APPENDIX A:

FIELD LOG, CHAIN OF CUSTODY SHEETS, PHOTO LOG
<table>
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<tr>
<th>Sample #</th>
<th>Location</th>
<th>Sample Date</th>
<th>Description</th>
<th>Parameter</th>
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**Potential Hazard Identification:**

- Non-Hazard
- Flammable
- Poison
- Skin-Initant
- Unknown
- Other

**Toxicity Test Requested:**
- [ ] Dispose by lab
- [ ] Return to client

**Sample Information:**

- Sample Code: 123456
- Sample Description: Water sample
- Container Size: 500 mL
- Sample Source: Field sample

**Chain of Custody:**

- Sample Name: Water sample
- Sample Description: Field sample
- Container Size: 500 mL
- Sample Source: Field sample
- Client Contact: John Doe

**Special Instructions:**

- Report to lab: Yes
- No. Other: 0
- Yes: No
- Notes: None

**COC Type Was:**

- Yes: No
- Notes: None

**Samples Were:**

- Yes: No
- Notes: None

**Sample Return:**

- Yes: No
- Notes: None

**Sample Submission:**

- Yes: No
- Notes: None

**Sample Received:**

- Yes: No
- Notes: None

**Sample Processed:**

- Yes: No
- Notes: None

**Sample Prepared:**

- Yes: No
- Notes: None

**Sample Analyzed:**

- Yes: No
- Notes: None

**Sample Released:**

- Yes: No
- Notes: None

**Sample Disposed:**

- Yes: No
- Notes: None

**Sample Retained:**

- Yes: No
- Notes: None
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<td>SL</td>
<td>Sludge</td>
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**Potential Hazard Identification:**
- Non-hazard
- Flammable
- Poison
- Inflamable
- Unknown
- Skin Irritant

**Toxicity Test Requested:**
- Yes
- No

**Sample Information:**
- Container Size: 5.0 mL
- No Container

**Client Contact:**
- Name: AL Modelski
- Phone: 732-915-0438
- Address: 29 New Garden Ave, Flemington, NJ 08872

**Biological Services Division Aquatic Toxicology Laboratory**
- Project No.: 2013-020-0205
- Sampler: AL Modelski
- Notes: 29 New Garden Ave, Flemington, NJ 08872
Location: Meadowlands N.J.  Date: 9/15/03

Project / Client: MERI/08506-321-005B

Contact #5
MERI (FIELD)
Brett Beaulin
WP: 201-400-4624
CP: 201-638-7063

ACCUTEST
Diane Komar
732-355-4652

B&H LABS
Roger Zink 610-792-1828

MERI (LAB)
Ed Kudievich 201-460-4946

ENSR
Nancy Putnam
CP: 201-390-0182

0942 - Arrived MERI, InvenCemer Gear, Loaded Trucks and
Extracted MERI Gear. Headed to Marina on
Hackensack River

1015 - Arrive Marina. Loaded Gear and Performed
Initial Decoy of Ponar, Ekman, Spoons, Buoys, and
Buckets. Decoy Complete 1030

1035 - Depart Marina for
Riverbend Marsh
Crew: Capt. Al Moorin (ENSR)
Jon Sencuk (ENSR)
Brett Beaulin (MERI)
Weather: Overcast, Large
Thunderheads, WIND: ENSE
Temp: 70° - 72° F Wind Speed: 10 - 12 mph Humidity

1116 - Arrive Riverbend Marsh Time:
Fishing Phragmites to Channel Phragmites @ 6' in Height. Mallard
ducks observed on bank within
Shoreline (Station)
High tide: 1240 Low tide: 0630
1118 Configuring GPS. Heading to RM-SD-01. First since TOS is Flood will come back to RMSP 02 as Time switches to give enough water to access and exit Marsh.

1120 GPS set. Receiving last satellites. Now B. Waiting... POOP but looks good, and ready to get coordinates of first sample site. Trimble YES.

1131 Average RM-SD-01 in Riverbed Marsh. Open area 0.36 sq. in. width bordered by Phragmites with sporadic hummocks within water. Water depth 3-3.5 feet located at base of land/ill (Mellows). Human detritus floating on water surface. MI site on old MELL MAPS.

Crew: Capt. Al Moore (ENSR) Jon Sendlesten (ENS) Brett Bergin (MERCE)

VESSEL: 21' Privateer w/ 115 HP
WEATHER: Overcast, Temp. 76°-75°F Wind NNE C 8-12 mph. Humid w/high chance of rain.

1135 Water parameters taken with Hydrolab Mini Sonde Water Quality Multiprobe Sensors/Ex
Parameter Expansion System
Sample # 36/01. Surface sample taken only.

RM-SD-01 - Hydrolab Depth of H2O (Hydrolab) - Surface Sed. Col. depth - C - 3.5’
H2O temp - 24.53°C Sal - 11.92 ppt
SpCon - 20.04 mg/l
DO mg/l - 63.3
PO4 mg/l - 3.84
pH - 7.19
ORP - 321
TDS - 1218

1142 RM-SD-01 (Sediment Sampling) Used Ekman dredge affined to pole (Dimensions 6" x 6" x 6") Sample times for each lab are as follows
LAB START STOP

MERCI - 1142 1145
ACCU TEST 1145 1150
B & H 1150 1159

MERCI AND ACCU TEST SEDIMENT PLACED IN DECONTAMINATED STAINLESS STEEL BOWL AND A STAINLESS STEEL SPOON WAS USED TO TRANSFER SEDIMENT TO COLLECTIONjar. LATEX GLOVES WERE WORN DURING TRANSFER PROCEDURE. MERCI SAMPLES PLACED IN WIDE-MOUTH GLASS 2L CONTAINER, LABELED ON LID AND JAR, AND IMMEDIATELY CHILLED. ACCU TEST SAMPLE PLACED IN 8 OZ GLASS AMBER BOTTLE, LABELED APPROPRIATELY AND CHILLED. BOTH LAB SAMPLE CONTAINERS WERE WRAPPED IN BUBBLE WRAP, PRIOR TO COOLER PLACEMENT. B & H LAB SAMPLE PLACED IN 3 GALLON PLASTIC BUCKET, LABELED ON LID AND CONTAINER, SEALED, AND STORED APPROPRIATELY ON DECK.

WILL BE CHILLED UPON RETURN TO STORE DUE TO LARGE SIZE OF CONTAINER. CALLED B & H LAB TO CONFIRM THIS IS OKAY AND ROGER ZIRK STATED THAT THAT WOULD BE FINE AS LONG AS SAMPLE WAS ICED BY END OF DAY.

1155 RM-SD-01 (Benthic Sample)
Benthic samples taken with stainless steel petit-Ponar in triplicate with following start/stop times
RM-SD-01A (REP 1) 1155 1204
RM-SD-01B (REP 2) 1204 1214
RM-SD-01C (REP 3) 1215 1223
Benthic samples sieved through 530 micron mesh stainless steel sieve. Each sample was placed in a pre-marked 4 gallon container prior to sieving. PANNE was rinsed with sitewate for each
Sample to ensure that all sample was placed in sieve. Buckets also rinsed with Site water when transferred to sieve work station. Sieve work station consisted of a milk crate used as a pedestal with a steel tub placed on top. Sample was transferred to sieve and gently rinsed with Site water. Site water (4 gallons) was placed in tub prior to sieving. Sieving conducted in a gentle swirling motion until all but particles smaller than 500 microns remained. Samples placed in plastic wide mouth containers and labeled on lid and container.

1224. Benthic samples preserved with 10% formalin.

1220. Decontamination of Gear.
- Initiated Panar rinsed clean with site water between each benthic sample to ensure data integrity. At end of sampling benthos and sediment.
- The following was conducted to Panar, Ekman, stainless steel spoons, stainless steel bowls, and any other gear used. Latex gloves were worn during decontamination. Jaws of both Ekman and Panar once decontaminated were sealed shut during transfer to next site.
- New bucket used.

Decontamination:
1. Site Water Rinse - 1220/1223
   - Alconox wash
   - DIW Rinse
2. Nitric Rinse 1223/1224
   - DIW Rinse
Acetone 1224 / 1228
DIN Rinse

Decontamination complete. Boat deck rinsed with site water. Depart station.

1251 Arrive station RM-5D-02, Launch as D3 on Old MEER MAPS.
Sample site is a mosquito ditch @ 6-8' in width with a heavily vegetated shoreline of phragmites. Site located at base of Mulanka Landfill.

1253 RM-5D-02 Hydrolog Water Qual.
- Vessel: Privateer (21') 115 HP
- Crew: Al Mojesk (ENS NR)
- Jon Sanchisen (ENS NR)
- Brett Beagin (MEER)
- Tide: High 1240 Low 0030
- Tide Type: Ebbing (close to slack)

Lat: 40°48'09.89" N
Long: 74°05'19.54" W

(Concords taken w/ Temple RS)
Weather: 70°+5°F, Winds NNE @ 10 mph, Skies overcast with
High humidity
Hydrolab sample taken with
Surface water
Temp - 24.74°C
Sal - 14.83 ppt
DO - 5.80
DO ml/1 - 3.41
SpCon - 24.33
pH - 7.20
O2 - 335
TDS - 15.58

1256 RM-5D-02 (Sediment Sample)
Used Ekman Dredge (Stainless steel 4" x 6" attached to pole)
Sample times for each lab pair as follows:
SMART STOP
PERF - 1256 1311
ACQ PERF - 1259 1313
13:14 13:55 1356
Collection Depth: 3 ft

Samples placed in appropriate containers, labeled, and chilled.

Substrate: Highly organic consisting of a thick root mat and detritus. Very difficult to get a good grab or a large amount of sediment for each grab. Multiple grabs taken to fill 3.5 gallon bucket.

Bucket shaken gently and allowed to sit for 15 minutes to let sediment settle. Surface H2O in bucket decanted and more sediment added to fill bucket. Benthic samples taken during the 15 minutes that bucket sat (lip on top).

1320 RM-SD-02 (Benthic)

Benthic samples taken with stainless steel 6" x 6" x 6" EKMAN GRABS affixed to a pole.

Duplicate samples taken w/ following start/stop times:

1340 RM-SD-02A (Rep 1) 1320/1324
1345 RM-SD-02B (Rep 2) 1325/1329
1350 RM-SD-02C (Rep 3) 1330/1341

Samples handled same as methodology for sample RM-SD-01

Samples difficult to acquire B-T consequently, 2000 grams taken. On average, only 1/2 of EKMAN was with sediment/sample due to organic content of substrate. Samples sieved in 500 micron screen (stainless steel) at Ben Khal.

Solution in Bow of Vessel. Rep 1 (RM-SD-02A) placed in 2 containers and labeled as 1 of 2 and 2 of 2.

1345 Benthic samples preserved in 10% formalin. Gloves worn.

1350 Sediment sample (3.5 gallon bucket) complete, 3 gallon bucket filled, sealed, and stored on deck. 1/4/container labeled accordingly.
1357 Depart station. Will move down channel to a more open area to perform decontamination. Since, boat beam is as wide as channel.

1357 Found open area. Beginning decontamination procedures with erman, spoons, and bowls. Deck washed down with site water. Decontamination times are as follows. (Gloves worn) New wash bucket used.

Sitewash rinse 1357-1359

1 Atconox wash
2 DIN rinse

Nitric 1359-1403
2 DIN rinse

Acetone 1403-1408
2 DIN rinse

1408 Decontamination complete for gear used at last site around to Secaucus High School marsh. Received call from both labs and coordinated plan time for 1330-1300 at Piscataway office (ENS).

1410 Decided, based on water depth and tide times, to go and do SHSM-30-03 first since ebbing tide will drain marsh quickly. May have enough time to get samples at SHSM-30-03 before water depth too low. Will do other samples in descending order as we exit the marsh with ebbing tide from SHSM-30-03.

1445 Phragmites too thick and water level decreasing. Phragmikes growth across channel close to SHSM-30-03 making boat travel at this water depth.
Impossible. Will go ashore and perform sample at SHSM-SD-02. Will come back tomorrow at incoming tide to access SHSM-SD-03.

1447. Ashore to next sampling site.


Nassau - 21 Privateer, 115 HP.
Tide - High 12:40 Low 00:30
Tide Ebbing:
Collection Depth - 3.5' LAT: 40° 49' 15.94"N
LONG: 74° 02' 51.02"W
Weather - 70°-73°F Wind NNE 10-12 mph with scattered skies.
Station located at intersection of main channel and mosquito ditch, Width of ditch @ 15-20'. Bank to bank, but 8' wide.
Pivnights
Coordinates taken with Trimble VRS.

1501. SHSM-SD-02 (HYDROLAB) (taken at water's surface)
Temp: 23.21°C
Salinity: 5.6 ppt
DO: 9.3
DO: my/L: 3.14
ScCl/L: 9.940
pH: 7.17
O2: 3.20
TDS: 6.1344

1506. SHSM-SD-02 (SEDIMENT) Used ERMAN DREDGE AFFIXED TO POLE (STAINLESS STEEL 6' x 6" x 6") Sediment lacking organics and consisting of muck, silt and sand. Sample times for each lab are as follows:
M&ER: 15/10/1512
B&H: 15/04/1513
Accubot: 15/09/1510

Collection Depth 3.5'
No Benthic Samples (Biological) taken at this marsh.
Next Benthic sampling for Bio at Kearny Reservoir, Marsh Moos old site (4.6)

1513 Sediment sampling complete, labeled, chilled, or stored.
1516 Decontamination initiated. For Erma, spoons, and stainless steel bowls. Deck washed down with site water. Decent times are as follows (gloves (latex) worn) new bucket used.

Sterile Water Rinse: 1514/1518
1. Alcohol
2. DI Water Rinse
3. Nitric
4. DI Water Rinse
5. Acetone
6. DI Water Rinse

1524 Decontamination complete.
1528 Depart station. Water level getting more shallow.

1530 Arrive SHSM-SD-01
GEO: Capt. Al Marsters (bus)
Jim Schmitzen (bus)
Rett Benson (model)
Labeled as 5.1 on old More Maps
Vessel-21' Panther, 115 HP
Tide- High: 1240 Low: 0030
Tide Ebbing
Collection Depth- 3.1
LAT: 40° 48.42 W 73.48 N
LONG: 74° 02' 50.14 W
GPS taken with Trimble X5B
Weather: Same as SHSM-50-06
Station location: 50 feet from main channel east of Hooker's R. An incised channel 10' wide ditch running N/S and channel running E/W.
Sample taken on SE corner of intersection in ditch across from entrance to hackensack river. Phragmites dominate shoreline vegetation 6-9' in height. Sediment soft with mud/muck/silt and small percentage of sand.

1535 SHSM SD: 01 (HYDROLAB)
Taken at water's surface
Temp: 23.60°C
Sal: 6.48 ppt
DO: 89.5
DO mg/l: 5.94
Sec Cond: 11.37
pH: 7.43
O2: 3.26
TDS: 7.275
Wate level decreasing rather quickly.

1535 SHSM SD: 01 (SEDIMENT)
Sediment samples taken with stainless steel Ekman grab attached to pole (6'x6'x6'). Sediment soft and easy to get good grab. Times relevant lab are as follows:
Neph: 1535/1537
Acetone: 1537/1541
BiH: 1537/1546
More old site (5-1)
No fecal (biological) samples taken at this site according to QAPP.

1545 - Starting to rain
1546 - Sediment sampling complete samples labeled, chilled, or stored according to lab specifications.
1547 - Had to repair Tender on Ekman.
1548 - Rinsed gear with site water, will perform full decontamination in morning, since this is last site for the day.

1651 - Depart station for marsh, 1.7' deep derricks to marsh.

1600 - Arrive Boat Dock, Tied, Daniel Vessel, and Board Unloading Boat. Samples checked and recorded. Accutest sample to new cooler added new temperature blank and 3 bags of ice, checked bubble wrap and packed coolers to prevent bottle breakage.

1618 - Filled out Accutest Chain of Custody.

1622 - Completed Chain of Custody, Vice Accutest, will use Accutest, custodians and vice 7-86.

1635 - Filled out Chain of Custody for Menu.

1638 - Relinquished Sediment/Benthic sample to Menu. Bruce will make copies of COC for our records, cane sample for Middle Marsh.

1640 - Depart menu for Ensenada, to p/u truck at Española on way.

1755 - Arrive juice, met Roger, took from 13 H Labs.

1802 - Furred COC's for B: H and relinquished 4-3 gallon cans of sediment to B: H.

1805 - Sealed cooler for Accutest, placed a total of 8 bags of ice on sample. Called Accutest to confirm time, p/u.

1840 - Depart Ensenada.
9/16/03

0730 Met with Jim Anderson (ENR)
    NEW crew sub for Jon Zemke
    in Bradley Beach, NJ.

0735 Depart for MEXI LAB

0805 Called Brett Brogin of MEXI
    to give location at Exit 150
    on GSP (traffic) should arrive
    MEXI LABs at 0930.

0930 ARRIVE MEXI

0940 Called ENR to confirm Accutest
       plu of cooker. Accutest had not
       plu'd sample yet.

0940 Called Diane Komar at
       Accutest to see where plu
       and when plu would be. Left
       message on her voicemail.

0947 Depart MEXI for marina.

0958 Received call from Diane
       Komar from Accutest. Said
       we were scheduled for 50
       plu and driver must be
       running late. Reconfirmed
       9AM pick-ups for Wed and
       Thurs.

0958 Arrive Marina/boat dock
       will commence loading boat
       and decontaminating
       gear.

1000 Checked gear. Loaded coolers
       with appropriate bottles for
       each lab. No Isotrace samples
       for SHBM or Scar-Spill
       loaded. Roof will use Ekmans.

1015 Decontamination of Ekmans,
       spoons, stainless steel bowls,
       and buckets initiated. New
       latex gloves worn during
       decontaminated process.
       Decontamination start/stop
       times are as follows:
Location: MERIDIAN, N.J.  Date: 9/16/03

Project / Client

1. Alconox
   DW Rinse
   1015/1020

2. Nitric
   DW Rinse
   1020/1030

3. Acetone
   DW Rinse
   1030/1040

1030 Received call from ENSR
confirming Aclustest lab
pickup.

1045 Reported Marina for Shuamkill
Marsh. EERs jaws closed for train.
Tide: High - 10:19 Low - 0:067
(At Amtrak Swing Bridge on
Hakkensack)

Crew: Capt. Michel (ENSR)
Jim Anderson (ENSR)
Brett Brattin (METL)
Jeff Misuk (MEER)

Jeff assisting Brett with
Deployment of Gill Net
for retrieval tomorrow.

Weather: Clear, Temp 74-75°F
Wind NW - 5-10 mph. A
Fine day for sampling.

Samplers: Capt. Michel (METL)
Jim Anderson (ENSR)

* All equipment decontaminated
and ready for sampling effort.

1050 Discussed w/Arch Bragin (MEER)
Sample locations on Shuamkill.
Will do 2 at a fish sampling
location and one where benthic
invertebrates were taken by MEER.

1101 Setting Gill Net on opposite
side of HX Rail Bridge. Net
will be set inshore after
Net set, will head to Shuamkill
Marsh to do sediment sampling.

1105 Net set parallel to shore
in 8' to 14' of water on opposite
side of HX Bridge (rail).
Inshore set.
1107 DEPART FOR SAWMILL MARSH
All gear stowed and deck secure.

1121 Arrive Sawmill Marsh at
SAW-SD-01. Picture 1 taken
of entrance. Fish nets located
on each side of sample channel.
Sample to be taken on east
side of channel. Picture 2
shows location and veg type of
sample site. SAW-SD-01 shows
VEG. All Spartina, ethaline width
10' at mouth and decreases
in width to the north.

1125 SAW-SD-01 (JarodLAB)
Temp: 25.33°C
Sal: 12.44 ppt
Do: 58.0
DissO2: 3.35 mg
SpCon: 20.39
pH: 7.20
DOD: 3.60

TS: 13.37
Sample taken at surface

1130 - SAW-SD-01 (Sediment)
aka - Research Creek
Crew: Al Mondisci (ENSR)
Jim Anderson (ENSR)
Brett Bregin (MERR)
Jeff Misch (MERR)
Sample taken within Spartina
hummucks along eastern shoreline
Sample taken with 6" x 6"
ERMAN STAINLESS STEEL GRAB
APPLIED TO A POLE
Vessel: 21' Privateer, 115 HP
Weather: Temp 75°F, Wind
NW 5-10 mph, Clear and
Sunny.
Tide: High 1319 Low 0657
Tide Type: Flood
LAT: 40°45'58.38N
LONG: 74°05'45.91W
Coordinates taken w/ Trimble
XRS.
Sediment start/stop times
by lab are as follows:
Call depth: 1.7'
START       STOP
MERI        1136     1138
Acclimtest  1136     1145
B. H        1139     1204

Sediment easy to acquire, soft with some organic content, mock mud with sand/silt.

1204 Sediment sampling complete
Jars labeled accordingly, chilled, or stored on deck as prescribed by individual lab. Glass jars bubble wrapped.

1205 Decontamination of gear initiated with clean wash bucket, erman spoons, and stainless steel bowls. Decon'd deck washed down. The following gives start/stop times for decontamination of gear.

1205 Site water rinse 1205/1207
Alconox
DIW Rinse

(2) Nitric
DIW Rinse 1207/1209

(3) Acetone
DIW Rinse 1209/1212

Disposable latex gloves worn during decontamination process.
New bucket will be used at next site for decon.

1212 Decontamination complete

1214. Decont station for station # Saw-30-02.

1220 Arrive at station Saw-30-02. Picture 3 taken of site facing west towards turnpike. Phragmites bordering shoreline. With special hummocks located in alcove.
12:25 SAW-SD-02 (HvrdLab)
LAT: 40° 4 60' 30.99 N
LONG: 74° 06' 02.10 W
Sample taken of surface water.

Temp = 25.1°C  Sal = 11.44%  pH = 7.25
Salinity = 0.1  DO = 3.76  TDS = 12.35

12:26 SAW-SD-02 (SEDIMENT)
Equipment used = Ekman 6'9 16'16'
Affixed to pole (Stainless steel)
CLEAN = SAME AS PREVIOUS SAMPLE

Site: Vessel 21' Pioneer, 115 HP
Time: High 1319 Low 0657
Time Cycle: 4:09
Weather: Sunny clear, Temp 75°F, Wind NW 5-10 mph in gusts.

Coll. Depth: 4.8'
LAT: 40° 46' 30.99 N
LONG: 74° 06' 02.10 W
Coordinates taken with GPS Trimble XRS.

Sediment hard (clay-like)
Having difficulty retrieving full grab sample, sample being taken within channel along midflect C 3.5' from upstream hammock.
Moved boat closer to hammock where sediment softer and more accessible by grab. Coll' depth still the same.

Sediment start/stope times by lab are as follows:

Mers 1259/1245
Accurate 1226/1239
B=H 1228/1255
1248 - Began decon of bowls and stainless steel spoons. Still acquiring final sample for B. Will decon Ekman cast while enroute to next station.

1255 - Sediment sampling complete. Jars and bucket labeled on lid/container and iced or stored according to lab specifications. Glass jars bubble-wrapped.

1256 - Depart station; SAM-SD-02. Final decon of Ekman completed. Jars closed during transport and placed facing stem. Need to SHSM-SD-08 to get final sample at that marsh. Access should be a little easier since arrival will arrive w/o

1325 - Arrive Secaucus H. School Marsh. Tide looks good. Will try to access SHSM-SD-03 by boat.

1337 - Arrive on site SHSM-SD-03. Picture of facing east, picture 5 facing W. Site fully overgrown by Phragmites. Preparing GPS and Hydrolab for WQ sample.

1340 - SHSM-SD-03 (Hydrolab)

Temp - 23.62°
Sal - 6.35 ppt
DO - 91.6
Dissolved - 5.83
SpCond - 11.15
pH - 7.89
ORP - 333
TDS - 7.183

Collection depth: Surface 1.25

1342 - Prepped deck for EPA sample sediment sample.
1344

SLIM - SD - 03 (SEDIMENT)
LAT: 40° 48' 12.44"N
LONG: 74° 02' 47.67"W
Cell Depth: 3.4'
Crew: Al Pace (ENR)
      Jim Anderson (ENR)
      Brett Breon (NREI)
      Jeff Miskik (NREI)
TIDE: High 1319, Low 0657
TIDE: EBBING
WEATHER: 75° - 77°F, Wind
         Still, NW - 5-10 mph, Skies
         CLEAR
Sample Taken With EKNAN
(Stainless Steel) Affixed To Pole
(6" x 6" x 6" bucket)
Site Description: Overgrown W/ Phrag
    ditch width: 2' 10-15' bank to
    bank; but channel not visible
due to amount of phragmites
    two small mosquito ditches
biset the site N/S.
MER# 000 SITE #: 5-7
1400. Depart SHSM-30-03.
On way out, took pictures of SHSM-30-02 and SHSM-30-01
with digital camera.
Pic 7 - SHSM-30-02 sample area.
Pic 6 - SHSM-30-02 facing east toward overgrown
Ditch heading to Site 3.
Pic 8 - Site 1 sample area facing SE.

1415. Arrive at boat dock.
Attempting to obtain another QM sample to do Kearny
Marsh. Unloading boat.
Will return to MEK to check for gear, p/o new
boat that can access Kearny
Marsh, and benthic gear.
Will decontaminate Ekman,
Stainless steel pails and spoons
At Marina.

1426. Decontamination initiated.
Buckets, spoon, bowls, and
Ekman decon'd with times
as follows: Gear very dirty.

1. Site water rinse 1926/1935.
   Alconox
   DIW rinse

2. Nitric
   DIW rinse

3. Acetone
   DIW rinse

Clean gloves (later) worn for
decontamination procedures.

1430. Depart Marina for MEK
LAB to see if they have new battery for Hydrolab.
Brett left @ 10 min earlier
to check w/lab technician
so we could mobilize
or quickly to Kearny Marsh.
1510 Call from MERT Battery
for HydroLab needs checking.
No spare. Will do Kennady.
March tomorrow afternoon.
1530 Called B.I.H Labs, Roger
Zirk to p/o samples
at 1700 rather than
1800 hours. Confirmed.

1540 Arrived MERT Lab. Get
SET for tomorrow.
Sampling effort. Will
do ORITANI 1st. in AM.
MERT will supply Battery
charger and sonde and
I will charge this evening.

1600 COC's to MERT. Samples
relinquished to MERT.
Brett Bragon. Will get copies
of COC tomorrow.

1610 Accust test cooler checked, added
7 bags ice; bubblewrap;
etc. for 9AM pickup
on 9/17/03. Filed out
1730  DEPART ENSR FOR BEACON BEACH, NJ. REUNION POINT.

1840  ARRIVE AT MORNING MEETING PLACE IN BEACON BEACH, NJ.
UNLOAD GEAR AND REINFORCE BOTTLES GEAR FOR TOMORROW'S SAMPLING EFFORT.

0700 - DEPART TO P/U GPS AND HYDROLOG CHANGING AT ENSR OFFICE IN PISCATAWAY, NJ.

0815 - ARRIVE ENSR. RETRIEVED HYDROLOG AND TUMBLE GPS UNIT. CHECKED GEAR AND CONTAINERS PRIOR TO DEPARTURE TO ORITANT MARSH. WILL ACCESS SITES AT ORITANT MARSH BY LAND. A BOAT WILL NOT BE USED AT THIS MARSH SITE. WILL TAKE ETAA SITE PHOTOGRAPHS OF METHODOLOGY PERFORMED FOR SEDIMENT COLLECTION FROM B&H LABS AS REQUESTED BY ROGER ZINK (B&H).

0830 - HYDROLOG AND GPS FULLY CHARGED AND LOADED IN TRUCK.
0638  Deport for Ortani Marsh
Sample for Ortani Creek
Capt. A. Moore (ENS)
Jim Anderson (ENS)

0454  Arrive at Ortani Marsh
Site OM-5D-01, Most Old Site
    #11

Samples: Capt. A. Moore (ENS)
Jim Anderson (ENS)

LAT: 40° 43’ 58.14” N
LONG: 74° 05’ 13.76” W

Tides: High 6:15
Low 12:15

Tide Cycle:

COLL. DEPTH: Bottom (60’0) - 1.5’

SITE DESCRIPTION: Fisherman’s Creek
Located 1/2 mile from RR tracks and 0.25 mile from spillway. Shoreline vegetation
Phragmites. Pic. 9 shows site from RR tracks facing east. Pic 10 shows sample site facing east.
Also lie white stones located along RR tracks which

may be in sediment sample.
Channel width E of sample 12-15’.

1020  OM-5D-01 (HYDROLAB)
Temp. - 19.74°C
Sal. - 7.27‰
COLLECTION DEPTH -
DOX - 31.15”
Diss. O2 - 2.24
SpCon - 12.10‰
P - 6.95
ORP - 311
TDS - 8112

TAKEN WITH LOGGER SANGER 4A AND HYDROLAB MULTIPROBE.

WATER QUALITY: MULTIPROBE:
WATER TEMP - 19°C, WINDS N.E.
10-20 mph and gusty. SKIES
clear and sunny.

1028  OM-5D-01 (SEDIMENT)
SAMPLE TAKEN W/ EKMAN
STAINLESS STEEL GRAB 6” X 6”
AFFIXED TO POLE.
Sample taken at 1-2’ from
Phragmites, dominant. Shoreline,
Coll. BENT C 1.5’-2’ Ft.
Location: MEADOWLANDS, NJ  Date: 9/17/03

Tide: Flooding
Low
Lat: 40° 47' 58.14" N
Long: 74° 08' 13.76" W

Sample collected by A. Medjeski
and decanted by J. Mikiason
Grabs had to be lifted to
upper bank for dispense due
to lowness of water level.

Times for sediment sample
by lab are as follows:
Weather unchanged from 10/20.

Start: STOP

Merr 1036 1042
BH 1040 1049
Acetone 1028 1035

1054 Sediment sample complete. All
samples labeled accordingly
and placed in truck. Will be
iced upon return to Merr
site at 1200 hrs. Sed. samples
placed in shaded area in
truck.

1. Site water rinse
Alcohol
DIW Rinse

2. Nitric
DIW Rinse

3. Acetone
DIW Rinse

Jaws closed on grab prior
to site departure. NewCarex
moves were done during 1200
procedure. Gelat stayed
in truck so head to next site.

III Report Station OM-50-01
for OM-50-02, Hydrolab
working well.
1132. AREA OF SAMPLE SITE

OM-SD-02 (MEN OLD SITE #2)

LAT: 40° 44' 43.02"N

LNG: 74° 05' 01.79"W

TIDE: Hi

(LAT AMERICAN SWING GEIGER BAWER)

TIDE CYCLE: Flood

SAMPLES: Capt. Al Montesa (ENSA)

Jim Anderson (ENSA)

WATER: COW DEPTHS - 6" - 1"

SITE DESCRIPTION: Fig 11 facing

NW: DIRECTLY AT SAMPLE AREA

SITE: A SALT WATER PAINTE, SURROUNDED

By: Papyrus varying in height from

2" to 6" A Plastic pole @ 8" [H]

Lush is located on NW corner of

site. Site very shallow with 120

depth ranging from 6" to 1 ft.

Weath. 70° - 75°F, WIND NW

10 - 20 mph (gusty), Clear and Sunny

Other Pictures TAKEN

Pic 12: Collecting Sediment with

EFIS on Site Facing NW

Pic 13: Dispensing Sediment into B-H Bucket (0.5gal)

Pic 14: Dispensing Sediment for Analysis in Stainless Steel Bowl with Stainless Steel Spoon into 252 Amber Jar

1130. OM-SD-02 (Hypolabare)

Sample taken at Surface by collecting water in bucket. Water Shallow 6" - 1' (Bottom later also mixed in surface)

Temp: 25.34°C

Sal: 8.42 ppt

DO: 1510.1

D0: 101.08

pH: 8.28

Sp Conc: 14.62 umfr

Chp: 319

TDS: 9.298

Used Hypolab Surveyor 7A and Hypolab Miniscope.
1140 OM-SD-02 (Sediment)
Sample retrieved with stainless steel ERMAN grab.
6°46'46" Affixed to pole.
Cone depth: 6°11'11" (bottom)
LAT: 40°47'43.02 N
LONG: 74°05'01.74 W
WEATHER: Same as previously
Logged at 1132.

SAMPLERS: Same (JA, AM).
All other information logged at 1132. Start/Stop times for sediment sampling are as follows and listed by lab.

MERT
Start: 1153
Stop: 1158
Accutest
1148 1153
B+ H
1140 1147

1158 Sediment sampling complete.
All containers sealed, labeled, glass wrapped in bubble wrap, and stored for (FDD) at

1205 - Decontamination of ERMAN,
spoon, bowl, and bucket initiated, performed near ERK-20.

Site water rinse
Alconox
DIW Rinse
Nitric
DIW Rinse
Acetone
DIW Rinse

After decon, fans of ERMAN closed
spoon and bowl stored appropriately
for transport to MERT.

1225 Depart station

1243 Receive MERT ICING samples
and preparing for KEREN
MERT sampling. Will do...
2 Benthic Stations (Triplicate) 
  a duplicate Sediment and 
  a Rinse. For Accretion. Rinse 
  Not required. By other labs. 
  Will use a smaller boat to 
  access sample sites.

1315 Depart MORE. Fill glass bottle 
  samples iced. B/H - Buckets 
  (2) from ORITSH, placed in 
  MER# CABS for later PLC. Now 
  in air conditioned room until 
  I pick up to give to B/H 
  lab (@ 1800 hrs).

1335 Arrive Keeping Freshwater marsh 
  Loading Boat and launching 
  Boat BRETT Bragon (MORE) going 
  to assist with boat operations 
  and Benthic sampling.

1400 Depart Boat launch site "L" 
  Sampling site

1405 Arrival at KM-SD-01 MORE 
  old site #7, Crew: Capt. AL M. 
  Jim Anderson (ENSE2) & BRETT 
  Bragon (MORE)

<table>
<thead>
<tr>
<th>Time</th>
<th>KM-SD-01 (HydroLab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat.</td>
<td>40° 45' 44.08&quot; N</td>
</tr>
<tr>
<td>Long.</td>
<td>74° 07' 55.32&quot; W</td>
</tr>
<tr>
<td>No Tidal Influence, FWS Marsh</td>
<td></td>
</tr>
</tbody>
</table>

**SITE DESCRIPTION:** STATION 
Located at beginning of 
long. Channelized Path. Dominant 
Shoreline Veh. Curtains. Heavy 
and Poore Landscaping. Pic #16 
Facing North from Site. Piece 
Facing South of Sample site. 
Weather: 95°-97°F, Wind NNW 
@ 10-20 mph, SKIES CLEAR with 
Clouds Starting to Form

- Temp: 24.98°F
- Sal: 0.92
- DO: 147.0
- DO Conc: 10.40 mg/L
- SpO2: 17.23
- pH: 8.09
- ORP: 2860
- TDS: 1104

BUFFALO WATER SAMPLE
PIC 15 - FAUNA FROM SITE
PIC 16 - FAUNA FROM SITE

1417
KM - SD - 01 (SEDIMENT)
SAMPLERS: CAPT. AL. MORGESI (LIA)
JIM ANDERSON (ENSE)
LAT: 40° 45' 44.08 N
LONG: 74° 07' 55.32 W
COLL. DEPTH: BOTTOM - 2'
STEEPLE/STOP TIMES ARE
GIVEN BELOW FOR INDIVIDUAL
LAB. GROVES WERE BY AL. PERSONNEL.
Stop: Stop
MEET: 1433 1435
B: H: 1417 1429
Accutest 1429 1433

SEDIMENT SOFT AND COZY, EASY
TO COLLECT SEDIMENT SAMPLE
TAKEN WITH EKMAN STAINLESS
STEEL GEAR (10" X 10" X 10") WITH
ATTACHED POLE. SEDIMENT
SAMPLE TAKEN CLOSE TO PRAIRIE
HUMMOCK (@ 3' 5' away)

1435 - SEDIMENT SAMPLING COMPLETE.
GLASS CONTAINERS LABELED, SEAL,
CHILLED AND BUBBLE WRAPPED. BUCKET
SEALED, LABELED, AND STORED
ACCORDING TO LAB SPECIFICATIONS.

1435
KM-SD-01 (BENTHOS)
Benthic sampling done with
STAINLESS STEEL PETIT PONAR
GEAR. THE FOLLOWING SAMPLE
TIMES WERE TAKEN IN TRIPlicate:
GROVES WERE

KM-SD-01A (REP1) 1435 1441
KM-SD-01B (REP2) 1441 1450
KM-SD-01C (REP3) 1450 1504

Prior to picking with formalin,
PONAR GRAB RINSED WITH SITE WATER
TO GET ALL ORGANISMS FROM SAMPL.
REP1 - Full bucket obtained (grab)
REP2 - Full bucket obtained (grab)
Site rinsed and all buckets
To ensure sample integrity.
REP3 - Full bucket (grab)
Benthic samples sieved through 500 micron stainless steel mesh. Used same sieving system established in Riverhead Marsh. Samples placed in plastic, Boone smooth containers and labeled. Rep 3 put in 2 years.

Preservation times:
- Rep 1: 1453
- Rep 2: 1453
- Rep 3: 1505

Benthic sample preserved w/10% formalin.

AM 16:10
AM 14:10
Depart Station KM 60-001

1452 - Decontamination of Ekman, bowl, bucket, and spoon.

1453 - Site Water
Alcohol DIW Rinse

1453 / 1457

Site Description: Open water, site located between two
ISLANDS, Picture 17 - Facing East
From Site, Picture 18 - Facing West from site. Pic 19 - SSE
of site showing sunken vessel.

EXPLORER,
VEssel: 14' Aluminum Hull w/ 25 Hp motor (hand till)
Weather: 72 - 73°F, WIND NWW 10-20, CLE.

1545
KM: SD-02 (RINsATE Blank)
6L Amber jars filled and 1 plastic container w/ HNO3,
Sample collected with Ekman transferred to stainless steel bowl w/ spoon
and placed in containers,
USCO: Supplied DW from Lab.

1559
KM: SD-02 RINsATE Composite
Infused w/ TIGE does not need RINsATE

1605
KM: SD-02 (SEDIMENT)
Sediment sample taken with Ekman stainless steel grab
(6" x 6" x 6") affixed to a pole. Samplers: AL MOSES (ENG)
JIM ALLERSON (ENG)
(DOING BENTHIC CONCURRENTLY FROM SHELL WITH POMAR (ENG))

Temp: 24.39
Sal: 1.32
DO %: 144.5
DissO2: 9.07
SpCon: 2.448
pH: 8.61
ORP: 310
TDS: 1.576

Sample taken from surface water.

v
All samples sieved in 500 micron mesh sieve (Benthic) Samples preserved in 10% formalin

1639 Sediment samples for Acoustic and Most Bubblewrapped and iced. All labels double checked.

1638 Sediment sampling complete. Bucket closed, labelled and stored according to Lab Specifications.

1644 Decontamination of Ekman, Spoon, Bowl, and bucket. Clean lab coat, gloves worn.

1656 Decon done. Ekman stored with jaws closed.

1657 Deposit KM-SD-02 for final site. All gear stowed and secure.
1707: AKE A KM-SD-03
SAMPLES: Capt. Al MOOSES (ENG)
Jim ANDERSON (ENG)
Additional Crew: BRETT BERGER MAP
LAT: 40° 46' 48.89 N
LON: 74° 07' 18.63 W

FM MARSH / NO TIDAL INFLUENCE

Sit. Western end of KM adjacent
To/ Polano Spring Building
Along shoreline of Island
Island dominated by purple
Luciers and Remnant Cedar

Streams
VESSEL: 14' ALUMINUM 25 HP
WEATHER: (69°-72°F), WIND
NNE 10-20 MPH (breezy)
SKIES CLEAR
WATER: Depth 4'

No Bottoms taken here.

1715: KM-SD-03 (HYDROLAB)

Temp 23.94°C
Sal 1.32
DO 132.1
DissO 9.04
SpCon 2.466
pH 8.104
ORP 299
TDS 1.574

1723: KM-SD-03 (SEDIMENT)

Times for individual lands
Are as follows:
Sample taken with a 6"x6"x6"
Stainless Steel EXMN GLAB
Affixed to a pole
LAT: 40° 45' 48.89 N
LON: 74° 07' 18.63 W
Coll Depth: 4'

START 1723 1728
STOP 1743

ACQ. 1728 1731

Start stop

Acoustic: 1731 1737
More: 1731 1733

17:43 Sediment sampling complete. Samples labelled, bubble-wrapped and iced/served according to individual lab specifications.

17:45 Depart KM-SD-03 for boat launch. Skies cloudy and winds more consistent.

Marsh has a bit of sumps and anthropogenic debris so may take time to get back to boat launch.

18:05 Arrive boat launch. Transfer boat, unboard samples and gear to trucks. Cleaned boat deck.

As per Den of Gene, performed this is last site of survey and gear will not be used anymore for this survey.

18:40 Arrive More labs, met with B/H labs and relinquished samples, filled out COC and handed over bucket samples.

19:45 Samples relinquished to B/H, iced and placed in large coolers.

19:46 Samples relinquished to Most COC signed and all sampled
Re-iced and accounted for.

1847 Re-icing Accutest coolers, checking sample labels, filling COCs, and repacked coolers to preserve sample. Accutest will pull samples tomorrow at ENSR office at 9-10AM.

1905 Depart More for ENSR office.

2000 Arrive ENSR, unloaded Accutest coolers, sealed and arranged for AM pickup. Will unload truck tomorrow and slow gear.

2025 Depart ENSR.
View showing mouth of main channel of Sawmill Creek Wildlife Management Area. Sample SAW-SD-001 taken along east side of channel.

Photo 2: View showing vegetation type along shoreline near sample site SAW-SD-001. Shoreline vegetation consists of smooth cordgrass (*Spartina alterniflora*).
Photo 3: View facing west showing Sawmill Wildlife Management Area with a shoreline dominated by *Phragmites* and a marsh dotted with *Spartina alterniflora*.

Photo 4: View facing east showing the interior of the Secaucus High School Marsh with thickly growing *Phragmites*.
Photo 5: View facing west showing the 21’ privateer in the main channel surrounded by the dominant Phragmites.

Photo 6: View facing east towards overgrown banks of ditch heading into the third sampling site.
Photo 7: View showing the sampling area for Sample SHSM-SD-02.

Photo 8: View showing Oritani Marsh Sampling Site OM-SD-001, a tidal creek surrounded by thickly growing *Phragmites*.
Photo 9: View facing east from railroad tracks showing Oritani Marsh Sampling Site OM-SD-001.

Photo 10: View facing east showing Oritani Marsh Sampling Site OM-SD-002 in a salt panne surrounded by *Phragmites* and an ENSR scientist extracting the Eckman with a sediment sample.
Photo 11: View of an ENSR scientist dispensing the Oritani Marsh sediment sample from the Eckman sampling device into a bucket.
Photo 12: View of ENSR scientist dispensing sample for Accutest from a stainless steel bowl with a stainless steel spoon to an 8 ounce amber jar.

Photo 13: View facing north of Kearny Freshwater Marsh Sampling Site KM-SD-001 with purple loosestrife (*Lythrum salicaria*) and broad-leaved cattail (*Typha latifolia*) in the background.
Photo 14: View facing south showing Kearny Freshwater Marsh Sampling Site KM-SD-002.

Photo 15: View facing east showing open water at Kearny Freshwater Marsh with islands of *Phragmites* in background.
Photo 16: View facing west showing open water at Kearny Freshwater Marsh.

Photo 17: View facing southeast of Kearny Freshwater Marsh with sunken Ford Explorer.