Figure B-1. Sampling Point Locations in Model Reach
Near Leavittsburg Bridge
Figure B-2. Location of Recovering Area

Figure B-3. Location of Recovering Area Samples
Appendix C - Field Notes and Field Data Sheets
Mahoning River Biotreatability Study
Contract G-221
Girard & Warren, OH

Dates of Field Activities:
  Initial Sampling: 5/31/03 - 6/1/03
  Inoculation: 10/3/03 - 10/4/03
  6-week Sampling: 11/22/03 (see J. Ford's logbook)
  Final Sampling: 3/27/04-3/28/04 (see J. Ford's logbook)

Contacts:

Emergency: 911
Katy Makey, Project Manager: 301-340-3301 office, 301-335-8823 cell
Barbara Cook, Site Manager: 301-681-4442 office, 301-602-4433 cell
Jared Ford, Field Biologist: 614-778-5945 cell
Jo Davison, Research Director: 614-278-2600 office
1205 Background PID

1210 Water sample WTR MOS

Total water depth 2.4"
Spl depth ~12"

Haribax: pH 5.48
at 1310 cent 43.9 mS/m

Turb 20 NTU
DO 7.84 mg/L
Temp 16.8 C
TDS 0.2 g/L
Sal 0.0 %

ORP 221 mV

YSI DO 1.95 mg/L
at 1320 temp 17.3 C

PID not functional in rain.

1220 Sed spl TR MOS 0.6" from top of sed, 2' below water surface. Grab/homogenized over depth...

5 jars, no preserv for chem lab; 1 plastic jar for bio lab.
Extra jar w/ head space for field gas readings.
Homogenize in dishpan, except head space sample.

Page 3, 5/31/03 BE Cool
Horibe pH 5.53
1530 cond 0.0 mS/m
DO 9.6 mg/L
temp 14.7 °C
sal 0.0 u
ORP 206 mV

Fill 5 extra jars (no preserv) for TEMOSMSMSD1.

1600 Begin augering TPM05 1st attempt

TPM05
1630 O2 20.9 %
H2S 0.0
CH4 0.0

Ph 5.5
DO 20.9
cond 0
DO 16
temp 13.1 °C
sal 0.0
ORP 213

No visibly contaminated sed. in TPM05.

1645 Depart Girard site
2020 Begin aoping for ecotone sample.

MEMOS w distilled water

Horibó pH 5.98
Cond 8.7
DO 9.7
Temp 12.2
Sal 0.092

ORP 183 mV

2100 Depart site for hotel
0915 Arrive Recovering Area site. Gate is open.

Unload gear, and Jared departs to pick up J. Davison.

Water level ~1' above yesterday; footpath along river under water.

Location:

![Diagram]

1100 J. Ford & J. Davison arrive at site.

Continue with boring RPM05; no contain sedis apparent to 6.5'
**REMO5**

- H₂S: 0
- CH₄: 0
- O₂: 20.0
- PID: 0
- pH: 6.44
- DO: 8.0 mg/L
- Temp: 22.4 °C
- sal: 0.0
- ORP: 145 mV

**RPMO5**

- no readings - sitting out in light

---

Fill 5 extra jars for REMOS DU.

---

1430 Depart Recovering Area site

Return to Test site to re-attempt riparian sample (1st attempt encountered no visibly contaminated sediments).

Discard TPMOS sample attempted 5/31/03.
INOCULATION 10/3/03, 10/4/03

10/3/03  1230  K. Makeig and B. Cook arrive at site to clear heavy vegetation and set up inoculation grid. Set up corner stakes for 50x50 test plot, and place ropes and flagging for sample locations.

~1730 Depart site for hotel.
1200 Kim Mascarella of Eastgate arrives.

1215 Begin spraying inoculum on ground surface in P zone. 160 psi

1225 Complete 20 gal in P. Refill gasoline in pump. Begin spraying in E.

1240 Complete spraying in E, 20 gal.

1256 Reinject 8 locs in R near shore row, 20 gal

1346 Complete 75 gal in 2 outer rows of R, injection. Begin placing biocarb bags in outer rows, from boat.

1340 Mayor and press arrive.

1350 Complete biocarb bag placement.

Spray remaining inoculum on surface in R + E.

1430 Depart site.
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows (N)</th>
<th>Sample</th>
<th>Description</th>
<th>Well Details</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Memos</td>
<td>3-5.6'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Memos</td>
<td>De brown sandy clayey silt w some organics (roots, leaves) (ML)</td>
<td>N.A.</td>
<td>Stickup:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Memos</td>
<td>Grader w more sand, wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Memos</td>
<td>40&quot; Black clayey sand and silt, slight organic odor (SM/ML)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Memos</td>
<td>40&quot; Gray sandy clayey silt (ML)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Memos</td>
<td>60&quot; Gray clay/silty sand (SM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Memos</td>
<td>Grader w more brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Memos</td>
<td>Bottom of hole 67&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Memos</td>
<td>5-6'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Memos</td>
<td>5-6'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
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<td>Memos</td>
<td>5-6'</td>
<td></td>
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<tr>
<td>9</td>
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<td>Memos</td>
<td>5-6'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Memos</td>
<td>5-6'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Boring Depth (feet): 5.6'
Gray sandy clay (CL), grass cover, wet

Black clayey sandy silt (ML), organic odor, wet
REMOS composite of 18" - 54" and REMOS DVP

Gray sandy clay (CL), wet

Bottom of hole 5'

Total Boring Depth (feet): 5.0
Boring or Well No: RPM05

WSI Contract No: G 221
Date Started: 6/1/03 Date Finished: 6/1/03

Project Name: Mahoning River Bioret.
Drilling Company: WSI
Drilling Method: hand auger
Logger/Sampler: Cook / Ford
Ground Surface Elevation: 

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<th>Depth (ft)</th>
<th>Blows (N)</th>
<th>Sample</th>
<th>Description</th>
<th>Well Details</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Dark brown sandy clay with organics (topsoil, CL), mowed grass cover, moist. 3&quot; Grasses to yellow brown, feebly organic. 6&quot; Grades to mottled yellow brown and gray, moist. 2.5-6' composite RPM05 no visible contam.</td>
<td>NA</td>
<td>Stickup: PID = 0</td>
</tr>
<tr>
<td>4.5</td>
<td></td>
<td></td>
<td>4&quot; Gravel 1&quot; subangular pieces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td></td>
<td></td>
<td>6&quot; more gravel</td>
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Total Boring Depth (feet): 6.5'

Ground Water Observations

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<th>Level</th>
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<tr>
<td>6/1/03</td>
<td>1100</td>
<td>6'</td>
<td></td>
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<tr>
<td>6/1/03</td>
<td>1350</td>
<td>6'</td>
<td></td>
</tr>
<tr>
<td>Depth (ft)</td>
<td>Blows (N)</td>
<td>Sample</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Dk red-brown sandy silty clay with ooc fragments of glass, gravel (CL) Grades mottled gray and brown, wet</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
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<tr>
<td>10</td>
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</tr>
</tbody>
</table>

Total Boring Depth (feet): 12'

Composite 45'-6" for TPM05

Bottom of hole 12'

Sampled hole 14'-25" W of old R

Page 1 of 1
**Waste Science Inc.**

**Health and Safety Air Monitoring Form**

**Project Name:** Mahoning River Bio Feas

**Project Location:** Girard - Warren, OH

**Project Number:** G-221

**Instrument and No.:** PID (MiniRae #0043)

**Technician:** B. Cook

**Emergency Phone:**

<table>
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<th>Chemical or Chemical Type</th>
<th>Threshold Limit Value</th>
<th>Mitigative Action Value (from SAHP)</th>
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<th>Time</th>
<th>Reading</th>
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<th>Remarks</th>
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<td>MPMOS</td>
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<td>Recovering Area</td>
<td>Background</td>
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<td>1130</td>
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<td>RRMOS</td>
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<td>0.0</td>
<td>↑</td>
<td>REMOS</td>
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<td></td>
<td>1630</td>
<td>0.0</td>
<td>Test Site</td>
<td>Background</td>
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<tr>
<td></td>
<td>1630</td>
<td>0.0</td>
<td>↑</td>
<td>TPMOS</td>
</tr>
<tr>
<td></td>
<td>1650</td>
<td>0.0</td>
<td>↑</td>
<td>TPMOS</td>
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**Site Manager:** B. Cook

**H&S Officer:**
# Waste Science Inc.

## Health and Safety Air Monitoring Form

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<th>Mahoning River Bio Feas</th>
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<td>Girard * Warren, OH</td>
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<tr>
<td>Project Number:</td>
<td>G-221</td>
</tr>
<tr>
<td>Instrument and No.:</td>
<td>PID (Mini Rae 7043)</td>
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<tr>
<td>Technician:</td>
<td>B. Cook</td>
</tr>
<tr>
<td>Emergency Phone:</td>
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<table>
<thead>
<tr>
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<th>Time</th>
<th>Reading</th>
<th>Location</th>
<th>Remarks</th>
</tr>
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<td>0.0</td>
<td>Background TS</td>
<td>Girard</td>
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<td></td>
<td>1215</td>
<td>80</td>
<td>Test Site</td>
<td>Lamp fogged - invalid reading</td>
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<tr>
<td></td>
<td>1220</td>
<td>170</td>
<td></td>
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<tr>
<td></td>
<td>1225</td>
<td>420</td>
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<tr>
<td></td>
<td>1320</td>
<td>800+</td>
<td></td>
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<tr>
<td></td>
<td>1410</td>
<td>800+</td>
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<tr>
<td></td>
<td>1600</td>
<td>800+</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1900</td>
<td>800+</td>
<td>Model Reach</td>
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<tr>
<td></td>
<td>2020</td>
<td>800+</td>
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Site Manager: B. Cook
H&S Officer:
FIELD SAMPLING DATA TASK 5.2

Fri 9/20/03 PLAN MEETING - HOLIDAY INN 612-304-04 10-11 PM.

Sat 9/21/03 PROBE TO TEST SITE ABOVE GUAUAGUAU - GOT KEY - HAD TAILGATE SAFETY BREEZE - UNLOADED GEAR -
SET UP (STAKED 50' x 50' PERIMETER - SUITED UP)
SET SAFETY ROPE FOR WATER ENTRY - BREAK TRAIL TO RIPARIAN ZONE - NET MILES - TEOLE - WEED PRODUCING PLANTS - CALIBRATED INSTRUMENTS - ACTUALUAL START
11:30 AM - TEMP 45° - RAIN HEAVY - WIND MODERATE TO STRONG - RIVER RUNS N-S.
ALT 850' ASL
BAROMETER 99.2 - HUMIDITY 100% - NASTY!
PICTURE #1 - POSITION STAKE - RIPARIAN ZONE
PICTURE #2 - RIVER ZONE

SAMPLE #1 @ 2' SOIL/HYD INTERFACE IN RIVER 12:00PM
SAMPLE #2 @ 2-6' DEEP INTO SEDIMENT IN RIVER 12:30PM

PICTURE #3 ECOTONE (FLOOD PLAIN) 25'-50'
CONTAINED BLACK "FLOOD"

PICTURE #4
25'-0' N 2½'-6' INSIDE MOUNTAIN

PICTURE #5 RIPARIAN ZONE (W/CAM) 25' E
TOP 2½' SATU-MATT

PICTURE #6 GUAUAGUAU & BRIDGE 5 (DOWN-DOWN) OF SITE
CHEM REACTS (MILLER-RAD, TSC, TD, CASTECH Meter)
WATER - PH = 6.4, TURB = 200 ppm, DO = 9 ppm, TEMP = 16.5°C, SATUR = 0, TDS = 0.2 ppm, ORP = +211 mv, 2nd DO = 1.9 ppm, TEMP = 17.3°C
COLOR = DARK BROWN BLACK

SOILS (SW INTERM) - O2 = 207%, H2O = 100%, CH4 = 0, PH = 5.1

SEDIMENT DO = 9.3 ppm, TEMP = 16.8°C, PH = 6.6, SALINITY = 0
3:00PM SAMPLE #3 ECOTONE - COMPOSIT - 2½'-6' (SOIL-ONLY)

BLACK-SOIL (W/ CHEMICAL ODOUR FROM 2½'-6' DOWN) - TOP 2½' REDISH-FLOOD
CHEMISTRIES ON COMPOSIT - 2½'-6' DOWN (CASTECH & MILLER-RAD)
DO = 9.2 ppm, H2S = 0, CH4 = 0
PH = 5.63, TEMP = 14.7°C, SALINITY = 0, ORP = +200 mv
RIPARIAN ZONE

PICTURE #7 - RIPARIAN ZONE (TO 50' MARKER) VERY HIGH
WEEDS, INCLUDING STINGING NETTLE & SNAKE WESSO, SOME HYDRA.
SMALL TO LARGE TREES (WILLOW, ELM, ETC.) & VIRGINIA CREEPER.
ALSO TANGLE WOOD LOW GROWING VINES & RIVER GRASSES.
HAD TO BREAK DOWN FLORA TO CLEAR AREA LARGE
ENOUGH TO HANDLE PRESS SAMPLES

SAMPLE #1 TO 6' - GENT/BELOW CLAY & CLAY LOAM DOWN TO 6' NO ODOR
SAMPLE #2 GROUND H2O UPPER AT 4' - SAME TAKEN - CLOUDY
SAMPLE #3 4-6' - GENT CLAY-BROWN SILTY LOAM NO ODOR

CHEMISTRIES
GROUND H2O DO = 20.7 ppm H2S = 0, CH4 = 0
CELS (composi) DO = 10 ppm PH = 5.5, TEMP = 13.1°C
SALINITY = 0, ORP = -218 MV

Tore down camp, packed camp, loaded gate - left camp 4:30 pm

NOTES FOR INCUBATION

1. Use 3' injectors in place of sparger to power
   inject microbes down 2 1/2-3' into river valley.

2. Place 1 large bag on SW interface every 10'
   (5 large bags on Bio-Cake) place 1 small bag between
   the big bags (4 small bags of Bio-Cake)

3. Power 3' injectors down 2 1/2, into flow path
   (400 psi) three minute embedded formesta
   after inculating (10 bols at 5' intervals
   10 hours up to 100 - 10 hours between sections
   and rinse area. Depending on chemistry
   do same w/3 bols at 50' marker)

Riparian zone.
Drove 30 min. to Packard Park (Recovering Area) - Park

Locked - stopped at Burger King for supper - drove

Windy

Rainy

Windy

Darker

Faster

Drove 30 min. to model reach - Canoe City - Arrived 6:30 PM

Pictures 8, 9, 10, 11, 12, 13, SF, CPF, River, Flood Plain, riparian zone

Pictures: 14-20: Tem Pole 16-18, River: Samples Model Reach

Sample site: Soil/sediment - Interface - 2 1/2 in. tall tan/brown

Chemistry: River - pH: +400, EC: 18, TURB: 120 (Color)

Gasses (soil/water contact): DO = 20.97 mg/L, H2S = 0, CH4 = 0

Mini RHE pH = 4.5, COND: 28, 7 mS/cm, TURB: 107 TURB.

DO = 9.05 ppm, TEMP = 12.8°C, SALINITY = 0, TDS = 0.19 ppm

ORP = +147 mv.

3/4 Water Interact - pH = 6.4, COND: 21.7 mS/cm, TURB = inconclusive,

DO = 6.4, TEMP = 13.6°C, COND = 29 mS/cm, TURB =

SALINITY = 0, TDS = 0.19 ppm, ORP = +170 mv.

Sediment color: Gray/Brown Wet: (Contact)

PH = 5.64, COND: 21.7 mS/cm, TURB = inconclusive,

DO = 6.4 ppm, TEMP: 13.6°C, SALINITY = 0, ORP = +196 mv.

7:30-8:30 PM. Ecotone (Flood Plain). Flooded for 3-6 up brook.

ECOTONE - WATER/LEVEL (Pictures 15 & 16)

DID COMBUST SAMPLE

Brown soil w/ heavy organic decaying material to 40".

At 43" dark gray w/slight petroleum odor - moist -

At 50" back to light gray clay - no odor - dry

At 60" dry - same light gray clay - no odor.

At 67" dry =

Chemistry: Gases - DO: 11.2 mg/L, H2S = 0, CH4 = 0

Mini RHE pH: 6.98, COND: 87 mS/cm, TEMP: 12.2°C

SALINITY = 0, ORP = +184 mv.
USACE MONITORING FIVER G PROJECT GS 12D TASK B.2

6/3/03 9:44 AM

PICTURES 7/12/99

SAMPLES (COMPOSITE) 6'-8' - NORMAL RAPIDAN SOILS

W/DISCANING ORGANIC MATERIAL DOWN TO 9' TO 4'

MOIST GROUND WATER ZONE ABOUT 5'-6' DOWN

NORMAL GRAY CLAY STREAKS OF BROWN STUDY LURN

MULTIPLE TREES - SPOONER, ASH, HICKORY, ASH, WILLOW

MAINTAINED PARK ZONE WITH PATHS (ASPHALT) - MOST

AREAS FLOODED FROM HEAVY RAINS

CHEMISTRIES

PH = 6.02, COND. = 860 MS/L, DO = 9.9 ppm, TEMPE = 9.5°C

SALINITY = 0, ORP = +191 mV

RETURNED TO HOTEL 10:20 AM AFTER CLEAN-UP AND

RECONCILIATION.

FINISHED 8:00 AM 6/1/03 WHEN WE COULD SEE
5
6/1/03

PACKARD PARK - RECOVERING ZONE (MILE 41)

WINDY

RIVER ZONE - WATER, SOIL H2O INTERFACE, SG OMINOST

PICTURES 20, 21, 22

WILLOWS, 6-10' OUT INTO RIVER - RIVER HIGH, FAST, LARGE TREES AND OTHER DEBRIS FLOATING DOWN STREAM - DIFFICULT TO DISCRIM - RIVER-ECOTONE LINE - FLOOD PLAIN - PROBABLY 90% OR MORE UNDER WATER

JAREG WENT OUT 10'-12' BEFORE DROP-OFF INTO RIVER CURRENT FOR RIVER SAMPLES

CHEMISTRIES - S/H2O INTERFACE ~ BEBONISH NUC

TURBO H2O GASES - DO = 20.8 ppm, H2S = 0 ppm, CH4 = 0 ppm

SOIL - S/H2O INTERFACE - DO = 20.8 ppm, H2S = 0 ppm, CH4 = 0 ppm

SEDIMENT SULFATE - DO = 20.8 ppm, H2S = 0 ppm, CH4 = 0 ppm

MINI-RAE - [WATER - PID = 0, pH 5.93, COND 23 MS/cm, TURB 15.000 ppm]

DO = 8.1 ppm, Temp = 21.1°C, Salinity = 0, TRS = 1.6 ppm

ORP = 41.15 MV

S/H2O INTERFACE PID = 0, pH 5.94, DO = 8.7 ppm, Temp = 20.8°C

SEDIMENT SALINITY = 0, ORP = 421 MV - NO ODOR OR GREE-EY BLOCK COLOR IN S/SOMEST - ALL BROWNISH SILT

ECOTONE (FLOOD PLAIN)

PICTURE 23 - FLOODED ECOTONE

SIDE VIEW

R-PACKARD ZONE

WATER LEVEL

HOLE #1 - DIFFICULT PASS-THRU GRAVEL - some silty lean

PICTURE #27 - ABOVE, some grey clay - mostly cobble to more silt

SAMPLE #1 - Group clay

HOLE #2 (10' SOUTH) SAME AS HOLE #1 EXCEPT - mostly gravel to ' - PID = 0
Hole #3 (Approx. 20' NW - South) - Sandy loam (Tan to Brown) to 36' DEEP. Gray AT 36' - Produces oil sheen when mud - BLACK AT 42' - Makes oil sheen when mud - CONTAMINATED AT 36' TO 60' - "REFUSAL @ 60" BUT CONTINUES AS IMPERVIOUS GRAY, COMPACT CLAY BELOW 60", USED #3 AS ECOEX'S SAMPLE.

GASES: DO = 20 ppm, H2S = 0, CH4 = 0

PH: PH = 6.12, DO = 8 ppm, TEMP = 23.4°C, SALINITY = 0, ORP = +145 mV.

8:15PM Riparian Zone

PICTURES 25, 26

SAMPLE TO 6' - SIMILAR TO ECOEX #1, BUT NO CARBON

SOIL: PH = 6.1, DO = 5, TEMP = 22.9°C, SALINITY = 0, ORP = +153 mV

PEAK SETTING - TREES RUN FROM WATER TO ROAD EXCEPT FOR GRASSY NEEA LEADING TO RIVER

WHERE WE CAMPED FOR SAMPLES.
PROJECT MANAGER NOT SATISFIED W/RESULTS FROM
RIPARIAN ZONE AND ASKED US TO RETURN TO
TEST SITE TO RETEST
30 MIN. DRIVE TO SITE - STOPPED AT MCDONALD'S
FOR SUPPER - ARRIVED AT SITE APROX. 4:30PM
AREA FLOODED - ORANGE FLAGS COVERED, 50 MARKERS
ECOTONE PARTLY SUBMERGED - PATH AND CAMP FROM
YESTERDAY AM. UNDER WATER - ENTERED THROUGH BACK
OF RIPARIAN ZONE BEHIND ECOTONE AREA FROM YESTERDAY
BROKE THRU WEEDS & CLEARED AREA FOR SAMPLES

SAMPLE #1 WENT DOWN 8' BEFORE REFUSAL - SOIL BROWN
SANDY SILT W/BROWN MUD AT 9'' - BELOW GROUND WATER
LAYER, SOIL BECAME MORE & MORE MIXED W/DECK &
MEDIUM TO LIGHT CLAY, MOSTLY MOTTLED AT 8', WHERE
WE HIT IMPREGNATED CLAY LAYER, USED COMPOST FOR SPAT.

CHEMISTRIES
CASES - DO = 21.7, H2S = 0, CNK = 0
pH = 6.11, DO = 3.2 ppm, TEMP = 24.6°C
SALINITY = 0, EC = +170 mV
ENDED AND LEFT AT APROX 6PM, SUN. 6/1/03.

Respectfully submitted

Jo Hanson
Research Director
Lamda Biotechnologies, Inc.
Project Microbiologist/Field Biologist
6/1/03
DATE: 11/24/03
TO: KATY MAKEIK
COMPANY: WASTE SCIENCE
FROM: LAMBDA
NO. OF PAGES 1

MESSAGE:

KATY, HERE ARE THE RESULTS FROM SAT. SAMPLING. THE SAMPLES WERE MAILED AND THE FED-EX # IS ON THE TOP OF THE COC.
EVERYTHING WENT PRETTY SMOOTH.
I WILL MAIL THE HARD COPIES OF ALL THESE TO BARBARA ALONG WITH HER COOLER AND OTHER SUPPLIES.  JARED
**Waste Science Inc.**  
**Sediment Sampling Record**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mahoning River Biotreatability Study</th>
<th>Sample ID:</th>
<th>Tern 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Location:</td>
<td>Mahoning River, OH</td>
<td>Site:</td>
<td>GIRARD TEST SITE</td>
</tr>
<tr>
<td>Project Number:</td>
<td>G-221</td>
<td>Area of Sampling Plot:</td>
<td>River</td>
</tr>
</tbody>
</table>

- Depth of sample below sediment surface: 0"-
- Total water depth: 2' 6"
- Sediment description (color, gradation, odor): Black, oily

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>11/22</td>
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<td>CH4</td>
<td>0</td>
<td>%</td>
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</tr>
<tr>
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<td>%</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>H2S</td>
<td>0</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>-452</td>
<td>mV</td>
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<tr>
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<td>°C</td>
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</table>

- Sampling Technician: 
- Site Manager: J. Ford
- H&S Officer: 

---

**Quality Control Plan**  
May 21, 2003  
G-221-RD-01, rev. 01
Waste Science Inc.
Surface Water Sampling Record

Project Name: Mahoning River Biotreatability Study
Sample ID: WTRM 11
Project Location: Mahoning River, OH
Site: TEST SITE
Project Number: G-221
Area of Sampling Plot: River

Depth of sample from water surface: 2'
Total water depth: 2 1/2'
River flow (fast/mod/slow): SLOW
Turbidity of sample (clear/mod/very turbid): CLEAR

<table>
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<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
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</tr>
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<td></td>
<td></td>
<td>O2</td>
<td>0.9%</td>
<td>%</td>
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<td></td>
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<td>H2S</td>
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Sampling Technician: 
Site Manager: J. FORD
H&S Officer: 

---

Quality Control Plan
May 21, 2003
G-221-RD-01, rev. 01
A-12
Waste Science Inc.
Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221

Sample ID: TEM11
Site: GIRARD TEST SITE
Area of Sampling Plot: ECOTONE

Depth of sample below sediment surface: 5'-6'
Total water depth: 

Sediment description (color, gradation, odor): BLACK STICKY SOIL, PETROLEUM ODOR

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
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<td>%</td>
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<td></td>
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<td>O2</td>
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<td>%</td>
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<td>H2S</td>
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<td>%</td>
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Sampling Technician: _______________________
Site Manager: J. Ford
H&S Officer: _______________________

Quality Control Plan

May 21, 2003
G-221-RD-01, rev. 01

A-13
Waste Science Inc.
Sediment Sampling Record

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mahoning River Biotreatability Study</th>
<th>Sample ID:</th>
<th>TAM 11</th>
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<tbody>
<tr>
<td>Project Location:</td>
<td>Mahoning River, OH</td>
<td>Site:</td>
<td>Girard Test Site</td>
</tr>
<tr>
<td>Project Number:</td>
<td>G-221</td>
<td>Area of Sampling Plot:</td>
<td>Riparian</td>
</tr>
<tr>
<td>Depth of sample below sediment surface:</td>
<td>5\1/2 - 6\1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total water depth:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sediment description (color, gradation, odor):</td>
<td>No odor, Brown Sandy Soil, Some Black Soil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>11/22</td>
<td>11:11</td>
<td>CHy</td>
<td>0</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>O2</td>
<td>21.0</td>
<td>%</td>
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<tr>
<td></td>
<td></td>
<td>H2S</td>
<td>0</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>mV</td>
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<td></td>
<td></td>
<td>pH</td>
<td>7.25</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Temp</td>
<td>13</td>
<td>°C</td>
<td></td>
</tr>
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</table>

Sampling Technician: ____________________________ Site Manager: ________________
H&S Officer: ____________________________

Quality Control Plan | May 21, 2003
A-13 | G-221-RD-01, rev. 01
Mahoning River Biotreatability Study
Contract G-221, Waste Science Inc.
Girard, OH
Dates of Field Activities:
6-week sampling: 11/22/03

Contacts:
Girard emergency: 911
WSI Project Manager, Katy Makeig: cell 301-335-8823
office 301-340-3301
WSI Field Manager, Barbara Cook: cell 301-602-5433
office 301-681-4442
410 326-9544
11/22 Arrived at 8:30, 48°, sunny.
Sampled soil/water at ~ 8:55
Brown, no odor, slight shear.
Sample taken ~ 4' offshore, milky.

9:19 - Water sample taken ~ 6" from
sediment. Water - no odor, almost
clear, slightly murky. Sampled 1' offshore.
Depth 2 1/2' feet.

9:45 - Began borehole ~ 16' from
East edge ~ 1' away from original sampling
hole. Observed some black soil
around 40". Slight smell of oil.
~ 5' all black soil and grey graining
soil. Soil samples collected from
5'-6'.

Water level ~16" from top of hole

11:11 - Began Riparian hole ~ 25' from
East edge ~ 1' away from rope. Some
brown sandy soil around 3'. Very small
amount of black soil, no odor. Water
26" from top. 5 1/2' - Brown sandy soil.
Liparite zone: Sampled 5½' - 6½'.

Began clean-up around 12:30.
Picked up samples at lift site
to feed 6X ~ 1:30.
3/27/04 Final Sampling

Arrived at site around 8:35.
58° cloudy, wet. River was high.
Bio-Bag TRS on bank of river.
8:50, slight oily smell, blackish ~ 3.5'
TRM03

<table>
<thead>
<tr>
<th>Gas</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>CH4</td>
<td>0</td>
</tr>
<tr>
<td>O2</td>
<td>21.1</td>
</tr>
<tr>
<td>H2S</td>
<td>0</td>
</tr>
<tr>
<td>ORP</td>
<td>-6.8</td>
</tr>
<tr>
<td>pH</td>
<td>7.24</td>
</tr>
<tr>
<td>Temp</td>
<td>10.0</td>
</tr>
</tbody>
</table>

9:27, oily smell, very black, cold.
Sampled about 4' deep.
TRM03

<table>
<thead>
<tr>
<th>Gas</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH4</td>
<td>0</td>
</tr>
<tr>
<td>O2</td>
<td>21.1</td>
</tr>
<tr>
<td>H2S</td>
<td>0</td>
</tr>
<tr>
<td>ORP</td>
<td>-2.3</td>
</tr>
<tr>
<td>pH</td>
<td>7.14</td>
</tr>
<tr>
<td>Temp</td>
<td>9.6</td>
</tr>
</tbody>
</table>
7:55, Hackick, oily smell ~ 3-4'

TRS 0.3

CH₄ 0

O₂ 21.3

H₂S 0

ORP -1.7

pH 7.02

Temp 10.9

10:34, 45" hit black oil, oily smell

Right to 11/03 sampling location, 60" hit, grey sandy

TRS 0.3

CH₄ 0

O₂ 21.4

H₂S 0

ORP 24.6, from 40"-55"

pH 6.55

Temp 11.8

11:20, 40" hit black oily soil, slimy

Sampled 40"-50", had to dig

2 holes because water nice

9" from top.
TEM03

CH4  0
O2  21.3
H2S  0
ORP  7.2
pH  6.89
Temp  12.6

12:10, sampled from 45"-60", blackish grey soil, only smell.

TEM03

CH4  0
O2  21.3
H2S  0
ORP  12.7
pH  6.83
Temp  13.8
1:30, sampled from 60"-70". Gray clay like soil w/ spots of black stuff.

TPN 03
CH4  0
O2  21.2
H2S  0
ORP  16.7
pH  6.76
TEMP  13.5

2:05, sampled from 60"-75". Grayish and Brownish oil, clay like. Nept to old hole.

TPN 03
CH4  0
O2  21.3
H2S  0
ORP  14.4
pH  6.61
TEMP  14.3
3:20 sampled from 55" - 70" from oil.

TPS 03
CH₄   0
O₂    21.4
H₂S   0
ORP   12.5
pH    6.86
TEMP  12.3

3:50 cleaned up and packaged STH samples to be taken to FDX.
Waste Science Inc.
Sediment Sampling Record

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Mahoning River Biotreatability Study</th>
<th>Sample ID:</th>
<th>TEM 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Location:</td>
<td>Mahoning River, OH</td>
<td>Site:</td>
<td>GIRARD TEST SITE</td>
</tr>
<tr>
<td>Project Number:</td>
<td>G-221</td>
<td>Area of Sampling Plot:</td>
<td>RIVER</td>
</tr>
<tr>
<td>Depth of sample below sediment surface:</td>
<td>0-6&quot;</td>
<td>Total water depth:</td>
<td>2 1/2'</td>
</tr>
<tr>
<td>Sediment description (color, gradation, odor):</td>
<td>BLACK, OILY</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>11/22</td>
<td>8:55</td>
<td>CH4</td>
<td>0</td>
<td>%</td>
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<tr>
<td></td>
<td></td>
<td>O2</td>
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<td>%</td>
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<tr>
<td></td>
<td></td>
<td>H2S</td>
<td>0</td>
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<td></td>
<td></td>
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</table>

Sampling Technician: ________________________
Site Manager: J. Ford
H&S Officer: ________________________
# Surface Water Sampling Record

**Project Name:** Mahoning River Biotreatability Study  
**Sample ID:** WTRM 11  
**Project Location:** Mahoning River, OH  
**Project Number:** G-221  
**Site:** TEST SITE  
**Area of Sampling Plot:** River  

<table>
<thead>
<tr>
<th>Depth of sample from water surface:</th>
<th>2'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total water depth:</td>
<td>2 1/2'</td>
</tr>
<tr>
<td>River flow (fast/mod/slow):</td>
<td>SLOW</td>
</tr>
<tr>
<td>Turbidity of sample (clear/mod/very turbid):</td>
<td>CLEAR</td>
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<tbody>
<tr>
<td>11/22</td>
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<td>%</td>
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<tr>
<td></td>
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<td>O2</td>
<td>20.9%</td>
<td>%</td>
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<td>H2S</td>
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<td></td>
<td>ORP</td>
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<td>mV</td>
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<td>9:30</td>
<td>pH</td>
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<td></td>
<td>TEMP</td>
<td>11.3° C</td>
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</table>

**Sampling Technician:**  
**Site Manager:** J. Ford  
**H&S Officer:**
**Waste Science Inc.**

**Sediment Sampling Record**

Project Name: Mahoning River Biotreatability Study

Sample ID: TEM11

Project Location: Mahoning River, OH

Site: Girard Test Site

Project Number: G-221

Area of Sampling Plot: Ecotone

Depth of sample below sediment surface: 5'-6'

Total water depth: 0'

Sediment description (color, gradation, odor): Black, sticky soil, petroleum odor

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
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<td>mV</td>
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</table>

Sampling Technician: __________________________

Site Manager: J. Ford

H&S Officer: __________________________
## Waste Science Inc.
### Sediment Sampling Record

<table>
<thead>
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<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
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<td></td>
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<td>21.0</td>
<td>%</td>
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<td>pH</td>
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<td></td>
<td>TEMP</td>
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Sampling Technician: 
Site Manager: J. Ford
H&S Officer: 

---

Quality Control Plan
May 21, 2003
G-221-RD-01, rev. 01
Waste Science Inc.
Sediment Sampling Record

Sample ID: TRN 03
Site: GIRARD TEST SITE
Area of Sampling Plot: RIVER SEDIMENT

Depth of sample below sediment surface: 0-6"

Total water depth: 3.5'

Sediment description (color, gradation, odor): BLACK, OILY SMELL, LOTS OF DEBRIS

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Field Analyte</th>
<th>Reading</th>
<th>Units</th>
<th>Remarks</th>
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<tbody>
<tr>
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<tr>
<td></td>
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<tr>
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Sampling Technician: J. FORD
Site Manager: 
H&S Officer: 
Waste Science Inc.
Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221

Sample ID: TJ2M03
Site: GIRARD TEST SITE
Area of Sampling Plot: RIVER SEDIMENT

Depth of sample below sediment surface: 0-6"
Total water depth: 4'
Sediment description (color, gradation, odor): BLACK, OILY, SMELL, DEBRIS

<table>
<thead>
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<th>Date</th>
<th>Time</th>
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<th>Reading</th>
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<th>Remarks</th>
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<td>O₂</td>
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<td>%</td>
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<td></td>
<td></td>
<td>H₂S</td>
<td>0</td>
<td>%</td>
<td></td>
</tr>
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<tr>
<td></td>
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<td>7.14</td>
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</tr>
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<td></td>
<td>Temp</td>
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<td>°C</td>
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Sampling Technician: J. Ford
Site Manager: ____________________________
H&S Officer: ____________________________
Waste Science Inc.

Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221

Sample ID: TPS03
Site: GIRARD TEST SITE
Area of Sampling Plot: RIVER SEDIMENT

Depth of sample below sediment surface: 0-6"
Total water depth: 3-4'
Sediment description (color, gradation, odor): BLACK, OILY, SMOKE, DEBRIS

<table>
<thead>
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<td>H₂S</td>
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Sampling Technician: JFORD
Site Manager: 
H&S Officer: 

Waste Science Inc.
Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221
Sample ID: JES03
Site: GIPARD TEST SITE
Area of Sampling Plot: ECOTONE

Depth of sample below sediment surface: 45" - 60"
Total water depth: 
Sediment description (color, gradation, odor): BLACK, OILY, SMELL, PUDDLING LIKE

<table>
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<th>Reading</th>
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<th>Remarks</th>
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<td>%</td>
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<td></td>
<td>H₂S</td>
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<td>%</td>
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</tr>
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<td></td>
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<td>21.6</td>
<td>mV</td>
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<td>pH</td>
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Sampling Technician: JFORD
Site Manager: 
H&S Officer: 


Waste Science Inc.
Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221

Sample ID: TEM03
Site: GIRARD TEST SITE
Area of Sampling Plot: Ecotone

Depth of sample below sediment surface: 40" - 50"
Total water depth: 
Sediment description (color, gradation, odor): Black, oily, slimy

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<thead>
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<th>Reading</th>
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<td>O$_2$</td>
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<td>H$_2$S</td>
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<td>%</td>
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<td></td>
<td>ORP</td>
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Sampling Technician: J. Ford
Site Manager: 
H&S Officer: 


Waste Science Inc.

Sediment Sampling Record

<table>
<thead>
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<td>Project Number: G-221</td>
<td>Area of Sampling Plot: ECOTONE</td>
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Depth of sample below sediment surface: 45"-60"
Total water depth: ____________________
Sediment description (color, gradation, odor): BLACKISH GREY, OILY

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<td>%</td>
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<td></td>
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Sampling Technician: JFORD
Site Manager: ____________________
H&S Officer: ____________________
### Project Name:
Mahoning River Biotreatability Study

### Sample ID:
TPN 03

### Site:
GIRARD TEST SITE

### Area of Sampling Plot:
RIPARIAN

### Depth of sample below sediment surface:
60" - 70"

### Total water depth:

### Sediment description (color, gradation, odor):
GREY HARD CLAY LIKE SOIL, SPOTS OF BLACK

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<td>%</td>
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### Sampling Technician:
JORD

### Site Manager:

### H&S Officer:

---

Waste Science Inc.

Sediment Sampling Record
Waste Science Inc.

Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Sample ID: TPM03

Project Location: Mahoning River, OH
Site: GIRARD TEST SITE

Project Number: G-221
Area of Sampling Plot: RIPARIAN

Depth of sample below sediment surface: 60"-75"
Total water depth:
Sediment description (color, gradation, odor): GREY-BROWN SOIL, CLAY LIKE

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<th>Remarks</th>
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<td></td>
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</table>

Sampling Technician: J FORD
Site Manager:
H&S Officer:
Waste Science Inc.

Sediment Sampling Record

Project Name: Mahoning River Biotreatability Study
Project Location: Mahoning River, OH
Project Number: G-221
Sample ID: TPS03
Site: GIRARD TEST SITE
Area of Sampling Plot: RAPARIAN

Depth of sample below sediment surface: 55"-90"
Total water depth: 
Sediment description (color, gradation, odor): Brown soil, no odor, no oily contaminants

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<th>Reading</th>
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<td></td>
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<td>H₂S</td>
<td>0</td>
<td>%</td>
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</table>

Sampling Technician: FORD

Site Manager: 
H&S Officer:
Chain-of-Custody Forms
## Chain of Custody Form

**Waste Science Inc.**

- **Sampler:** Jared Ford  
- **Project No.:** G-221  
- **Project Name:** Mahoning River Feasibility Study  
- **Laboratory:** GPL Laboratories  
- **Facility Phone Number/Fax Number:** 301-340-3301/880-880-1763  
- **Facility Address:** 1411 Fallestwood Drive, Rockville, MD 20854  
- **City:** Rockville  
- **State:** MD  
- **Zip Code:** 20854  
- **Contract or PO Number:** Eastgate G-221

### Analyses and Method Numbers

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### Sample Information

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<th>Sample Type</th>
<th>Total Volume</th>
<th>No. of Containers</th>
<th>Preservative</th>
<th>Condition on Receipt</th>
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<td>-</td>
<td>-</td>
<td>4</td>
<td>cool</td>
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</tr>
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### Deliver Results to
- **Address:** Waste Science Inc.  
  1411 Fallestwood Drive, Rockville, MD 20854  
  **Phone:** 301-340-3301  
  **Fax:** 880-880-1763  

### Sample Disposal
- [ ] Return to Originator  
- [x] Disposal by Lab  
- [ ] Archive for ______ months

### Turnaround Time Required

**Special Instructions:**

1. [ ] Released By:  
   Date: 11/22/03  
   Time: 1:15 PM

2. [ ] Released By:  
   Date:  
   Time:  
   1. Received By:  
   Date:  
   Time:  

3. [ ] Released By:  
   Date:  
   Time:  
   3. Received By:  
   Date:  
   Time:  

---

**Signatures:**

- [Signature]  
  Date: 11/22/03
# Chain of Custody Form

## Sample Information
- **Sampled By:** Jared Ford
- **Project No.:** G-221
- **Facility:** Meahoming River Feasibility Study
  - **Facility Phone/Fax Number:** 301-340-1803/859-1763

## Waste Science Inc.
- **Laboratory:** GPL Laboratories
  - **Lab Phone Number:** 301-928-6802
  - **Lab Address:** 202 Perry Pkwy, Gaithersburg, MD
- **Chained Custody Number:** MR-LWK1
- **Date:** 11/22/03

## Analyses and Method Numbers

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<th>No. of Containers</th>
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<td>Coel</td>
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<td>-</td>
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</table>

## Delivery Details
- **Delivered To:** Waste Science Inc.
  - **Address:** 1411 Fellsbrook Drive
  - **Phone:** 301-340-3991
  - **Fax:** 301-928-1763
- **Sample Description:**
  - Return to Originator: 
  - Disposal by Lab: ✓
  - Archive for: 

## Turnaround Time Required:
- **Specimen Instructions:**

## Requisition Details
1. Requisitioned By: [Signature]
   - **Date:** 11/22/03
   - **Time:** 1:15 PM
2. Requisitioned By: 
   - **Date:** 
   - **Time:**
3. Requisitioned By: 
   - **Date:** 
   - **Time:**
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<td>TEMOS</td>
<td>Soil</td>
<td>5/3/03</td>
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</table>

Deliver Results to: Waste Science Inc.  
1411 Fallswood Drive  
Rockville, MD 20854  
phone/fax (301) 340-3301

Sample Disposal:  
☐ Return to Originator  
☒ Disposal by Lab  
☐ Archive for ____ months

Turnaround Time Requested:  
Special Instructions:

1. Requisitioned By:  
   Date: 6/2/03  
   Time: 2:30 PM  
   1. Received By:  
      Date: 6/2/03  
      Time: 2:30

2. Requisitioned By:  
   Date:  
   Time:  
   2. Received By:  
      Date:  
      Time: 

3. Requisitioned By:  
   Date:  
   Time:  
   3. Received By:  
      Date:  
      Time: 
Chain of Custody Form

Waste Science Inc.

Sampler: BEC
Project No: G-221
Project Name: Mahoning River Biotreatability Study
Facility Phone Number: 301-340-3301
Facility Address: 1411 Fallswood Drive
City: Rockville
State: MD
Zip Code: 20854

Laboratory: GPL Laboratories
Laboratory Address: 
Lab Phone Number: 301-926-6802
Laboratory Contact: Amy Edwards

Contrac or PO Number: Eastgate G-221

Analyses and Method Numbers

Delivery Method: WSI to hand deliver

<table>
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<th>Matrix</th>
<th>Date Collected</th>
<th>Time Collected</th>
<th>Sample Type</th>
<th>Total Volume</th>
<th>No. of Containers</th>
<th>Preservative</th>
<th>Condition on Receipt</th>
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<tr>
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<td></td>
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Deliver Results to: Waste Science Inc.
1411 Fallswood Drive
Rockville, MD 20854
phone/fax (301) 340-3301

Sample Disposal:
☑ Disposal by Lab
☐ Return to Originator
☐ Archive for ___ months

Turnaround Time Required: Special Instructions:

1. Reclaimed by: BEC (6/2/03 2:30 pm)
2. Reclaimed by: (Date: Time:)
3. Reclaimed by: (Date: Time:)

Return to Originator
# Chain of Custody Form

**Waste Science Inc.**

**Project No.: G-221**

**Project Name:** Mahoning River Bioretreatability Study

**Facility Phone Number:** 301-340-3301

**Project Address:**

1411 Fallswood Drive

**City:** Rockville

**State:** MD

**Zip Code:** 20854

**Lab Phone Number:** 301-926-6802

**Facility Address:**

1411 Fallswood Drive

**City:** Rockville

**State:** MD

**Zip Code:** 20854

**Contact or PO Number:** Eastgate G-221

**Analyses and Method Numbers**

**Delivery Method:** WSI to hand deliver

<table>
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<tr>
<th>Sample ID No.</th>
<th>Matrix</th>
<th>Date Collected</th>
<th>Time Collected</th>
<th>Sample Type</th>
<th>Total Volume</th>
<th>No. of Containers</th>
<th>Preservative</th>
<th>Condition on Receipt</th>
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</thead>
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**Deliver Results to:** Waste Science Inc.

1411 Fallswood Drive

Rockville, MD 20854

**Sample Disposal:**

- ☑ Disposal by Lab
- □ Archive for ___ months

**Turnaround Time Required:**

**Special Instructions:**

1. Relinquished By: [Date: 6/1/03] Time: 2:30 pm

2. Relinquished By: B.E. Cole [Date: 6/1/03] Time: 2:30 pm

3. Relinquished By: [Date: 6/1/03] Time: 2:30 pm
Thank you,

Barbara

chain-of-custody forms for the samples delivered to you on 6/2/03.

initial requests for the work. I inadvertently left these off the request list. Please add TON and TOC to the Mahoning River analyses, as indicated in the attached.

Amy

Subject: Re: Mahoning River TON and TOC

Sent: Tuesday, June 03, 2003 1:28 PM

To: "Edward, Amy" <edwardse@gpte.com>

From: Barbara Cook <b.cook25@version.net>