 9/8/09 Ended: 9/8/09 | |
| Location: S0C5 | | Logged By: KCB | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | | |

| Sample Length & Recovery | O/M Reading (gpm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|-------------|
| S0C5-18 TT12 | None | None | None | 2 | |

Map View

Remarks:

- No analytical soil sample was collected from test trench S0C5-TT12

Figure

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 Edina, MN 55435
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 Fax: 952-862-2601

BARR

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT13 | |
|---|--|-----------------------------------|--|
| Client: University of Minnesota | | Elevation: 946.414 - 946.459' MSL | |
| Number: 23190B05.07 | | Total Depth: 9 feet | |
| Location: S0C5 | | Date Started: 9/10/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 9/10/09 | |
| | | Logged By: KLB | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|-------------|
| S0C5-TT13-3' | 6.0 | None | None | 3 | |
| S0C5-TT13 | 0.0 | None | None | 3.5 | |

Map View

Remarks:

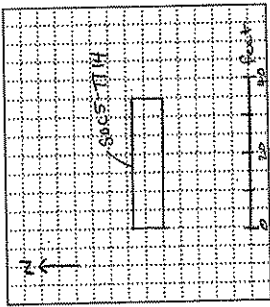
* Test trench excavation extended below floor slab in location of floor drain. No piping or evidence of exterior connection observed.

* Analytical soil sample S0C5-TT13-3' collected below 6" diameter clay pipe.

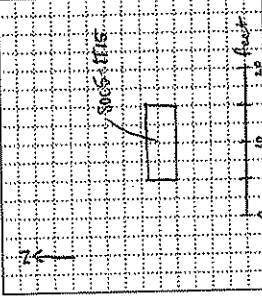
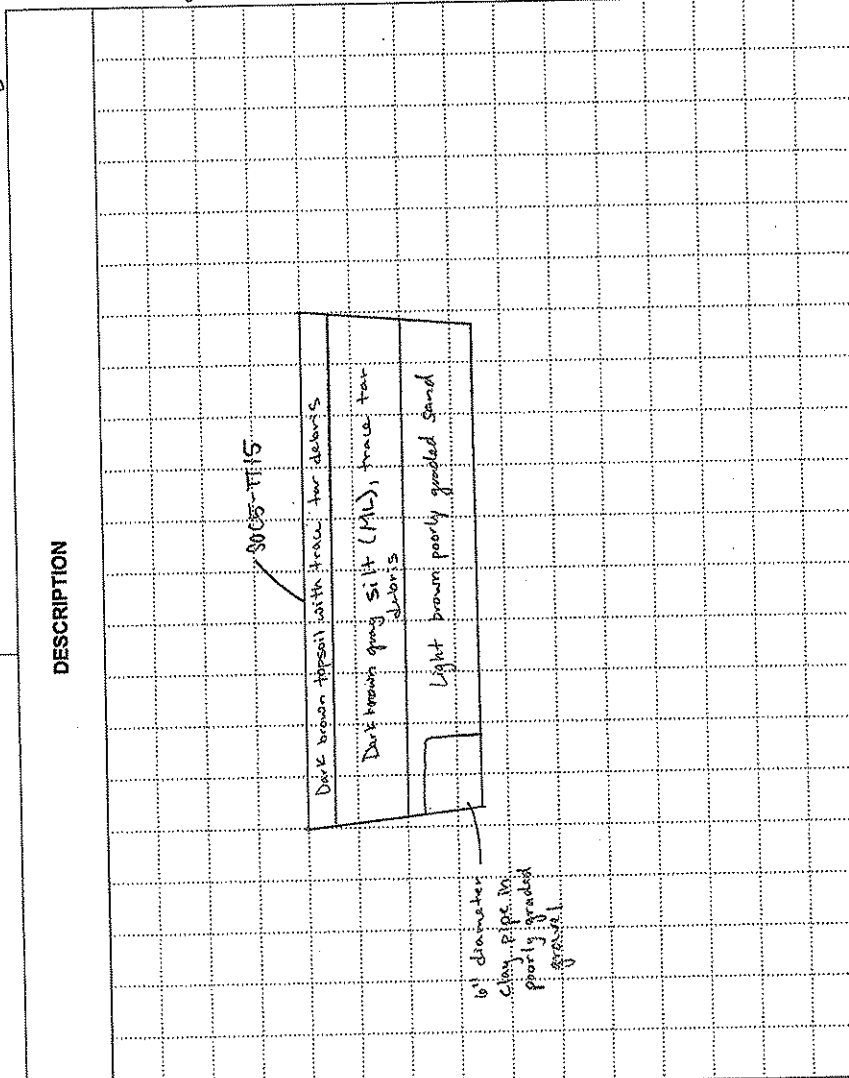

⊗ = Approximate analytical soil sample location

Figure

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 Telephone: 952-832-2600
 Fax: 952-862-2801

| Project Name: UMore Park Client: University of Minnesota Number: 23190B06.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS-TT14 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Elevation: 945.932-946.310 MSL</td> <td style="width: 50%;">Total Depth: 3 feet</td> </tr> <tr> <td>Date Started: 9/10/09</td> <td>Ended: 9/10/09</td> </tr> <tr> <td colspan="2">Logged By: KLB</td> </tr> </table> | | Elevation: 945.932-946.310 MSL | Total Depth: 3 feet | Date Started: 9/10/09 | Ended: 9/10/09 | Logged By: KLB | | Map View  | | | | | |
|---|---------------------|--|-------------------|--------------------------------|--|-----------------------|----------------|----------------|-----|--|--|---|--|---|--|
| Elevation: 945.932-946.310 MSL | Total Depth: 3 feet | | | | | | | | | | | | | | |
| Date Started: 9/10/09 | Ended: 9/10/09 | | | | | | | | | | | | | | |
| Logged By: KLB | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Sample Length & Recovery</th> <th style="width: 15%;">OVM Reading (ppm)</th> <th style="width: 15%;">Odor</th> <th style="width: 15%;">Discoloration</th> <th style="width: 15%;">Depth (feet)</th> <th style="width: 30%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>SOCS-TT14</td> <td>0.0</td> <td>None</td> <td></td> <td>3</td> <td> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Dark Brown topsoil with trace tree debris </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Light brown poorly graded sand (SP) </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> 6" diameter clay pipe in poorly graded gravel (GP) </div> <div style="border: 1px solid black; padding: 5px;"> Light brown poorly graded sand (SP) </div> </td> </tr> </tbody> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | SOCS-TT14 | 0.0 | None | | 3 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Dark Brown topsoil with trace tree debris </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Light brown poorly graded sand (SP) </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> 6" diameter clay pipe in poorly graded gravel (GP) </div> <div style="border: 1px solid black; padding: 5px;"> Light brown poorly graded sand (SP) </div> | ELEVATION (feet MSL) <div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">948</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">946</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">944</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">942</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">940</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">938</div> </div> <div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">0</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">5</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">10</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">15</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">20</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">25</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">30</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">35</div> </div> LENGTH (feet) | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | | | | | | | | | | |
| SOCS-TT14 | 0.0 | None | | 3 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Dark Brown topsoil with trace tree debris </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Light brown poorly graded sand (SP) </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> 6" diameter clay pipe in poorly graded gravel (GP) </div> <div style="border: 1px solid black; padding: 5px;"> Light brown poorly graded sand (SP) </div> | | | | | | | | | | |
| Remarks: * No analytical soil sample was collected at test trench SOCS-TT14 * Elbow connection used at north east corner of building for drain tile. | | Figure <div style="border: 1px solid black; padding: 5px;"> Barr Engineering Co. 4700 W 77th St. Suite 200 Edina, MN 55435 Telephone: 952-832-2800 Fax: 952-862-2801 </div> | | | | | | | | | | | | | |

TEST PIT LOG PAGE 2282004.GPJ BARR/CS/00T 01/05/09

| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS - TT15 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Elevation: 945.932-946.065' MSL</td> <td style="width: 50%;">Total Depth: 3.5 feet</td> </tr> <tr> <td>Date Started: 9/10/09</td> <td>Ended: 9/10/09</td> </tr> <tr> <td colspan="2">Logged By: KLB</td> </tr> </table> | | Elevation: 945.932-946.065' MSL | Total Depth: 3.5 feet | Date Started: 9/10/09 | Ended: 9/10/09 | Logged By: KLB | | Map View  | | | | | | | | | | | | | | | |
|--|-----------------------|---|-------------------|---------------------------------|---|---|----------------|----------------|-----|--|------|-----|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Elevation: 945.932-946.065' MSL | Total Depth: 3.5 feet | | | | | | | | | | | | | | | | | | | | | | | | |
| Date Started: 9/10/09 | Ended: 9/10/09 | | | | | | | | | | | | | | | | | | | | | | | | |
| Logged By: KLB | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Sample Length & Recovery</th> <th style="width: 15%;">OVM Reading (ppm)</th> <th style="width: 15%;">Odor</th> <th style="width: 15%;">Discoloration</th> <th style="width: 15%;">Depth (feet)</th> <th style="width: 30%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>SOCS TT15</td> <td>0.6</td> <td>None</td> <td>None</td> <td>1.5</td> <td rowspan="3"> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> SOCS-TT15 Dark brown till soil with trace tar debris Dark brown gray Silt (ML), trace tar debris Light brown poorly graded sand </div> </td> </tr> <tr> <td colspan="5"></td> </tr> <tr> <td colspan="5"></td> </tr> </tbody> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | SOCS TT15 | 0.6 | None | None | 1.5 | <div style="border: 1px solid black; padding: 5px; margin: 5px;"> SOCS-TT15 Dark brown till soil with trace tar debris Dark brown gray Silt (ML), trace tar debris Light brown poorly graded sand </div> | | | | | | | | | | | Remarks: * No analytical soil sample was collected from test trench SOCS-TT15. | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | | | | | | | | | | | | | | | | | | | | |
| SOCS TT15 | 0.6 | None | None | 1.5 | <div style="border: 1px solid black; padding: 5px; margin: 5px;"> SOCS-TT15 Dark brown till soil with trace tar debris Dark brown gray Silt (ML), trace tar debris Light brown poorly graded sand </div> | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | Figure  Barr Engineering Co. 4700 W 77th St. Suite 200 Edina, MN 55435 Telephone: 952-832-2600 Fax: 952-852-2601 | | | | | | | | | | | | | | | | | | | |

TEST PIT LOG PAGE 232384.GPJ BARR-05.GDT 09/10/09

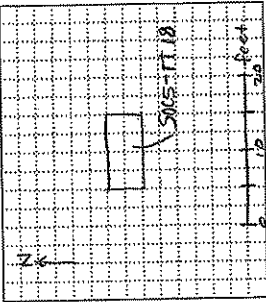
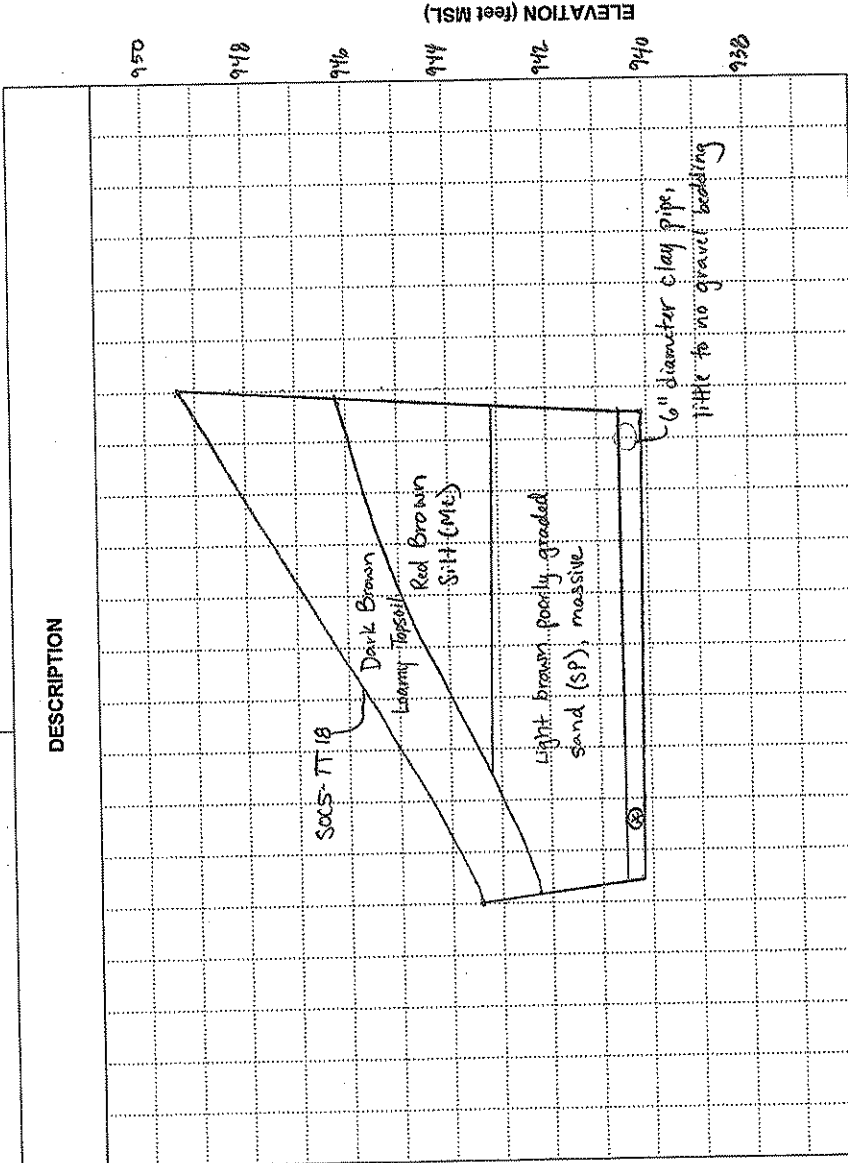
| | | | | | |
|--|--|--|--|---------------------|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC5-TT16 Elevation: 945.686 - 951.305 MSL Total Depth: 10 feet Date Started: 9/9/09 Ended: 9/9/09 Logged By: KUB | | Map View | |
| Remarks: No analytical soil sample was collected from test trench SOC5-TT16 | | | | | |
| | | | | | |

| Sample Length & Recovery | ODM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|-------------|
| SOC5-TT16 | 0.0 Nonu/Nonu | 2 | | | |

TEST PIT LOG PAGE 200304-09U SABR/LOG.GDT 6/18/09

| | | | | | | | |
|--|-------------------|---|---------------|---------------------|---|---|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190505.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC5-TT17 Elevation: 945.186 - 951.480' MSL Total Depth: 12 feet Date Started: 7/9/09 Ended: 7/9/09 Logged By: KLB | | Map View | | Remarks: • No analytical soil sample was collected from test trench SOC5-TT17 | |
| | | | | | | | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | | | |
| SOC5-TT17 0.0 None None None 1 | | | | | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> DESCRIPTION <p style="position: absolute; top: 10%; left: 10%;">SOC5-TT17</p> <p style="position: absolute; top: 20%; left: 15%;">Dark Brown Loamy Topsoil</p> <p style="position: absolute; top: 35%; left: 15%;">Yellow Brown Silt (ML)</p> <p style="position: absolute; top: 45%; left: 15%;">Light brown poorly graded sand (SP)</p> <p style="position: absolute; top: 55%; left: 15%;">6" diameter clay pipe in poorly graded gravel</p> <p style="position: absolute; top: 65%; left: 15%;">Red brown silty loess (ML), massive</p> </div> <div style="width: 5%; text-align: center;"> NE SW </div> <div style="width: 45%;"> ELEVATION (feet MSL) 952 948 944 940 936 932 928 </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>0</div> <div>5</div> <div>10</div> <div>15</div> </div> | | |

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| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC5 - TT 18 Elevation: 943.379-949.410' MSL Date Started: 9/9/09 Logged By: KLB Total Depth: 10 feet Ended: 9/9/09 | | <div style="text-align: center;">  <p>Map View</p> </div> <div style="margin-top: 20px;"> <p>Remarks:</p> <p>Analytical soil sample SOC5-TT18-4' was collected from test SOC5-TT18.</p> <p style="text-align: right;">⊗ = Approximate Sample Location</p> </div> | | | | | | | | | | | | | | | | |
|--|-------------------|--|-------------------|---|---------------|--------------|--------------|-----|------|------|---|--------------|-----|------|------|---|--|--|--|--|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Sample Length & Recovery</th> <th style="width: 15%;">OVM Reading (ppm)</th> <th style="width: 15%;">Odor</th> <th style="width: 15%;">Discoloration</th> <th style="width: 15%;">Depth (feet)</th> </tr> </thead> <tbody> <tr> <td>SOC5-TT18-4'</td> <td>0.0</td> <td>None</td> <td>None</td> <td>9</td> </tr> <tr> <td>SOC5-TT18-4'</td> <td>0.0</td> <td>None</td> <td>None</td> <td>4</td> </tr> </tbody> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | SOC5-TT18-4' | 0.0 | None | None | 9 | SOC5-TT18-4' | 0.0 | None | None | 4 | <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>DESCRIPTION</p> <p style="text-align: center;">E</p> <p style="text-align: center;">N</p> </div> <div style="flex-grow: 1;">  </div> </div> | | | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | | | | | | | | | | | | | | | | |
| SOC5-TT18-4' | 0.0 | None | None | 9 | | | | | | | | | | | | | | | | |
| SOC5-TT18-4' | 0.0 | None | None | 4 | | | | | | | | | | | | | | | | |

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| | | | | | |
|--|--|--|--|----------------------|--|
| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT19 | | Map View | |
| Client: University of Minnesota | | | | | |
| Number: 23190B05.07 | | Elevation: 945.234 - 952.031' MSL | | | |
| Location: S0C5 | | Total Depth: 12 feet | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Date Started: 9/9/09 | | | |
| | | Logged By: KLB | | Ended: 9/9/09 | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|----------------------|
| | 0.0 | None | None | 1 | <div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); margin-right: 10px;"> S0C5-TT19 </div> </div> | 954 |
| | | | | | Dark Brown loamy topsoil | 950 |
| | | | | | Red Brown Silt (ML) | 946 |
| | | | | | Light Brown Poorly graded sand (SP) with gravel | 942 |
| | | | | | 6" diameter clay pipe in poorly graded gravel | 938 |
| | | | | | | 934 |
| | | | | | | 930 |

Remarks:

No analytical Soil Sample was collected from test trench S0C5-TT19

Project Name: UMore Park

Log of Test Pit No. S0C5-TT20

Client: University of Minnesota

Number: 23190B05.07

Elevation: 946.337 - 947.626 MSL

Total Depth: 4 feet

Location: S0C5

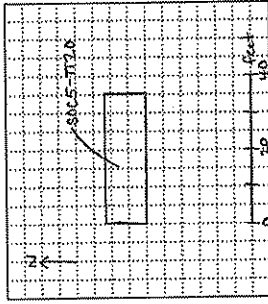
Date Started: 9/2/09

Ended: 9/2/09

Contractor: Stevens Drilling and Environmental Services, Inc.

Logged By: KCB

Map View



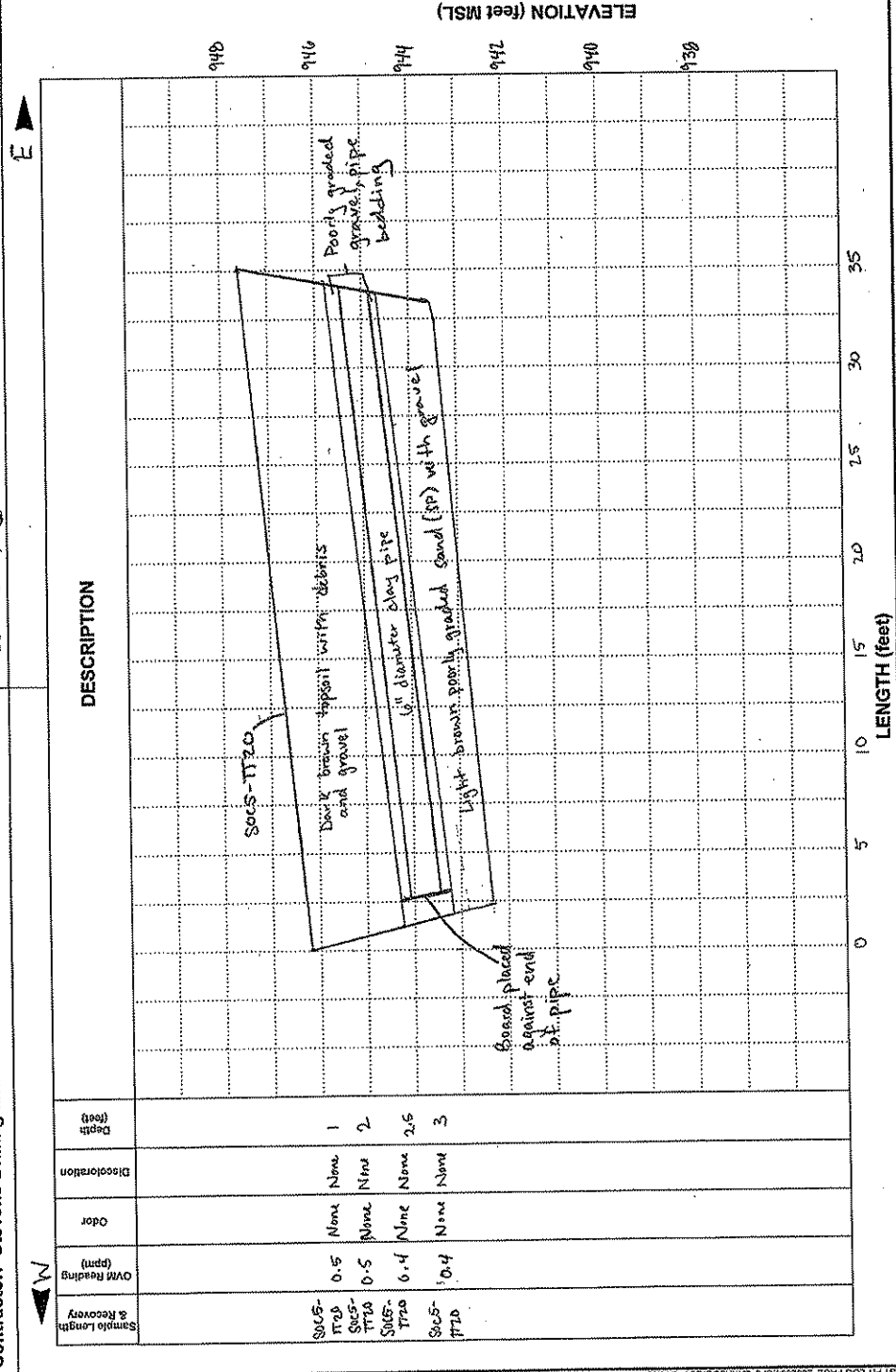
Remarks:

* No analytical soil
Sample was collected
from test trench
S0C5-TT20

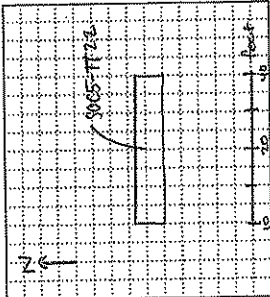
Figure

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BARR



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Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-862-2601

| | | | |
|---|--|--|--|
| Project Name: UMore Park Log of Test Pit No. SOC5-TT22 | | Map View  | |
| Client: University of Minnesota Number: 23190E05.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | | Elevation: 946.237 - 948.474' MSL Total Depth: 10 feet Date Started: 9/2/09 Ended: 9/2/09 - 9/3/09 Logged By: KCB | |

| Sample Length & Recovery | QVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) | LENGTH (feet) |
|--------------------------|-------------------|------|---------------|--------------|---|----------------------|---------------|
| SOC5-TT22 | 0.0 | None | None | 1 | Dark brown gray, loamy, topsoil with silty loess (ML) + debris | 950 | 0 |
| SOC5-TT22 | 0.0 | None | None | 2 | Light brown poorly graded sand (SP) with concrete debris at 8-10' bgs | 946 | 40 |

Remarks:

- Debris encountered from 0-2.5 feet below ground surface (bgs) included glass, metal, plastic and siding.
- No analytical soil sample was collected from test trench SOC5-TT22

Figure

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 Fax: 952-832-2801

TEST PIT LOG PAGE 232224.GPJ BARR 03.00T 6/18/09

BARR
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Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-862-2601

Project Name: UMore Park

Client: University of Minnesota

Number: 23190B05.07

Location: SOC5

Contractor: Stevens Drilling and Environmental Services, Inc.

Log of Test Pit No. SOC5-TT24

Elevation: 945.180 - 945.602' MSL

Total Depth: 5 feet

Date Started: 7/9/09

Ended: 7/9/09

Logged By: KCB

| Sample Length & Recovery | OWM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|--|
| SOC5-TT24 | 0.0 | No | No | 2 | <div> <div> <div>light brown poorly graded sand (SP)</div> <div>6" diameter clay pipe in poorly graded gravel (GP)</div> <div>Dark Brown Loamy Topsoil, Blocky</div> <div>Yellow Brown Silt (ML)</div> </div> <div> <div>SOC5-TT24</div> </div> </div> |

946

944

942

940

938

936

ELEVATION (feet MSL)

0

5

10

LENGTH (feet)

Map View

Remarks:

No analytical soil sample was collected from test trench SOC5-TT24

Figure

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Fax: 952-862-2601

UMP018398

Map View

| Project Name: UMore Park Client: University of Minnesota Number: 23190E05.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOC5-TT26 Elevation: 943.133 - 944.130' MSL Total Depth: 8 feet Date Started: 9/1/09 Ended: 9/1/09 Logged By: KCB | | <div style="text-align: center;"> </div> | | | | | | | | | | | | | | | | |
|--|-------------------|--|-------------------|--|---------------|--------------|------------|-----|------|------|---|------------|-----|------|------|---|---|--|--|--|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Sample Length & Recovery</th> <th style="width: 15%;">OVM Reading (ppm)</th> <th style="width: 15%;">Odor</th> <th style="width: 15%;">Discoloration</th> <th style="width: 15%;">Depth (feet)</th> </tr> </thead> <tbody> <tr> <td>SOC5-TT26B</td> <td>0.0</td> <td>None</td> <td>None</td> <td>1</td> </tr> <tr> <td>SOC5-TT26A</td> <td>0.0</td> <td>None</td> <td>None</td> <td>6</td> </tr> </tbody> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | SOC5-TT26B | 0.0 | None | None | 1 | SOC5-TT26A | 0.0 | None | None | 6 | <div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center;">DESCRIPTION</p> </div> <div style="flex: 1; text-align: right;"> <p>ELEVATION (feet MSL)</p> <p>946 944 942 940 938 936 934</p> </div> </div> | | | |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | | | | | | | | | | | | | | | | |
| SOC5-TT26B | 0.0 | None | None | 1 | | | | | | | | | | | | | | | | |
| SOC5-TT26A | 0.0 | None | None | 6 | | | | | | | | | | | | | | | | |
| <p>Remarks:</p> <p>No analytical soil samples were collected from test trench SOC5-TT26</p> | | <div style="text-align: right;"> <p> Barr Engineering Co. 4700 W 77th St, Suite 200 Edina, MN 55435 Telephone: 952-832-2800 Fax: 952-862-2501 </p> </div> | | | | | | | | | | | | | | | | | | |

TSST PTT LOG 06.65 2009.09.01 BARR.09.05T 8/16/09

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT27 | |
|---|--|----------------------------------|--|
| Client: University of Minnesota | | Elevation: 940.675 - 940.793 MSL | |
| Number: 23190B05.07 | | Total Depth: 13 feet | |
| Location: S0C5 | | Date Started: 9/1/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 9/1/09 | |
| | | Logged By: KLB | |

| Sample Length & Recovery | OVM Reading (gpm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|--|
| S0C5-TT27 | 0.0 | None | | h | <div style="position: relative; height: 200px; border: 1px solid black; margin-bottom: 5px;"> <div style="position: absolute; top: 0; left: 0; right: 0; height: 100%; border-left: 1px solid black; border-right: 1px solid black;"></div> <div style="position: absolute; top: 0; left: 0; right: 0; height: 100%; border-left: 1px dashed black; border-right: 1px dashed black;"></div> </div> <div style="position: relative; height: 200px;"> <div style="position: absolute; top: 0; left: 0; right: 0; height: 100%; border-left: 1px solid black; border-right: 1px solid black;"></div> <div style="position: absolute; top: 0; left: 0; right: 0; height: 100%; border-left: 1px dashed black; border-right: 1px dashed black;"></div> </div> |

N

Map View

Remarks:

No analytical soil samples were collected from test trench S0C5-TT27

Figure

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Edina, MN 55435
Telephone: 952-832-2600
Fax: 952-862-2601

TEST PIT LOG PAGE 23190B05.07 BARR LOGS.GDT 8/18/09

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT28 | |
|---|--|--|--|
| Client: University of Minnesota | | Elevation: 945.780 - 945.980' MSL Total Depth: 5 feet | |
| Number: 23190B05.07 | | Date Started: 9/1/09 Ended: 9/1/09 | |
| Location: S0C5 | | Logged By: KCB | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|---|---|
| S0C5-TT28A | 0.0 | None | None | 1 | <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>S0C5-TT28A</p> <p>Dark brown loamy topsoil, Blocky</p> <p>Red brown silty loess (ML) with 10% gravel and 10% sand, massive</p> <p>Light brown poorly graded sand (SP) with gravel</p> </div> | 946 |
| S0C5-TT28B | 0.0 | None | None | 2 | | <div style="border: 1px solid black; padding: 5px;"> <p>S0C5-TT28B</p> <p>Dark brown loamy topsoil, massive</p> <p>Red brown silty loess (ML), massive</p> <p>Light brown poorly graded sand (SP) with gravel stratified</p> </div> |
| | | | | | | 942 |
| | | | | | | 940 |
| | | | | | | 938 |
| | | | | | | 936 |

Map View

Remarks:

No analytical soil samples were collected from test trench S0C5-TT29

Figure

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Edina, MN 55435
Telephone: 952-832-2800
Fax: 952-882-2801

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT29 | |
|---|--|--------------------------------|--|
| Client: University of Minnesota | | Elevation: 945.678-946.238 MSL | |
| Number: 23190B05.07 | | Total Depth: 8 Feet | |
| Location: S0C5 | | Date Started: 9/1/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 9/1/09 | |
| | | Logged By: KLB | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | Description |
|--------------------------|-------------------|-------|---------------|--------------|--|
| S0C5-TT29-5' | 0.0 | Light | None | 5 | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>S0C5-TT29B</p> <p>Dark brown loamy topsoil</p> <p>Red Brown silty Loess (ML), Massive</p> <p>Light brown, poorly graded sand (SP) with gravel</p> </div> <div style="width: 45%;"> <p>S0C5-TT29A</p> <p>Light brown poorly graded sand (SP), massive</p> <p>Gray clay with organics, medium</p> <p>Light brown poorly graded sand (SP) with gravel, stratified</p> </div> </div> |
| S0C5-TT29-6' | 0.0 | None | None | 6 | |

Map View

Remarks:

Analytical soil samples S0C5-TT29-5' and S0C5-TT29-6' were collected from test trench S0C5-TT29A

Figure

⊗ = Approximate analytical sample location

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Telephone: 952-832-2800
Fax: 952-862-2801

TEST PIT LOG PAGE 2302894.GPJ BARR.DWG 507 6/18/09

| Project Name: UMore Park | | Log of Test Pit No. S0C5-TT30 | |
|---|--|---------------------------------|--|
| Client: University of Minnesota | | Elevation: 945.510-945.024' MSL | |
| Number: 23190E05.07 | | Total Depth: 7 feet | |
| Location: S0C5 | | Date Started: 9/1/09 | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Ended: 9/1/09 | |
| Logged By: KCB | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | Description |
|--------------------------|-------------------|------|---------------|--------------|---|
| S0C5-TT30 | 0.0 | None | None | 2 | <div style="display: flex; justify-content: space-between;"> NW SE </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p>Light brown poorly graded sand (SP), massive</p> <p style="text-align: right;">S0C5-TT30</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p>Dark Brown Loamy Topsoil</p> <p style="text-align: right;">S0C5-TT30</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p>Red Brown silty loess (ML), massive</p> <p style="text-align: right;">S0C5-TT30</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p>Light brown poorly graded sand (SP)</p> <p style="text-align: right;">S0C5-TT30</p> </div> |

Map View

Remarks:

No analytical soil samples were collected from test trench S0C5-TT30

| ELEVATION (feet MSL) | LENGTH (feet) |
|----------------------|---------------|
| 946 | 0 |
| 942 | 5 |
| 938 | 10 |
| 946 | 15 |
| 942 | 15 |
| 938 | 15 |

| | | | | | | | |
|--|--|--|--|----------------------------|--|--|--|
| Project Name: UMore Park | | Log of Test Pit No. S0C5 - TT31 | | Map View | | Remarks: No analytical samples were collected from test trench S0C5-TT31 | |
| Client: University of Minnesota | | Elevation: 945.463-945.877' MSL | | Total Depth: 6 feet | | | |
| Number: 23190B05.07 | | Date Started: 9/1/09 | | Ended: 9/1/09 | | | |
| Location: S0C5 | | Logged By: KLB | | | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | | | | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) | LENGTH (feet) |
|--------------------------|-------------------|------|---------------|--------------|---|----------------------|----------------|
| S0C5-TT31 | 0.0 | None | None | 4 | North Sidewall Light brown poorly graded sand (SP), MASSIVE Red brown silty loess (ML) | 946 942 938 | 0 4 8 12 16 20 |
| S0C5-TT31 | 0.0 | None | None | 5 | South Sidewall Red Brown silt (ML) Light brown poorly graded sand (SP) MASSIVE | 946 942 938 | 0 4 8 12 16 20 |

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 Edina, MN 55435
 Telephone: 952-832-2600
 Fax: 952-862-2601

| | | | | | |
|---|--|--------------------------------------|--|---|--|
| Project Name: UMore Park | | Log of Test Pit No. SOC5-TT32 | | Map View | |
| Client: University of Minnesota | | Elevation: 946.399 - 946.803 MSL | | | |
| Number: 23190B05.07 | | Total Depth: 6 feet | | | |
| Location: SOC5 | | Date Started: 9/1/09 | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Logged By: KCB | | Remarks: No analytical soil samples were collected from test trench SOC5-TT32 | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION |
|--------------------------|-------------------|------|---------------|--------------|--|
| SOC5-TT32 | 0.0 | None | None | 2 | <div style="position: relative; height: 200px;"> <div style="position: absolute; top: 0; right: 0;">ELEVATION (feet MSL)</div> <div style="position: absolute; bottom: 0; right: 0;">LENGTH (feet)</div> <div style="position: absolute; top: 0; left: 0;">948</div> <div style="position: absolute; top: 20%; left: 0;">946</div> <div style="position: absolute; top: 40%; left: 0;">944</div> <div style="position: absolute; top: 60%; left: 0;">942</div> <div style="position: absolute; top: 80%; left: 0;">940</div> <div style="position: absolute; top: 100%; left: 0;">938</div> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);"> SOC5-TT32 Red brown silty loess (ML) </div> <div style="position: absolute; top: 70%; left: 50%; transform: translate(-50%, -50%);"> Light brown, poorly graded Sand (SP) with gravel </div> </div> |

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 Fax: 952-862-2601

Figure

Project Name: UMore Park

Client: University of Minnesota

Number: 23190E05.07

Location: SOCS

Contractor: Stevens Drilling and Environmental Services, Inc.

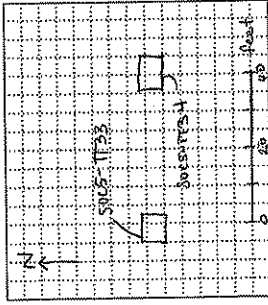
Log of Test Pit No. SOCS-TT33 and SOCS-TT34

Elevation: 947.640 - 947.682 Total Depth: 4 feet

Date Started: 9/3/09 Ended: 9/3/09

Logged By: KCB

Map View



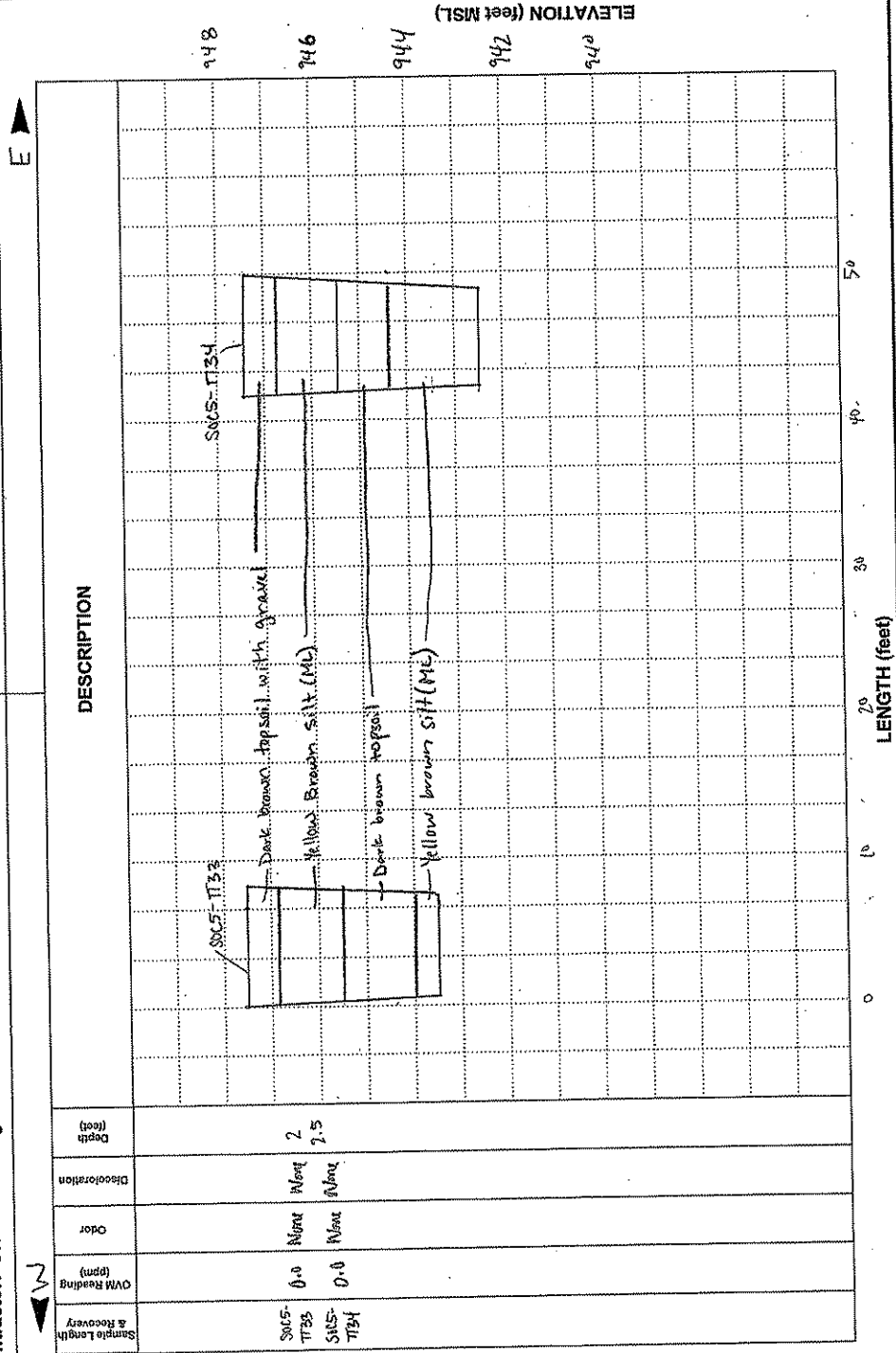
Remarks:

- * Test trenches were added to further investigate extent of fill near bunkers
- * No analytical soil samples were collected from test trenches SOCS-TT33 and SOCS-TT34

Figure

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Fax: 952-862-2801

BARR



Project Name: UMore Park

Log of Test Pit No. S0C5-TT35

Client: University of Minnesota

Number: 23190E05.07

Location: S0C5

Contractor: Stevens Drilling and Environmental Services, Inc.

Elevation: 946.483-946.575' MSL

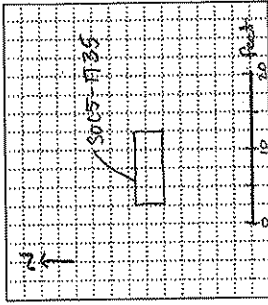
Total Depth: 2 feet

Date Started: 7/8/09

Ended: 7/8/09

Logged By: KCB

Map View



Remarks:

- * No analytical Soil Samples were collected from test trench S0C5-TT35
- * Test trench was added to further investigate the connection of the two, 5" diameter pipes on south side of bunker to 6" diameter pipe on east side. No connection observed.

Figure

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DESCRIPTION

| Sample Length & Recovery | QVA Reading (ppm) | Odor | Discoloration | Depth (feet) |
|--------------------------|-------------------|------|---------------|--------------|
| S0C5-TT35 | 0.10 | None | None | 2 |

S0C5-TT35
Ditch bottom tipped with gravel. Very coarse gravel and debris.
Two 5" diameter clay pipe in poorly graded gravel.
Light brown poorly graded sand (SP)

ELEVATION (feet MSL)

948
946
944
942

10

5

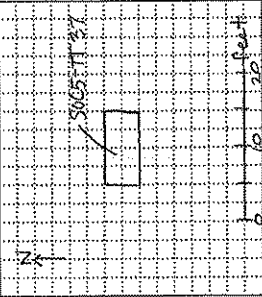

0

LENGTH (feet)

| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOCS Contractor: Stevens Drilling and Environmental Services, Inc. | | Log of Test Pit No. SOCS - TT 36 Elevation: 946.780-947.097 MSL Total Depth: 6 feet Date Started: 9/8/09 Ended: 9/8/09 Logged By: KCB | | <div style="text-align: center;"> <p>Map View</p> </div> <div style="margin-top: 10px;"> <p>Remarks:</p> <ul style="list-style-type: none"> Test trench was added to further investigate floor drain in DNT bunkers No analytical soil samples were collected from test trench SOCS-TT36 </div> | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|--|-------------------|---|---------------|--------------|--------------|------|------|------|---|--|--|--|--|-------------|----------------------|---|-----|-----|-----|-----|--|-----|--|-----|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Sample Length & Recovery</th> <th style="width: 15%;">OVM Reading (ppm)</th> <th style="width: 15%;">Odor</th> <th style="width: 15%;">Discoloration</th> <th style="width: 15%;">Depth (feet)</th> </tr> <tr> <td>SOCS - TT 36</td> <td>None</td> <td>None</td> <td>None</td> <td>0</td> </tr> </table> | | Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | SOCS - TT 36 | None | None | None | 0 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">DESCRIPTION</th> <th style="width: 10%;">ELEVATION (feet MSL)</th> </tr> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;"> <div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p>SOCS-TT36</p> <p>Brown silty sand topsoil with debris including glass + metal</p> <p>Light brown poorly graded sand (SP), massive</p> <p>Gray Brown mottled silt (ML)</p> <p>Light brown poorly graded sand (SP) with gravel, stratified</p> </div> </td> <td style="text-align: center;">948</td> </tr> <tr> <td style="text-align: center;">946</td> </tr> <tr> <td style="text-align: center;">944</td> </tr> <tr> <td style="text-align: center;">942</td> </tr> <tr> <td></td> <td style="text-align: center;">940</td> </tr> <tr> <td></td> <td style="text-align: center;">938</td> </tr> </table> | | | | DESCRIPTION | ELEVATION (feet MSL) | <div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p>SOCS-TT36</p> <p>Brown silty sand topsoil with debris including glass + metal</p> <p>Light brown poorly graded sand (SP), massive</p> <p>Gray Brown mottled silt (ML)</p> <p>Light brown poorly graded sand (SP) with gravel, stratified</p> </div> | 948 | 946 | 944 | 942 | | 940 | | 938 |
| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | | | | | | | | | | | | | | | | | | | | | | |
| SOCS - TT 36 | None | None | None | 0 | | | | | | | | | | | | | | | | | | | | | | |
| DESCRIPTION | ELEVATION (feet MSL) | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p>SOCS-TT36</p> <p>Brown silty sand topsoil with debris including glass + metal</p> <p>Light brown poorly graded sand (SP), massive</p> <p>Gray Brown mottled silt (ML)</p> <p>Light brown poorly graded sand (SP) with gravel, stratified</p> </div> | 948 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 946 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 944 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 942 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 940 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 938 | | | | | | | | | | | | | | | | | | | | | | | | | |

TEST PIT LOG PAGE 2362884.BPJ BARR/09.GPT 6/18/09

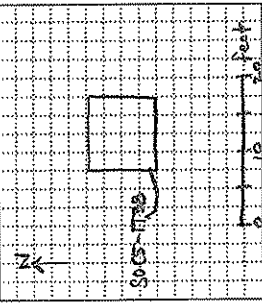
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 Edina, MN 55435
 Telephone: 952-832-2800
 Fax: 952-862-2801

| | | |
|--|---|--|
| Project Name: UMore Park Client: University of Minnesota Number: 23190B05.07 Location: SOC5 Contractor: Stevens Drilling and Environmental Services, Inc. | Log of Test Pit No. SOC5 - TT37 Elevation: 946.589 - 946.915 MSL Date Started: 7/8/09 Logged By: KCB Total Depth: 6 feet Ended: 7/8/09 | <div style="text-align: right; margin-bottom: 10px;"> Map View  </div> <div style="margin-bottom: 10px;"> Remarks: • No analytical soil sample was collected from test trench SOC5-TT36 </div> <div style="text-align: right; margin-bottom: 10px;"> Figure  Barr Engineering Co. 4700 W 77th St. Suite 200 Edina, MN 55435 Telephone: 952-832-2600 Fax: 952-862-2601 </div> |
|--|---|--|

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|--|
| SOC5-TT1 | 0.6 | None | None | 4 | <div style="border: 1px solid black; padding: 5px; margin: 10px;"> SOC5-TT37 Medium brown Silty Sand Topsoil Light brown, poorly graded sand (SP), massive </div> | 948 946 944 942 940 938 |

LENGTH (feet) 0 5 10

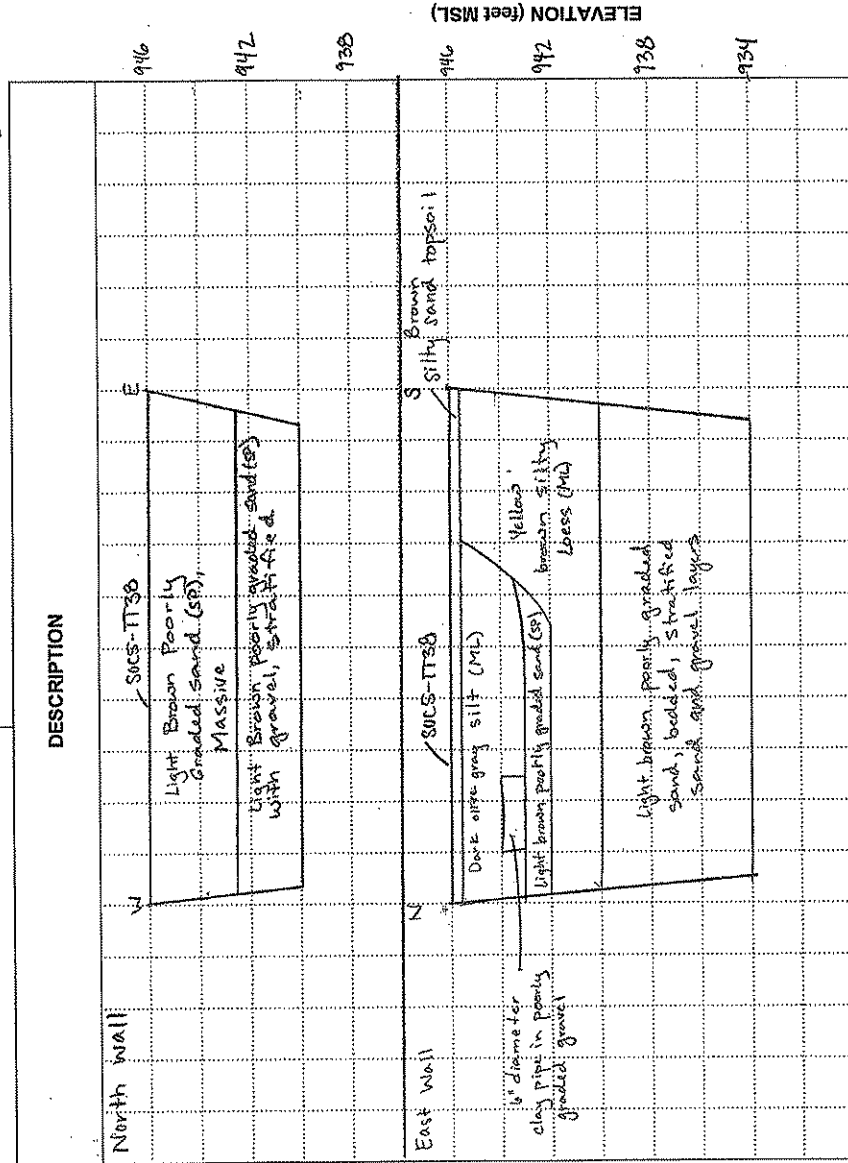
TEST PIT LOG PAGE 202304.023 BARR LOG.GDT 07/09/09

| | | | | | |
|--|--|---|--|--|--|
| Project Name: UMore Park | | Log of Test Pit No. SOCS - TT38 | | Map View  | |
| Client: University of Minnesota | | | | | |
| Number: 23190B05.07 | | Elevation: 946.021 - 946.027 Total Depth: 12 feet | | | |
| Location: SOCS | | Date Started: 7/9/09 Ended: 9/10/09 | | | |
| Contractor: Stevens Drilling and Environmental Services, Inc. | | Logged By: KLB | | | |

| Sample Length & Recovery | OVM Reading (ppm) | Odor | Discoloration | Depth (feet) | DESCRIPTION | ELEVATION (feet MSL) |
|--------------------------|-------------------|------|---------------|--------------|--|----------------------|
| SOCS-TT38 | 0.0 | None | None | 10 | North Wall SOCS-TT38 Light Brown Poorly Graded sand (SP), Massive Light Brown poorly-sorted sand (SP) with gravel, extra fine d. | 946 |
| | | | | | East Wall SOCS-TT38 Dark olive gray silt (ML) Light brown poorly graded sand (SP) 6" diameter clay pipe in poorly graded gravel Yellowish brown silty loess (ML) Light brown poorly graded sand, bedded, stratified sand and gravel layers | 934 |

Remarks:

- Test trench SOCS-TT38 added to further investigate the floor drain in the DNT Bunkers
- No analytical soil samples were collected from test trench SOCS-TT38



Figure

Barr Engineering Co.
 4700 W 77th St. Suite 200
 Edina, MN 55435
 Telephone: 952-432-2600
 Fax: 952-862-2601

WELL OR BORING LOCATION

County Name

Dakota

Township Name

Township No.

Range No.

Section No.

Fraction (sm. → lg.)

GPS

LOCATION:

Latitude _____ degrees _____ minutes _____ seconds

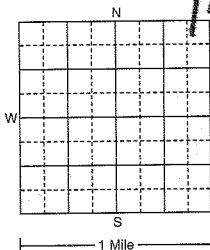
Longitude _____ degrees _____ minutes _____ seconds

Numerical Street Address or Fire Number and City of Well or Boring Location

1605 160th St. W, Rosemount, MN

Show exact location of well or boring in section grid with "X."

Sketch map of well or boring location, showing property lines, roads, and buildings.



PROPERTY OWNER'S NAME/COMPANY NAME

U. of MN Rosemount Research Station

Property owner's mailing address if different than well location address indicated above

1605 160th St. W.
Rosemount, MN

WELL OWNER'S NAME/COMPANY NAME

Well owner's mailing address if different than property owner's address indicated above

GEOLOGICAL MATERIAL

COLOR

HARDNESS OR FORMATION

FROM

TO

If not known, indicate estimated formation log from nearby well or boring.

Silty Sand w/ Clay
Bn mod 0

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

H 280668

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING SEALING RECORD

Minnesota Statutes, Chapter 103/

Minnesota Well and Boring Sealing No.
Minnesota Unique Well No. or W-series No.
(Leave blank if not known)

H 280668

Date Sealed

9/1 - 9/11/09
44-62

Date Well or Boring Constructed

9/1-11/09
44-62

AQUIFER(S)

☒ Single Aquifer ☐ Multiaquifer

WELL/BORING

☐ Water-Supply Well ☒ Monit. Well☐ Env. Bore Hole ☐ Other

STATIC WATER LEVEL

☐ Measured ☒ Estimated Date Measured 9/1-9/11
42-60 ft. ☒ below ☐ above land surface

CASING TYPE(S)

☐ Steel ☒ Plastic ☐ Tile ☐ Other

WELLHEAD COMPLETION

Outside: ☐ Well House☐ Pitless Adapter/Unit☐ Well Pit☐ Other☐ At Grade☐ BuriedInside: ☐ Basement Offset☐ Well Pit☐ Buried☐ Other

CASING(S)

Diameter

Depth

Set in oversize hole?

Annular space initially grouted?

_____ in. from _____ to _____ ft.

☐ Yes☐ No☐ Yes☐ No☐ Unknown

_____ in. from _____ to _____ ft.

☐ Yes☐ No☐ Yes☐ No☐ Unknown

_____ in. from _____ to _____ ft.

☐ Yes☐ No☐ Yes☐ No☐ Unknown

SCREEN/OPEN HOLE

Screen from _____ to _____ ft. Open hole from _____ to _____ ft.

OBSTRUCTIONS

☐ Rods/Drop Pipe ☐ Check Valve(s) ☐ Debris ☐ Fill ☒ No Obstruction

Type of Obstructions (Describe)

Obstructions removed? ☐ Yes ☐ No Describe

PUMP

Type

☐ Removed☒ Not Present☐ Other

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE:

☒ No Annular Space Exists ☐ Annular Space Grouted with Tremie Pipe ☐ Casing Perforation/Removal_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed

Type of Perforator

☐ Other

GROUTING MATERIAL(S)

(One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)

Grouting Material _____ from _____ to _____ ft. _____ yards _____ bags

_____ from _____ to _____ ft. _____ yards _____ bags

_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS

Other unsealed and unused well or boring on property? ☐ Yes ☒ No How many?

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION

This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Mahix Environmental, LLC

Licensee Business Name

License or Registration No.

Dan Thompson

Certified Representative Signature

Certified Rep. No.

Date

Guy Rappelle

Name of Person Sealing Well or Boring

IMPORTANT-FILE WITH PROPERTY PAPERS-WELL OWNER COPY



Barr Engineering Company Field Log Data Sheet

| Client: <i>U of M</i> | | Monitoring Point: <i>80E4-GP1</i> | | | | | | | | |
|--|-------------|--|-------------|-------------------|------|---------------------------|------|------------------------------|------|----------|
| Location: <i>1600 1st Ave S UMore Park</i> | | Date: <i>9/9/09</i> | | | | | | | | |
| Project #: <i>23/19-B05</i> | | Sample Time: | | | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | | | |
| Barr lock: | <i>None</i> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance | | |
| Casing diameter: | <i>1"</i> | | | | | | | | | |
| Total well depth:* | <i>44'</i> | <i>Advanced further to 55' on 9/10/09.</i> | | | | | | | | |
| Static water level:* | | <i>See new sample sheet from that date.</i> | | | | | | | | |
| Water depth:* | | | | | | | | | | |
| Well volume: (gal) | | | | | | | | | | |
| Purge method: | | | | | | | | | | |
| Sample method: | | | | | | | | | | |
| Start time: | | Odor: | | | | | | | | |
| Stop time: | | Purge Appearance: | | | | | | | | |
| Duration: (minutes) | | Sample Appearance: | | | | | | | | |
| Rate, gpm: | | <i>Comments: DTW = 44.85 - 1.5 = 43.35 on 9/9/09 @ 1630</i> <i>DTW = 44.60 - 1.5 = 43.10 on 9/10/09 @ 0845</i> <i>Insufficient water to sample</i> | | | | | | | | |
| Volume, purged: | | | | | | | | | | |
| Duplicate collected? | <i>No</i> | | | | | | | | | |
| Sample collection by: | <i>ESC</i> | CO2- | Mn2- | Fe(T)- | Fe2- | | | | | |
| Others present: <i>Matrix (Guy, Pat)</i> | | Well Condition: | | | | | | | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: <i>Temporary well</i> | | |
| VOC | | semi-volatile | | general- | | nutrient- | | cyanide- | DRO- | Sulfide- |
| oil, grease- | | bacteria- | | total metal- | | filtered metal | | methane- | | filter- |
| Others: <i>Nitrogen, Perchlorate, Nitrocellulose</i> | | | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <i>dot m</i> | | Monitoring Point: <i>SOC4-GP1</i> | | | | | | |
|---------------------------------------|-----------------------|---|-----------------|------------------------------|---------|----------|------|-------------------------|
| Location: <i>6624-GP1 U More Park</i> | | Date: <i>9-11-09</i> | | | | | | |
| Project #: <i>23/19-1305</i> | | Sample Time: <i>0900</i> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <i>None</i> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <i>1"</i> | | | | | | | |
| Total well depth:* | <i>55'</i> | | | | | | | |
| Static water level:* | <i>34.9</i> | | | | | | | |
| Water depth:* | <i>0.1</i> | | | | | | | |
| Well volume: (gal) | | | | | | | | |
| Purge method: | | | | | | | | |
| Sample method: | | | | | | | | |
| Start time: | | Odor: | | | | | | |
| Stop time: | | Purge Appearance: | | | | | | |
| Duration: (minutes) | | Sample Appearance: | | | | | | |
| Rate, gpm: | | Comments: <i>insufficient water to sample</i> | | | | | | |
| Volume, purged: | | | | | | | | |
| Duplicate collected? | <i>None</i> | | | | | | | |
| Sample collection by: | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | Well Condition: | | | | | | |
| MW: groundwater monitoring well | WS: water supply well | SW: surface water | SE: sediment | other: <i>temporary well</i> | | | | |
| VOC- | semi-volatile- | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil,grease- | bacteria- | total metal- | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <u>U of M</u> | | Monitoring Point: <u>SOC4-GP4</u> | | | | | | |
|---|--------------------------------|---|--------------------------|---------------|---------|-----------------|------|-------------------------|
| Location: <u>UMore Park</u> | | Date: <u>9-10-09</u> | | | | | | |
| Project #: <u>23/19-B05</u> | | Sample Time: <u>1500</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>None</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>60'</u> | | | | | | | |
| Static water level:* | <u>56.7 - 2.37 = 54.33</u> | | | | | | | |
| Water depth:* | <u>6.67</u> | | | | | | | |
| Well volume: (gal) | <u>0.27</u> | | | | | | | |
| Purge method: | <u>check valve</u> | | | | | | | |
| Sample method: | <u>check valve</u> | | | | | | | |
| Start time: | | Odor: <u>None</u> | | | | | | |
| Stop time: | | Purge Appearance: <u>Tan, opaque, clearing</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>Cloudy</u> | | | | | | |
| Rate, gpm: | | Comments: <u>For metals: Placed 1L in unpreserved plastic bottle, let the silt settle out, decanted into the Alk cap, filtered, then placed 300 mL in the preserved plastic bottle.</u> | | | | | | |
| Volume, purged: | <u>1 gal</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: | <u>ESC</u> | | | | | | | |
| Others present: <u>Matrix (Guy + Pat)</u> | | CO2- | Mn2- | Fe(T)- | Fe2- | Well Condition: | | |
| MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other: <u>temporary well</u> | | | | | | | | |
| VOC- | semi-volatile- <u>X</u> | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | filtered metal- <u>X</u> | methane- | filter- | | | |
| Others: <u>Nitrogen Nitrocellulose</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <u>Hof M</u> | | Monitoring Point: <u>SOC ⁴ GP5</u> | | | | | | | |
|--|------------------------------|---|--------------------------|-------------------|---------|--------------|------|------------------------------|--|
| Location: <u>U More Park</u> | | Date: <u>9-10-09</u> | | | | | | | |
| Project #: <u>23/19-BOS</u> | | Sample Time: <u>1730</u> | | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | | |
| Barr lock: | <u>None</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance | |
| Casing diameter: | <u>1"</u> | | | | | | | | |
| Total well depth:* | <u>62</u> | | | | | | | | |
| Static water level:* | <u>53.62-1.78 =51.84</u> | | | | | | | | |
| Water depth:* | <u>10.16</u> | | | | | | | | |
| Well volume: (gal) | <u>0.41</u> | | | | | | | | |
| Purge method: | <u>check valve</u> | | | | | | | | |
| Sample method: | <u>check valve</u> | | | | | | | | |
| Start time: | | Odor: <u>None</u> | | | | | | | |
| Stop time: | | Purge Appearance: <u>Tan to opaque, but clearing quickly</u> | | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>Cloudy</u> | | | | | | | |
| Rate, gpm: | | Comments: <u>For metals sample: Settled → Siphoned → Filtered → Preserved</u> | | | | | | | |
| Volume, purged: | <u>2gal</u> | | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | | |
| Sample collection by: <u>ESC</u> | | CO2- | Mn2- | Fe(T)- | Fe2- | | | | |
| Others present: <u>Matrix Clay, Pat)</u> | | Well Condition: | | | | | | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: <u>temporary well</u> | |
| VOC- <u>X</u> | semi-volatile- <u>X</u> | general- | nutrient- | cyanide- | DRO- | Sulfide- | | | |
| oil, grease- | bacteria- | total metal- | filtered metal- <u>X</u> | methane- | filter- | | | | |
| Others: <u>Nitrogen, Nitrocellulose</u> | | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <u>UofM</u> | | Monitoring Point: <u>SOC5-GP1</u> | | | | | | |
|--|---------------------------------|---|--|-------------------|---------|--------------|------|------------------------------|
| Location: <u>SOC5</u> | | Date: <u>9-2-09</u> | | | | | | |
| Project #: <u>23/19-OBOS</u> | | Sample Time: <u>0950</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>none</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>24'</u> | | | | | | | |
| Static water level:* | <u>19.02 - 1.12 = 17.90</u> | | | | | | | |
| Water depth:* | <u>6.10</u> | | | | | | | |
| Well volume: (gal) | <u>0.2501</u> | | | | | | | |
| Purge method: | <u>Check valve</u> | | | | | | | |
| Sample method: | <u>Check valve</u> | | | | | | | |
| Start time: | <u>0950</u> | Odor: <u>None</u> | | | | | | |
| Stop time: | | Purge Appearance: <u>Tan muddy - 5 of 5</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>Almost clear - 2 of 5</u> | | | | | | |
| Rate, gpm: | | Comments: <u>Collected grab + dup for pesticides, then grab + dup for nitrogen, etc. Collected ms/msd on 9-3-09</u> <u>Field Altered</u> | | | | | | |
| Volume, purged: | <u>2 gal</u> | | | | | | | |
| Duplicate collected? | <u>Yes (SOC5-Dup1)</u> | | | | | | | |
| Sample collection by: | <u>ESC</u> | | | | | | | |
| | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: <u>Matrix</u> | | Well Condition: | | | | | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: <u>temporary well</u> |
| VOC- <u>X</u> | semi-volatile- <u>X</u> | <u>Nitrogen</u> general- <u>X</u> | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | <u>PPL</u> filtered metal- <u>X</u> | methane- | filter- | | | |
| Others: <u>Perchlorate, Nitrocellulose, List 1 + 2 Pest, OC Pesticides</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company

Field Log Data Sheet

| Client: <i>UfM</i> | | Monitoring Point: <i>SOC5-GP2</i> | | | | | | |
|---------------------------------|--------------------------|--|-----------------|------------------------------|---------|----------|------|-------------------------|
| Location: <i>SOC5</i> | | Date: 9-3-09 <i>9-3-09</i> | | | | | | |
| Project #: <i>23/19-BOS</i> | | Sample Time: <i>0900</i> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <i>None</i> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <i>1"</i> | | | | | | | |
| Total well depth:* | <i>46'</i> | | | | | | | |
| Static water level:* | | | | | | | | |
| Water depth:* | | | | | | | | |
| Well volume: (gal) | | | | | | | | |
| Purge method: | | | | | | | | |
| Sample method: | | | | | | | | |
| Start time: | | Odor: <i>None</i> | | | | | | |
| Stop time: | | Purge Appearance: | | | | | | |
| Duration: (minutes) | | Sample Appearance: | | | | | | |
| Rate, gpm: | | Comments: <i>Dry on 9/2/09 immediately after drilling</i> <i>Dry on 9/3/09 @ 0900</i> <i>Not sampled</i> | | | | | | |
| Volume, purged: | | | | | | | | |
| Duplicate collected? | <i>No</i> | | | | | | | |
| Sample collection by: | <i>ESC</i> | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | <i>Matrix (Guy, Pat)</i> | Well Condition: | | | | | | |
| MW: groundwater monitoring well | WS: water supply well | SW: surface water | SE: sediment | other: <i>temporary well</i> | | | | |
| VOC- | semi-volatile- | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <u>UofM</u> | | Monitoring Point: <u>GP-3</u> | | | | | | |
|---|-----------------------------------|--|-------------|---------------|------|-----------------|------|-------------------------|
| Location: <u>SOC5</u> | | Date: <u>9-3-09 to 9/9/09</u> | | | | | | |
| Project #: <u>23/19-BOS</u> | | Sample Time: <u>1100</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>none</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>50</u> | | | | | | | |
| Static water level:* | <u>40.36</u> <u>42.53-2.17</u> | | | | | | | |
| Water depth:* | <u>7.64</u> | | | | | | | |
| Well volume: (gal) | <u>0.40</u> | | | | | | | |
| Purge method: | <u>check valve</u> | | | | | | | |
| Sample method: | <u>check valve</u> | | | | | | | |
| Start time: | <u>1100</u> | Odor: <u>none</u> | | | | | | |
| Stop time: | | Purge Appearance: <u>tan, opaque</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: | | | | | | |
| Rate, gpm: | | <div>Comments: <u>Purged @ 1000</u> <u>Recovered 5' (halfway) @ 1100</u> <u>Collected 1 L @ 1100</u> <u>- 1 L @ 1230</u> <u>- 1 L @ 1500</u> <u>- 1 L @ 1330</u></div> <div>List 1+2 Pest</div> | | | | | | |
| Volume, purged: | <u>0.5 gal</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: | <u>ESC</u> | | | | | | | |
| | | CO2- | Mn2- | Fe(T)- | Fe2- | Cover for other | | |
| Others present: <u>Matrix</u> | | Well Condition: | | | | | | |
| MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment | | other: <u>temporary well</u> | | | | | | |
| VOC- <u>X</u> semi-volatile- <u>X</u> general- nutrient- cyanide- DRO- Sulfide- | | | | | | | | |
| oil, grease- bacteria- total metal- filtered metal- <u>X</u> methane- filter- | | | | | | | | |
| Others: <u>List 1+2 Pesticides, OC Pesticides, Nitrogen, Nitrocellulose</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| | | | | | | | | |
|---|----------------------------|--|--|-------------------|---------|--------------|------|------------------------------|
| Client: <u>doFM</u> | | Monitoring Point: <u>SOC5-GP4</u> | | | | | | |
| Location: <u>SOC5-GP4 (easton)</u> | | Date: <u>9-1-09</u> | | | | | | |
| Project #: <u>2319-0305</u> | | Sample Time: <u>0900</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: <u>n/a</u> | <u>temporary well</u> | | | | | | | |
| Casing diameter: | <u>1"</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth:* | <u>52</u> | | | | | | | |
| Static water level:* | <u>5.3'</u> | | | | | | | |
| Water depth:* | <u>47.2 - 2.5 = 46.7</u> | | | | | | | |
| Well volume: (gal) | <u>0.22</u> | | | | | | | |
| Purge method: | <u>check valve</u> | | | | | | | |
| Sample method: | <u>check valve</u> | | | | | | | |
| Start time: | | Odor: <u>none</u> | | | | | | |
| Stop time: | | Purge Appearance: <u>opaque tan 5 of 5</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>3.5 of 5</u> | | | | | | |
| Rate, gpm: | | Comments: <u>field filtered metals</u> | | | | | | |
| Volume, purged: | <u>3 gallons 3 volumes</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: <u>ESC Matrix</u> | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: <u>Matrix</u> | | Well Condition: | | | | | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: <u>temporary well</u> |
| VOC- <u>X</u> | semi-volatile- <u>X</u> | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | <u>PPL</u> filtered metal- <u>X</u> | methane- | filter- | | | |
| Others: <u>Pesticides (OC and 1+2); Nitrogen; Nitro cellulose</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| | | | | | | | | |
|--|------------------------------------|---|-----------------|---------------|-----------------------|----------|------|-------------------------|
| Client: <u>U of M</u> | | Monitoring Point: <u>SOC5-6P9</u> | | | | | | |
| Location: <u># SOC5 UMore Park</u> | | Date: <u>9-9-09</u> | | | | | | |
| Project #: <u>23/19-B05</u> | | Sample Time: | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>None</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>53' 53' -2.1</u> | | | | | | | |
| Static water level:* | | | | | | | | |
| Water depth:* | | | | | | | | |
| Well volume: (gal) | | | | | | | | |
| Purge method: | | | | | | | | |
| Sample method: | | | | | | | | |
| Start time: | | Odor: <u>None</u> | | | | | | |
| Stop time: | | Purge Appearance: | | | | | | |
| Duration: (minutes) | | Sample Appearance: | | | | | | |
| Rate, gpm: | | Comments: <u>Dry on 9/9/07 immediately after drilling</u> <u>Dry on 9/10/09 @ 0830.</u> <u>Not sampled.</u> | | | | | | |
| Volume, purged: | | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: <u>ESL</u> | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: <u>Matrix (Guy, Pat)</u> | | Well Condition: | | | | | | |
| MW: groundwater monitoring well | WS: water supply well | SW: surface water | SE: sediment | other: | <u>Temporary well</u> | | | |
| VOC- | semi-volatile- | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil,grease- | bacteria- | total metal- | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company

Field Log Data Sheet

| Client: <u>UofM</u> | | Monitoring Point: <u>SOC5-GP10</u> | | | | | | |
|---|---------------------------|--|-------------|---------------|------|----|------|-------------------------|
| Location: <u>SOC5</u> | | Date: <u>9-8-09</u> | | | | | | |
| Project #: <u>23/19-B05</u> | | Sample Time: <u>1300</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>No</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>68'</u> | | | | | | | |
| Static water level:* | <u>63.18-2.75 = 60.43</u> | | | | | | | |
| Water depth:* | <u>7.57</u> | | | | | | | |
| Well volume: (gal) | <u>0.31</u> | | | | | | | |
| Purge method: | <u>check valve</u> | | | | | | | |
| Sample method: | <u>check valve</u> | | | | | | | |
| Start time: | <u>1300</u> | Odor: <u>None</u> | | | | | | |
| Stop time: | <u>1400</u> | Purge Appearance: <u>Tan, opaque but clearing quickly</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>Cloudy</u> | | | | | | |
| Rate, gpm: | | Comments: <u>Field Altered metals</u> <u>Grouted up on 9/8/09</u> <u>Able to pump indefinitely</u> | | | | | | |
| Volume, purged: | <u>1 gal</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: | <u>ESC</u> | | | | | | | |
| | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: <u>Matrix</u> | | Well Condition: | | | | | | |
| MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other: <u>temporary well</u> | | | | | | | | |
| VOC- <u>X</u> semi-volatile- <u>X</u> <u>Nitrogen</u> general- <u>X</u> nutrient- cyanide- DRO- Sulfide- | | | | | | | | |
| oil, grease- bacteria- total metal- filtered metal- <u>X</u> methane- filter- | | | | | | | | |
| Others: <u>Nitrocellulose, Perchlorate, OC Pesticides, List 1+2 Pesticides</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| Client: <u>UofM</u> | | Monitoring Point: <u>SOC5-GP11</u> | | | | | | |
|---|--|--|---|---------------|---------|-----------------|------|-------------------------|
| Location: <u>SOC 5</u> | | Date: <u>9-9-09</u> | | | | | | |
| Project #: <u>23/19-BOS</u> | | Sample Time: <u>0900</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>None</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | <u>1"</u> | | | | | | | |
| Total well depth:* | <u>608'</u> | | | | | | | |
| Static water level:* | <u>62.39 - 1.15 = 61.24</u> | | | | | | | |
| Water depth:* | <u>6.76</u> | | | | | | | |
| Well volume: (gal) | <u>0.27</u> | | | | | | | |
| Purge method: | <u>Check valve</u> | | | | | | | |
| Sample method: | <u>Check valve</u> | | | | | | | |
| Start time: | | Odor: <u>None</u> | | | | | | |
| Stop time: | | Purge Appearance: <u>Tan, opaque & clearing quickly</u> | | | | | | |
| Duration: (minutes) | | Sample Appearance: <u>Cloudy</u> | | | | | | |
| Rate, gpm: | | Comments: <u>Field filtered Able to produce indefinitely</u> | | | | | | |
| Volume, purged: | <u>2 gal</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: | <u>ELC</u> | | | | | | | |
| Others present: <u>Guy, Pat (Matrix)</u> | | CO2- | Mn2- | Fe(T)- | Fe2- | Well Condition: | | |
| MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other: <u>temporary well</u> | | | | | | | | |
| VOC- <input checked="" type="checkbox"/> | semi-volatile- <input checked="" type="checkbox"/> | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | filtered metal- <input checked="" type="checkbox"/> | methane- | filter- | | | |
| Others: <u>List 1 + 2 Pest, OC Pesticides, Nitrogen, Nitrocellulose</u> | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

Barr Engineering Company
Field Log Data Sheet

| | | | | | | | | |
|---|--------------------------|--|--------------------|-------------------|-------------|--------------|-------------|-------------------------|
| Client: <u>U MORE</u> | | Monitoring Point: <u>WSW-207607</u> | | | | | | |
| Location: <u>Rosemount</u> | | Date: <u>9/15/09</u> | | | | | | |
| Project #: <u>23/19-OB05675</u> | | Sample Time: <u>1235</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>no lock</u> | | | | | | | |
| Casing diameter: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth:* | | <u>1200</u> | <u>9.79</u> | <u>561</u> | <u>7.36</u> | <u>76</u> | <u>3.49</u> | <u>clear</u> |
| Static water level:* | | <u>1210</u> | <u>9.75</u> | <u>558</u> | <u>7.35</u> | <u>82</u> | <u>3.38</u> | <u>"</u> |
| Water depth:* | | <u>1220</u> | <u>9.71</u> | <u>555</u> | <u>7.34</u> | <u>85</u> | <u>3.30</u> | <u>"</u> |
| Well volume: (gal) | | | | | | | | |
| Purge method: | <u>Dedicated</u> | | | | | | | |
| Sample method: | <u>Grab</u> | | | | | | | |
| Start time: | <u>1150</u> | Odor: <u>none detected</u> | | | | | | |
| Stop time: | <u>1220</u> | Purge Appearance: <u>clear</u> | | | | | | |
| Duration: (minutes) | <u>30</u> | Sample Appearance: <u>clear</u> | | | | | | |
| Rate, gpm: | <u>~10-15</u> | Comments: <u>MS/MSD collected a</u> <u>WSW 207607</u> | | | | | | |
| Volume, purged: | <u>300-450 gal</u> | | | | | | | |
| Duplicate collected? | <u>MS/MSD</u> | | | | | | | |
| Sample collection by: | <u>KST</u> | | | | | | | |
| Others present: | | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| NW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- <u>9</u> | semi-volatile- <u>12</u> | general- <u>3</u> | nutrient- <u>2</u> | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- <u>1</u> | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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Barr Engineering Company
Field Log Data Sheet

| | | | | | | | | |
|---|-------------------------|--|--------------------|-------------------|-------------|--------------|-------------|-------------------------|
| Client: <u>UMORE</u> | | Monitoring Point: <u>WSW-208402</u> | | | | | | |
| Location: <u>Rosemount</u> | | Date: <u>9/15/09</u> | | | | | | |
| Project #: <u>23/19-OBOS RI 200</u> | | Sample Time: <u>1400</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>no lock</u> | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | | | | | | | | |
| Total well depth:* | | <u>1320</u> | <u>9.84</u> | <u>564</u> | <u>7.28</u> | <u>96</u> | <u>0.25</u> | <u>clear</u> |
| Static water level:* | | <u>1330</u> | <u>9.95</u> | <u>564</u> | <u>7.27</u> | <u>88</u> | <u>0.60</u> | <u>"</u> |
| Water depth:* | | <u>1340</u> | <u>9.97</u> | <u>564</u> | <u>7.20</u> | <u>81</u> | <u>0.36</u> | <u>"</u> |
| Well volume: (gal) | | <u>1350</u> | <u>10.04</u> | <u>563</u> | <u>7.20</u> | <u>77</u> | <u>0.30</u> | <u>"</u> |
| Purge method: | <u>Dedicated</u> | | | | | | | |
| Sample method: | <u>Grab</u> | | | | | | | |
| Start time: | <u>1310</u> | Odor: <u>None detected</u> | | | | | | |
| Stop time: | <u>1350</u> | Purge Appearance: <u>clear</u> | | | | | | |
| Duration: (minutes) | <u>40</u> | Sample Appearance: <u>clear</u> | | | | | | |
| Rate, gpm: | <u>~8</u> | Comments: <u>WSW-208402 collected from spigot @ building front, directly from tap.</u> | | | | | | |
| Volume, purged: | <u>320 gal</u> | | | | | | | |
| Duplicate collected? | <u>No</u> | | | | | | | |
| Sample collection by: | <u>KST</u> | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- <u>3</u> | semi-volatile- <u>5</u> | general- <u>1</u> | nutrient- <u>1</u> | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- <u>1</u> | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.



Barr Engineering Company Field Log Data Sheet

| | | | | | | | | |
|---|-------------------------|---|--------------------|-------------------|-------------|--------------|-------------|-------------------------|
| Client: <u>LMORE</u> | | Monitoring Point: <u>WSW-208405</u> | | | | | | |
| Location: <u>Rosemount</u> | | Date: <u>9/15/09</u> | | | | | | |
| Project #: <u>23/19-0805, 179121200</u> | | Sample Time: <u>1515</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>no lock</u> | | | | | | | |
| Casing diameter: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth:* | | <u>1450</u> | <u>9.44</u> | <u>593</u> | <u>7.21</u> | <u>109</u> | <u>0.63</u> | <u>clear</u> |
| Static water level:* | | <u>1500</u> | <u>9.41</u> | <u>595</u> | <u>7.18</u> | <u>103</u> | <u>0.59</u> | <u>u</u> |
| Water depth:* | | <u>1510</u> | <u>9.40</u> | <u>597</u> | <u>7.17</u> | <u>101</u> | <u>0.61</u> | <u>"</u> |
| Well volume: (gal) | | | | | | | | |
| Purge method: | <u>Dedicated</u> | | | | | | | |
| Sample method: | <u>Grab</u> | | | | | | | |
| Start time: | <u>1440</u> | Odor: <u>none detected</u> | | | | | | |
| Stop time: | <u>1510</u> | Purge Appearance: <u>clear</u> | | | | | | |
| Duration: (minutes) | <u>30</u> | Sample Appearance: <u>clear</u> | | | | | | |
| Rate, gpm: | <u>≈ 8</u> | Comments: <u>WSW-208405 collected @ tap @ back of house</u> | | | | | | |
| Volume, purged: | <u>240 gal</u> | | | | | | | |
| Duplicate collected? | <u>no</u> | | | | | | | |
| Sample collection by: | <u>KST</u> | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- <u>3</u> | semi-volatile- <u>6</u> | general- <u>1</u> | nutrient- <u>1</u> | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- <u>1</u> | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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BARR ENGINEERING COMPANY

METER CALIBRATION SUMMARY

PROJECT U-MORE
TECHNICIAN RST

WEATHER CONDITIONS

[illegible][illegible]

BARR

Barr Engineering Company Field Log Data Sheet

| Client: <u>UMORE</u> | | Monitoring Point: <u>WSW 207605</u> | | | | | | |
|---|-------------------------|-------------------------------------|--------------------|---------------|-------------|------------|-------------|-------------------------|
| Location: <u>Rosemount</u> | | Date: <u>9/29/09</u> | | | | | | |
| Project #: <u>23/19-0805SIRI 300</u> | | Sample Time: <u>1155</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | <u>none</u> | | | | | | | |
| Casing diameter: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth:* | | <u>1100</u> | <u>12.10</u> | <u>530</u> | <u>7.32</u> | <u>-44</u> | <u>1.07</u> | <u>clear</u> |
| Static water level:* | | <u>1110</u> | <u>11.59</u> | <u>528</u> | <u>7.38</u> | <u>-27</u> | <u>1.00</u> | <u>"</u> |
| Water depth:* | | <u>1120</u> | <u>11.10</u> | <u>529</u> | <u>7.35</u> | <u>-48</u> | <u>0.98</u> | <u>"</u> |
| Well volume: (gal) | | <u>1130</u> | <u>10.90</u> | <u>530</u> | <u>7.37</u> | <u>-45</u> | <u>1.03</u> | <u>"</u> |
| Purge method: | <u>Dedicated</u> | <u>1140</u> | <u>10.89</u> | <u>531</u> | <u>7.39</u> | <u>-41</u> | <u>.97</u> | <u>"</u> |
| Sample method: | <u>Grab</u> | <u>1150</u> | <u>10.74</u> | <u>532</u> | <u>7.40</u> | <u>-43</u> | <u>1.02</u> | <u>"</u> |
| Start time: | <u>1050</u> | Odor: <u>None detected</u> | | | | | | |
| Stop time: | <u>1150</u> | Purge Appearance: <u>clear</u> | | | | | | |
| Duration: (minutes) | <u>60</u> | Sample Appearance: <u>clear</u> | | | | | | |
| Rate, gpm: | <u>≈ 1510</u> | Comments: | | | | | | |
| Volume, purged: | <u>≈ 600 gal</u> | | | | | | | |
| Duplicate collected? | | | | | | | | |
| Sample collection by: | <u>KSJ</u> | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | COLLAR: | LOCK: | OTHER: | | | | | |
| MW: groundwater monitoring well | WS: water supply well | SW: surface water | SE: sediment | other: | | | | |
| VOC- <u>3</u> | semi-volatile- <u>8</u> | general- <u>1</u> | nutrient- <u>1</u> | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- <u>1</u> | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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Barr Engineering Company

Field Log Data Sheet

| Client: <u>UMORE</u> | | Monitoring Point: <u>RAWSON-207607</u> | | | | | | |
|---|-------------------------|--|-----------------|-------------------|---------|--------------|------|-------------------------|
| Location: <u>Rosemount</u> | | Date: <u>9/30/09</u> | | | | | | |
| Project #: <u>23/19-01305 SIKI 300</u> | | Sample Time: <u>7400</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | | | | | | | | |
| Casing diameter: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth: | | 1345 | 9.43 | 552 | 7.38 | 122 | 2.76 | clear |
| Static water level: | | 1355 | 9.49 | 557 | 7.34 | 115 | 2.59 | " |
| Water depth: | | | | | | | | |
| Well volume: (gal) | | | | | | | | |
| Purge method: | <u>Dedicated</u> | | | | | | | |
| Sample method: | <u>Grav</u> | | | | | | | |
| Start time: | <u>1335</u> | Odor: <u>None detected</u> | | | | | | |
| Stop time: | <u>1355</u> | Purge Appearance: <u>clear</u> | | | | | | |
| Duration: (minutes) | <u>20</u> | Sample Appearance: <u>clear</u> | | | | | | |
| Rate, gpm: | <u>~ 15</u> | Comments: <u>Re-collect volume for List 2</u> | | | | | | |
| Volume, purged: | <u>~ 300 gal</u> | | | | | | | |
| Duplicate collected? | <u>MS/MSD</u> | | | | | | | |
| Sample collection by: | | CO2- | Mn2- | Fe(1)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- | semi-volatile- <u>6</u> | general- | nutrient- | cyanide- | DRO- | Sulfide- | | |
| oil, grease- | bacteria- | total metal- | filtered metal- | methane- | filter- | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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Barr Engineering Company

Field Log Data Sheet

| Client: <u>UMORE</u> | | Monitoring Point: <u>WSW-208405</u> | | | | | | |
|---|--------------------|---|-----------------|-------------------|-------------|--------------|-------------|-------------------------|
| Location: <u>Rosemount</u> | | Date: <u>9/30/09</u> | | | | | | |
| Project #: <u>23/19-0805 S/R 300</u> | | Sample Time: <u>1510</u> | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Casing diameter: | | | | | | | | |
| Total well depth: | | <u>1450</u> | <u>9.59</u> | <u>583</u> | <u>7.43</u> | <u>141</u> | <u>1.09</u> | <u>Clear</u> |
| Static water level: | | <u>1500</u> | <u>9.65</u> | <u>587</u> | <u>7.45</u> | <u>149</u> | <u>.98</u> | <u>n</u> |
| Water depth: | | | | | | | | |
| Well volume: (gal) | | | | | | | | |
| Purge method: | <u>Residential</u> | | | | | | | |
| Sample method: | <u>Grab</u> | | | | | | | |
| Start time: | <u>1440</u> | Odor: <u>None detected</u> | | | | | | |
| Stop time: | <u>1500</u> | Purge Appearance: <u>Clear</u> | | | | | | |
| Duration: (minutes) | <u>20</u> | Sample Appearance: <u>Clear</u> | | | | | | |
| Rate, gpm: | <u>≈ 10</u> | Comments: <u>Re-collect volume for LIST 2</u> | | | | | | |
| Volume, purged: | <u>≈ 200 gal</u> | | | | | | | |
| Duplicate collected? | <u>no</u> | | | | | | | |
| Sample collection by: | <u>KSJ</u> | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- | semi-volatile- | Co | general- | nutrient- | cyanide- | URO- | Sulfide- | |
| oil, grease- | bacteria- | total metal- | filtered metal- | methane- | | filter- | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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BARR

Barr Engineering Company Field Log Data Sheet

| Client: UMORE | | Monitoring Point: WSW-208402 | | | | | | |
|---|------------------|---|-------------|-------------------|-------------|-----------------|-------------|-------------------------|
| Location: Rosemount | | Date: 9/29/09 | | | | | | |
| Project #: 23/19-CBOS5/R1300 | | Sample Time: 1320 | | | | | | |
| GENERAL DATA | | STABILIZATION TEST | | | | | | |
| Barr lock: | None | | | | | | | |
| Casing diameter: | | Time/ Volume | Temp. °C | Cond. @ 25 | pH | Eh | D.O. | Turbidity Appearance |
| Total well depth:* | | 1250 | 9.66 | 556 | 7.26 | 71 | 0.27 | Clear |
| Static water level:* | | 1300 | 9.60 | 556 | 7.24 | 52 | 0.35 | " |
| Water depth:* | | 1310 | 9.53 | 557 | 7.23 | 48 | 0.31 | " |
| Well volume: (gal) | | | | | | | | |
| Purge method: | Dedicated | | | | | | | |
| Sample method: | Grab | | | | | | | |
| Start time: | 1240 | Odor: None detected | | | | | | |
| Stop time: | 1310 | Purge Appearance: Clear | | | | | | |
| Duration: (minutes) | 30 | Sample Appearance: Clear | | | | | | |
| Rate, gpm: | ≈ 10 | Comments: List 1 re-sample for Braun | | | | | | |
| Volume, purged: | ≈ 300 gal | | | | | | | |
| Duplicate collected? | No | | | | | | | |
| Sample collection by: | KST | CO2- | Mn2- | Fe(T)- | Fe2- | | | |
| Others present: | | | | | | | | |
| WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form) | | | | | | | | |
| CASING & CAP: | | COLLAR: | | LOCK: | | OTHER: | | |
| MW: groundwater monitoring well | | WS: water supply well | | SW: surface water | | SE: sediment | | other: |
| VOC- 6 | | semi-volatile- 6 | | general- | | nutrient- | | cyanide- |
| oil, grease- | | bacteria- | | total metal- | | filtered metal- | | methane- |
| filter- | | | | | | | | |
| Others: | | | | | | | | |

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

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BARR ENGINEERING COMPANY METER CALIBRATION SUMMARY

PROJECT U-MORE
TECHNICIAN KST

WEATHER CONDITIONS

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6571

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS1-0.5 | SOC5-SS2-0.5 | SOC5-SS3-0.5 |
| Latitude/Easting/X Coordinate | 4951531.721 | 4951513.498 | 4951321.645 |
| Longitude/Northing/Y Coordinate | 492308.8035 | 492233.6225 | 492233.026 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.931 | 944.537 | 943.324 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS4-0.5 | SOC5-SS5-0.5 | SOC5-SS6-0.5 |
| Latitude/Easting/X Coordinate | 4951318.603 | 4951188.04 | 4951195.719 |
| Longitude/Northing/Y Coordinate | 492304.766 | 492231.9605 | 492292.9319 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944.52 | 942.118 | 945.571 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS7-0.5 | SOC5-SS8-0.5 | SOC5-SS9-0.5 |
| Latitude/Easting/X Coordinate | 4951218.861 | 4951131.618 | 4951063.594 |
| Longitude/Northing/Y Coordinate | 492358.0965 | 492354.8096 | 492288.1418 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 937.949 | 936.08 | 946.785 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS10-0.5 | SOC5-SS11-0.5 | SOC5-SS12-0.5 |
| Latitude/Easting/X Coordinate | 4951032.292 | 4951022.725 | 4951515.744 |
| Longitude/Northing/Y Coordinate | 492352.6042 | 492378.9428 | 492275.0998 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 937.468 | 944.843 | 949.4 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS14-0.5 | SOC5-SS16-0.5 | SOC5-SS18-0.5 |
| Latitude/Easting/X Coordinate | 4951507.161 | 4951387.787 | 4951383.279 |
| Longitude/Northing/Y Coordinate | 492263.0262 | 492262.2957 | 492274.7382 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 955.202 | 947.093 | 947.05 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS19-0.5 | SOC5-SS20-0.5 | SOC5-SS21-0.5 |
| Latitude/Easting/X Coordinate | 4951382.238 | 4951376.241 | 4951369.536 |
| Longitude/Northing/Y Coordinate | 492279.2525 | 492268.3884 | 492266.9474 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 947 | 946.556 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS22-0.5 | SOC5-SS23-0.5 | SOC5-SS24-0.5 |
| Latitude/Easting/X Coordinate | 4951255.156 | 4951259.825 | 4951249.505 |
| Longitude/Northing/Y Coordinate | 492261.2328 | 492261.0284 | 492273.9551 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.815 | 946 | 945.867 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS25-0.5 | SOC5-SS26-0.5 | SOC5-SS27-0.5 |
| Latitude/Easting/X Coordinate | 4951251.542 | 4951244.283 | 4951239.767 |
| Longitude/Northing/Y Coordinate | 492277.3947 | 492261.815 | 492262.4255 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 945 | 946.71 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS28-0.5 | SOC5-SS30-0.5 | SOC5-SS32-0.5 |
| Latitude/Easting/X Coordinate | 4951122.945 | 4951117.648 | 4951112.279 |
| Longitude/Northing/Y Coordinate | 492261.3374 | 492272.6764 | 492261.7816 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 947.937 | 947.911 | 949.262 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS39-0.5 | SOC5-SS43-0.5 | SOC5-SS44-0.5 |
| Latitude/Easting/X Coordinate | 4951302.69 | 4951060.268 | 4951051.801 |
| Longitude/Northing/Y Coordinate | 492390.3594 | 492383.4856 | 492404.848 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946 | 945 | 945 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS45-0.5 | SOC5-SS46-0.5 | SOC5-SS47-0.5 |
| Latitude/Easting/X Coordinate | 4951039.036 | 4951292.958 | 4951067.284 |
| Longitude/Northing/Y Coordinate | 492388.696 | 492238.0137 | 492242.9819 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 950 | 945.8 | 945.958 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Test Trench Sample |
| Station Name | SOC5-SS48-0.5 | SOC5-SS49-0.5 | SOC4-TT6-0.5 |
| Latitude/Easting/X Coordinate | 4951281.979 | 4951100.46 | 4951244.673 |
| Longitude/Northing/Y Coordinate | 492367.214 | 492366.1126 | 492588.9596 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 945.347 | 943.931 | 937.22 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Test Trench Sample | Test Trench Sample | Test Trench Sample |
| Station Name | SOC4-TT9-6 | SOC4-TT12-0.5 | SOC5-TT2-3 |
| Latitude/Easting/X Coordinate | 4951002.86 | 4950923.207 | 4951507.582 |
| Longitude/Northing/Y Coordinate | 492364.3554 | 492298.2038 | 492249.3177 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944.417 | 935.874 | 948.159 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Test Trench Sample | Test Trench Sample | Test Trench Sample |
| Station Name | SOC5-TT5-4 | SOC5-TT7-4 | SOC5-TT9-13 |
| Latitude/Easting/X Coordinate | 4951440.899 | 4951388.049 | 4951321.739 |
| Longitude/Northing/Y Coordinate | 492376.6613 | 492274.8787 | 492376.3734 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 943.476 | 946.849 | 946.776 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Test Trench Sample | Test Trench Sample | Test Trench Sample |
| Station Name | SOC5-TT13-3 | SOC5-TT18-4 | SOC5-TT25-5 |
| Latitude/Easting/X Coordinate | 4951243.666 | 4951176.567 | 4951044.523 |
| Longitude/Northing/Y Coordinate | 492249.6728 | 492380.272 | 492379.4855 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.459 | 949.41 | 945.806 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Test Trench Sample | Test Trench Sample | Boring |
| Station Name | SOC5-TT29-5 | SOC5-TT29-6 | SOC4-GP1 |
| Latitude/Easting/X Coordinate | 4951338.964 | 4951331.598 | 4951431.325 |
| Longitude/Northing/Y Coordinate | 492333.5999 | 492319.3356 | 492604.4824 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.228 | 945.678 | 945.933 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC4-GP2 | SOC4-GP3 | SOC4-GP4 |
| Latitude/Easting/X Coordinate | 4951179.348 | 4951067.333 | 4950954.27 |
| Longitude/Northing/Y Coordinate | 492567.7894 | 492497.4974 | 492343.4617 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 942.448 | 942.805 | 939.097 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC4-GP5 | SOC4-GP6 | SOC4-GP7 |
| Latitude/Easting/X Coordinate | 4950894.733 | 4950813.464 | 4950994.842 |
| Longitude/Northing/Y Coordinate | 492254.5299 | 492141.11 | 492259.1584 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 935.505 | 934.79 | 941.424 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP1 | SOC5-GP2 | SOC5-GP3 |
| Latitude/Easting/X Coordinate | 4951536.378 | 4951468.39 | 4951386.106 |
| Longitude/Northing/Y Coordinate | 492407.2573 | 492408.7569 | 492378.4167 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.721 | 947.125 | 941.617 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP4 | SOC5-GP5 | SOC5-GP6 |
| Latitude/Easting/X Coordinate | 4951405.73 | 4951394.833 | 4951394.986 |
| Longitude/Northing/Y Coordinate | 492321.9564 | 492233.5946 | 492251.8891 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 940.44 | 946.575 | 947.207 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP7 | SOC5-GP8 | SOC5-GP9 |
| Latitude/Easting/X Coordinate | 4951367.046 | 4951371.969 | 4951326.859 |
| Longitude/Northing/Y Coordinate | 492236.2143 | 492247.3127 | 492411.7566 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.094 | 946.7 | 947.914 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP10 | SOC5-GP11 | SOC5-GP12 |
| Latitude/Easting/X Coordinate | 4951194.974 | 4951060.805 | 4951446.312 |
| Longitude/Northing/Y Coordinate | 492410.026 | 492409.4853 | 492359.6918 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 945.156 | 945.266 | 939.331 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP13 | SOC5-GP14 | SOC5-GP15 |
| Latitude/Easting/X Coordinate | 4951425.744 | 4951460.177 | 4951454.083 |
| Longitude/Northing/Y Coordinate | 492358.6116 | 492394.1487 | 492388.1066 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 938.775 | 946.774 | 950.013 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP16 | SOC5-GP17 | SOC5-GP18 |
| Latitude/Easting/X Coordinate | 4951447.622 | 4951441.577 | 4951323.016 |
| Longitude/Northing/Y Coordinate | 492403.0876 | 492390.8548 | 492394.2439 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 949.56 | 950.783 | 951.705 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP19 | SOC5-GP20 | SOC5-GP21 |
| Latitude/Easting/X Coordinate | 4951318 | 4951307.529 | 4951189.03 |
| Longitude/Northing/Y Coordinate | 492402.7831 | 492385.5201 | 492389.9239 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 949.533 | 951.236 | 950.366 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP22 | SOC5-GP23 | SOC5-GP24 |
| Latitude/Easting/X Coordinate | 4951182.546 | 4951176.027 | 4951057.248 |
| Longitude/Northing/Y Coordinate | 492403.9153 | 492391.5475 | 492383.6965 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 947.722 | 949.293 | 945.562 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Boring | Boring |
| Station Name | SOC5-GP25 | SOC5-GP26 | SOC5-GP27 |
| Latitude/Easting/X Coordinate | 4951051.507 | 4951044.649 | 4951429.911 |
| Longitude/Northing/Y Coordinate | 492400.8401 | 492389.2464 | 492375.5406 |
| Collection Method | GPS - Survey Quality | GPS - Survey Quality | GPS - Survey Quality |
| Collection Date | 9/23/2009 | 9/23/2009 | 9/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946.254 | 952.005 | 943.173 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Boring | Surface Sample | Surface Sample |
| Station Name | SOC5-GP28 | SOC5-SS2A | SOC5-SS2B |
| Latitude/Easting/X Coordinate | 4951327.757 | 492233.6439 | 492233.4339 |
| Longitude/Northing/Y Coordinate | 492328.9738 | 4951518.531 | 4951508.45 |
| Collection Method | GPS - Survey Quality | Interpolation-DOQ | Interpolation-DOQ |
| Collection Date | 9/23/2009 | 9/25/2009 | 9/25/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 947.239 | 944 | 944 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2B | SOC5-SS2B | SOC5-SS2C |
| Latitude/Easting/X Coordinate | 492233.4339 | 492235.163 | 492234.8243 |
| Longitude/Northing/Y Coordinate | 4951508.45 | 4951512.628 | 4951542.065 |
| Collection Method | Interpolation-DOQ | Interpolation-DOQ | Interpolation-DOQ |
| Collection Date | 11/10/2009 | 12/23/2009 | 11/10/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944 | 944 | 944 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2D | SOC5-SS2E | SOC5-SS2F |
| Latitude/Easting/X Coordinate | 492224.7956 | 492230.8822 | 492238.5054 |
| Longitude/Northing/Y Coordinate | 4951514.278 | 4951509.853 | 4951510.84 |
| Collection Method | Interpolation-DOQ | Interpolation-DOQ | Interpolation-DOQ |
| Collection Date | 11/10/2009 | 11/10/2009 | 11/10/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946 | 946 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2G | SOC5-SS2H | SOC5-SS2I |
| Latitude/Easting/X Coordinate | 492231.5462 | 492233.0811 | 492238.0172 |
| Longitude/Northing/Y Coordinate | 4951482.98 | 4951482.51 | 4951484.409 |
| Collection Method | Interpolation-DOQ | Interpolation-DOQ | Interpolation-DOQ |
| Collection Date | 11/10/2009 | 11/10/2009 | 11/10/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946 | 944 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2J | SOC5-SS2J | SOC5-SS2K |
| Latitude/Easting/X Coordinate | 492235.838 | 492235.838 | 492235.143 |
| Longitude/Northing/Y Coordinate | 4951524.294 | 4951524.294 | 4951497.734 |
| Collection Method | GPS -Receiver | GPS -Receiver | GPS -Receiver |
| Collection Date | 12/23/2009 | 12/23/2009 | 12/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944 | 944 | 944 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2K | SOC5-SS2L | SOC5-SS2M |
| Latitude/Easting/X Coordinate | 492235.143 | 492237.966 | 492237.675 |
| Longitude/Northing/Y Coordinate | 4951497.734 | 4951521.609 | 4951504.046 |
| Collection Method | GPS -Receiver | GPS -Receiver | GPS -Receiver |
| Collection Date | 12/23/2009 | 12/23/2009 | 12/23/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944 | 946 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2N | SOC5-SS2O | SOC5-SS2O |
| Latitude/Easting/X Coordinate | 492226.079 | 492228.664 | 492228.664 |
| Longitude/Northing/Y Coordinate | 4951533.765 | 4951515.902 | 4951515.902 |
| Collection Method | GPS -Receiver | GPS -Receiver | GPS -Receiver |
| Collection Date | 12/24/2009 | 12/25/2009 | 12/26/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946 | 946 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2P | SOC5-SS2Q | SOC5-SS2R |
| Latitude/Easting/X Coordinate | 492226.944 | 492218.607 | 492219.85 |
| Longitude/Northing/Y Coordinate | 4951495.722 | 4951526.48 | 4951508.161 |
| Collection Method | GPS -Receiver | GPS -Receiver | GPS -Receiver |
| Collection Date | 12/27/2009 | 12/28/2009 | 12/29/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 946 | 946 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample | Surface Sample |
| Station Name | SOC5-SS2T | SOC5-SS2T | SOC5-SS1A |
| Latitude/Easting/X Coordinate | 492235.556 | 492235.556 | 4951528.344 |
| Longitude/Northing/Y Coordinate | 4951504.872 | 4951504.872 | 492302.2471 |
| Collection Method | GPS -Receiver | GPS -Receiver | Interpolation-DOQ |
| Collection Date | 12/30/2009 | 12/31/2009 | 9/25/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant | Consultant |
| Ground Elevation | 944 | 944 | 946 |
| Unique Well Number | | | |
| Top Screen Elevation | | | |
| Bottom Screen Elevation | | | |
| Comments | | | |

SPATIAL DATA REPORTING FORM

Feature Location Data Reporting Form

Background

Remediation Program: Superfund

Site Program ID:

Site Name: UMore Park - UMore Mining Area

Feature Location Data

| | | |
|---------------------------------|--------------------------|--------------------------|
| Station Type | Surface Sample | Surface Sample |
| Station Name | SOC5-SS1B | SOC5-SS1C |
| Latitude/Easting/X Coordinate | 4951538.021 | 4951527.928 |
| Longitude/Northing/Y Coordinate | 492309.6348 | 492314.6293 |
| Collection Method | Interpolation-DOQ | Interpolation-DOQ |
| Collection Date | 9/25/2009 | 9/25/2009 |
| Organization Name | Barr Engineering Company | Barr Engineering Company |
| Organization Type | Consultant | Consultant |
| Ground Elevation | 946 | 946 |
| Unique Well Number | | |
| Top Screen Elevation | | |
| Bottom Screen Elevation | | |
| Comments | | |