

Field Activity #07005
Corsica River Estuary
Centreville, MD

- Submarine Groundwater

Discharge Study (Day 1)

Crew: John Bratton	} resistivity team
VeeAnn Cross	
Chuck Worley	
John Crusius	} piezometer team
Laura Erban	
Adrian Green	

All arrived 14 May PM to
Sleep Inn, Grasonville
VC + AG put out seepage
meters @ Ship Point
study site; VC, CW, & AE
drive down suburban &
pickup w/ R/V Terrapin
and enclosed trailer

15 May

0700 - meet @ hotel

0730 - leave for field

~0830 - offload freezers and

Scale: 1 square = _____

Tuesday (1)
JB, VC, CW, JC, LE, AG 15 May 2007

Sunny, 80s,

strong SW wind

batteries @ Queen Anne's City
Parks and Rec maintenance
office

0845 - Arrive Ship Point field
site (Corsica River Yacht
Club), launch Terrapin,
set up radon raft
for time series

0930 - setting up resistivity
gear, including 50-m
streamer w/ 5-m
electrode spacing and
graphite source electrodes

0945 - Doug Steubee from
CRYC visited site to
explain access to water
and generator

1120 - Launching resistivity
streamer & boat,
heading for waypt 54 ^{white house}

1142 - turned around, headed
back to ship Pt., then
turned and ran parallel
back across

Scale: 1 square = _____

#07005 Corsica River SGD

Day 1 (cont.)

- 1221 - turned @ S. shore and headed back N, moving upstream (start Line 4)
- ~1235 - end line 4, run short line ^{along shore}
- 1245 - stop to download first data, lunch
- 1315 - putting weather station on raft, VC downloading AM resistivity data
- 1415 - resistivity data look good, up to ~25 Ohm-m near shore, high resist zone ~100-150 m offshore
- 1450 - end line 6 near duck blind, turn in creek
- 1459 - start line 7, N
- 1528 - start line 8 back in creek, run b/w 6+7
- 1551 - end line 8
- 1600 - start line 9, headed to red channel mark and w end of big lawn

Scale: 1 square = _____

Tuesday (2)

15 May 2007

sunny, 80s, still
windy, SSW

- lost battery in middle, L9FZ after
- 1618 - start L10
- ~1630 - end L10 @ bluff, base ~1 m silt, some clay + fine sand; sandier above w/ quartz gravel; seepage @ interface; water cold offshore below ~0.5 m ~35 m offshore
- moving W of first line to start line 11, headed N
- 1653 - start line 11 @ osprey nest headed to Ship Pt. again
- @ end, stopped, got gas and new batteries
- ~1730 - started line 12, battery problems in middle, re-ran in other direction as L13
- 1745 - start L13
- 1746 - ended, battery low again
- 1800 - back @ Ship Pt., offload gear
- ~1830 - leave site, drop batteries, dinner at The Jetty

Scale: 1 square = _____

#07005. Corsica River SGD
Day 2

- 0730 - leave hotel, JC to
 get battery, JB/LE/AG to
 site, cw/VC to get ice
- ~0800 - on site
- 0905 - resistivity crew on
 the water, repeating
 line 12 (new name^{L14}),
 JC/LE/AG working
 on seepage meters
 and piezometers
- 0934 - start line 14 after
 untangling streamer,
 travel @ 3-4 knots
- 0942 - end line @ E end of
 rip rap cove
- 0947 - start L15 @ duck blind
- 0952 - start L16 to pier w/
 flag brick house
- 1007 - end L16
- 1013 - start L17 @ flag house
 - end L18 @ house w/toys
- 1042 - start L19 @ stucco house
 to river house.

Scale: 1 square = _____

Weds. (3)

JB, JC, VC, CW, 16 May 2007
 LE, AG sunny/hazy, 70s,
 still windy (S)

- 1054 - start L20 @ stilt treehouse
 to sailboat house
- 1109 - start L21 @ rip rap
 w/ white benches, wind
 blow course off on
 upwind runs (S),
 headed for mid-marsh
 w of treehouse
- 1120 - start L22 to green
 lighthouse on point
- 1130 - start L23 @ w side
 of point, to fishing
 beach, by red channel
 buoy
 - ran L24 back across
 along pt. after false
 start due to battery
 failure
- 1208 - start L25 @ "Russian"
 mansion to west of
 fishing beach, then back
- 1235 - start L27 back to N
 shore duck blind

Scale: 1 square = _____

#07005

Corsica SGD

Day 2

- 1245 - L28 @ duck blind, S
 1255 - End L28 @ Russians
 1256 - Start L29, shore-parallel
 along S. shore starting
 @ Russians, headed
 east, fixed fathometer
- 1335 - Start L30 @ pt.,
 cross to big house
 and run slightly
 upstream
 - turn around and run
 line 31 w along shore
- 1400 - end line 31 @ Ship Pt.
 - lunch
- 1454 - start L32, along N
 shore from Ship Pt.
- 1533 - End L33 @ Russians
 transit back to about
 2/3 across, run along
 N. shore again but
 offset

Scale: 1 square = _____

Weds. (4)

- JB + CW in 16 May 2007
 RV terrapin doing sunny, 80s,
 resist surveys windy, T-storms
 forecast
- 1540 - start L34 parallel to
 L32, then 2 more parallel lines
- 1700 - resistivity crew done,
 heading to recharge
 batteries and buy
 new ones in Grasonville,
 weather is threatening,
 piezometer crew breaking
 down
- 1745 - piezometer crew done -
 in AM they worked
 on radon raft and
 seepage meters; after
 detecting discharge in
 offshore meter they
 set up scaffolding in
 water about 50 m
 offshore (~1 m deep) and
 sampled w/ piezo to 90 cm
- 1800 - dropped samples @ freezer
 and battery @ QAC Parks Bldg.
- 1815 - JB back @ hotel, others
 on errands or to dinner

Scale: 1 square = _____

#07005 Corsica River SGD

Day 3

0730 - VC & CW leave Hotel to get batteries and ice

0745 - everyone else heads out

0825 - arrive site after stops for errands; will continue piezo and resistivity work today; \$ approved from MD-DNR for age dating of gw too

- looking @ resistivity data from yesterday, will run line down middle, redo outer lines 24-27, redo L14

Redo waypt. pairs:

~~EA~~ - N60 - 95 ✓

S102 - 73 ✓

N80 - 103 ✓

N93 ✓

N97 ✓

N101 ✓

N105 ✓

Thurs. (3)

JB, JC, LE, VC, AG, CW 17 May 2007

Sunny, 60s

lt. NNE breeze

0950 - start L37 @ ship Pt. to opposite pt.

0952 - start L38 back across

1007 - start L39 (redo of L14),

then cross to axis line from yesterday (cross = L40, axis cont. = 41)

1037 - parallel to axis, offset south to rocky groin pt. (L42) and back out (L43)

1107 - start L45 (L44 was Russians to duck blind), crossing back S

1115 - start L46 (headed back N)

1127 - start L47 (" " S)

end after wrapping around channel mark @ 1136, turn around and run parallel back east (L48)

1156 - battery trouble, stop L48, resume as L49

#07005 Corsica River SGD

Day 3

1205 - back west toward grn
lighthouse, L50

1213 - L51 east again.

1221 - L52 from S wypt 95 to
N wypt 60 (River House)

1232 - end L52, transit to
L53

1239 - begin L53 ($80^N - 103^S$)

1247 - begin L54 ($5103 - N73$)

L54 FZ after battery

1251 - Problem in middle of line
- ran L55 along N shore
from River House but
offset to south ~ 50m,
L55 FZ in middle after
battery dropped out

~1315 - end line

1325 - on shore @ Ship Pt.
to dump data, lunch,
swap batteries; note:
tide very low due to
new moon

Thurs. (6)

17 May 2007

PC, 80s,
14 NW wind

previewed new data,
took photos, planned
PM surveys

1455 - back on water

1500 - start L56 W to Ship
Pt. cove, then L57 back E

1515 - start L58, battery died
partway in - redo

- spent afternoon doing
tight 50-m grid of
lines off ship Pt. study
area; piezometer crew
still working on original
site

~1830 - resistivity done

1900 - everyone off site

JFB

#07005 Cossica River SCD
(Day 4)

- 0815 - arrive site, tide very high, will focus on piezometer work today
- started new piezo between shore and offshore piezo (42m) about $\frac{1}{3}$ of the way out (14m offshore), AG & LE mostly worked on this one, quite fresh
- JB, JC, VC worked on site on beach until tide dropped, then moved to 42m offshore site for deeper samples all saline
- CW packed up resistivity gear and went out to buy copper tubing and a new prop, helped with piezos later

JB, JC, CW, VC, LE, AG

Fri. ⑦
19 May 2007
50s-60s,
cloudy, SNE
breeze

- continued work on piezo sites (3 sites) until about 1845, LE setting up radium lab @ QAC Parks
- ~1915 - VC & CW leave for hotel
- ~1930 - JB, JC, AG leave CRYC site, go to CAC barns to charge eqpt. & help LE
- 2000 - JB, JC, AG, LE leave for hotel

evening, JC running radon samples at hotel,
JB AG doing bottle labels for tomorrow

Start age dating samples tomorrow