

Started purging RAD7s: 10:32

USGS 1 consists of

USGS RAD7s

HOB0 A

untaped temp probe

USGS 2 consists of

VF RAD7s

HOB0 B

taped temp probe

USGS 1 Test Start: 11:13

Stop: 16:28

USGS 2 Test Start: 11:17

Stop: 16:30

Generator on at: 11:10

off at: 16:28

Pumps turned on at: 11:13

YSI started at: 10:49

16:32

Mapping Transects

Scale

Transect	direction	Start	Stop
T1A	N-S	11:39	12:01
T1B	S-N	12:10	12:38
T1C	N-S	12:45	13:08
T2A	S-N	13:27	13:56
T2B	N-S	14:06	14:30
T2C	S-N	14:40	15:12
T2D	N-S	15:24	15:50
T3A	S-N	16:03	—

GPS offset from CRP input as
- 10.00 m; using 5 m scaling
factor for 401A+B with 5 m pigtail

Transect	Direction	Start	Stop	Pigtail
EGN401A	N-S	11:36	12:03	5
EGN401B	S-N	12:10	12:41	5
EGN401C	N-S	12:47	13:12	10
EGN402A	S-N	13:23	13:59	10
EGN402B	N-S	14:06	14:33	10
EGN402C	S-N	14:40	15:15	5
EGN402D	N-S	15:24	15:53	5
EGN403A	S-N	16:03	—	

TIA will not be a particularly
straight line due to
crab traps making it difficult
to maneuver around the
CRP cable

CRP showing that input
~~amplifier~~ amplifier is over-
loading during start of
EGN401A

Wind out of the east at 5
knots (but variable)

Wake @ 12:29 caused INOVL

EGN401B did not edit survey
information

EGN401C using 10 m pigtail &
10 scaling factor; started a little
after the beginning of the line

Generator issue @ 12:48
where we had to restart it
due to sputtering

Depth might be recorded in ft and
not in meters 3/27

EGN 402 A used 10 m pigtail + 10
as scaling factor

*Discovered sonar wasn't plugged
into GPS during EGN 402 A —
need to redo EGN 401 passes
Noticed @ 13:38 and connected

When starting EGN 402 B, sonar
is plugged into the GPS and
both are talking

EGN 402 C run w/ 5 m pigtail

Lowered sump pumps due to
boat rocking at 15:13

Wind picked up over last 40 min;
(15:15 right now) boat rocking
a lot more; wind has picked up
to 12 knots

More than 3 passes for CRP at
EGN 402 due to sonar disconnect

Slightly small white caps
every now and then (15:31)

line not too straight on
northern portion of EGN 402 D +
T2D

Radon line T2D may not be
representative due to evasion

Generator killed at 15:55 to
refill w/ gas; generator back on
at 15:57

16:18 conditions rocky/ choppy
agitated — high potential for
evasion? Lots of white caps
T3A ~~chase~~ unable to be
used due to white capping
conditions — called it

Transect	Direction	start time	stop time
T3A	N-S	9:58	10:22
T3B	S-N	10:38	11:03
T3C	N-S	11:12	11:38
T4A	S-N	11:48	12:12
T4B	N-S	12:21	12:48
T4C	S-N	12:59	13:25
T5A	N-S	13:38	14:05
T5B	S-N	14:22	14:48
T5C	N-S	14:57	15:30
T6A	S-N	15:42	

USGS 1 Stop: 15:47
 USGS 2 Stop: 15:48

Started purging RAD7s: 8:48

USGS 1 consists of
 only 2 → USGS RAD7s (w/02531)
 RAD7s HOB0 A
 today! untaped temp probe

USGS 2 consists of
 USGS UF RAD7s
 HOB0 B
 taped temp probe

USGS 1 Test Start: 9:43
~~9:48~~
~~9:25~~

USGS 2 Test start
 Stop: ~~9:26~~
 9:46

Generator on: ~~9:03~~ 9:41
~~9:18~~

Pumps on: ~~9:03~~ 9:41

YSI started: 8:54

Generator stop: 15:47

Transect	Direction	Start	Stop	Pigtail	
EGN403A	N-S	9:58	10:28	5 m	✓
EGN403B	S-N	10:43	11:05	5 m	✓
EGN403C	N-S	11:12	11:32	10 m	✓
EGN404A	S-N	11:48	12:15	10 m	✓
EGN404B	N-S	12:20	12:54	5 m	✓
EGN404C	S-N	12:59	13:29	5 m	✓
EGN405A	N-S	13:35	14:08	5 m	✓
EGN405B	S-N	14:24	14:52	5 m	✓
EGN405C	N-S	14:57	15:36	10 m	✓
EGN406A	S-N	15:42	16:07	10 m	✓
EGN401D	N-S	16:26	16:55	10 m	✓
EGN401E	S-N	17:00	17:21	5 m	✓
EGN401F	N-S	17:26	17:54	5 m	✓

2531 is busted:

FAULT: BAD
SIGNAL OFFSET

adjusted tubing for OSGS 1
so only 2 Rad 7s are
incorporated

2265 @ 42% relative humidity;
post tube change during
test so stopped and purged
to bring down RH%.

CRP: GPS offset -10 m; scaling
factor 5 for 5 m pigtail

Weather conditions "awesome"
Essentially no wind

Waypoint 291 ^{marks} a derelict
crab trap just west of waypoint
by a few meters

Waypoint 292 also marks a
derelict crab trap - avoid it!

12:44 Wind has picked up to 3-4 knots hopefully it does not continue to pick up

13:55 Wind continuing to build and choppy conditions are starting; not quite ~~that~~ bad enough to call it but borderline

Generator Killed at 14:09 to refuel generator
Restarted generator at 14:11

14:20 conditions no longer quite that choppy w/ very minimal white

EGN405B: the southern end of CRP line out a little short

North end of T5B + EGN405B waves were choppier w/ white capping

Flags flying straight; wind is 10-12 knots out of the east for T5B to T5C

We continued to map T5C despite northern choppy section and small sporadic wave breaking throughout course of line

Southern end of T5 consistently ~~more~~ less waves breaking in comparison to northern portion

This spatial variability was consistent throughout all 3 passes of T5

~~000~~ Derelict crab trap marked by waypoint 293

Restarted YSI @ 16:09

Going back to T1 to redo CRP w/ sonar from GPS; these new runs of T1 will be EGN401D, E, and F!

We decided to go back and redo CRP for TI (EGN401) since wave conditions were too rough for Radon mapping (stopped @ 15:47)

Due to large number of crab traps in survey line area, EGN401 D, E, + F will be slightly east of usual survey line (TI)

17:06 some beeping of CRP but then stopped; electrodes bouncing out of water?

17:20 beeping ~~again~~ with unknown error

TXOVL @ start of EGN401F
More error messages of TXOVL ~~also~~ during EGN401F @ 17:33
Beeping w/ TXOVL continued thru run

Started purging RAD7s: 7:59

USGS 1 consists of
USGS RAD7s (without 2531)
HOBO A
untaped temp probe

USGS 2 consists of
UF RAD7s
HOBO B
taped temp probe

USGS 1 Test Start: 8:45
Stop: 10:35

USGS 2 Test Start: 8:48
Stop: 10:36

Generator on: 8:43
off: 10:36

Pumps on: 8:44
off: 10:36

YSI started: 8:35
15:10

Transect	Direction	Start time	Stop time
T6A	N-S	9:04	9:26
T6B	S-N	9:34	9:57
T6C	N-S	10:07	10:31

Switched out drierite after initial purging

Depth finder is not giving correct data for T6 do not use data — too shallow

Waypoint 294 marks a derelict crab trap along T6

Conditions for T6A are perfectly calm; no wind

T6B wind out of SW at ~5 knots

T6B ^{+T6A} when transducer is giving ~~off~~ 0.8 to 0.9 m as water depth that is very close to reality but when showing 1.8 - 1.9 m depth that is not true and actual water is shallower. Water depth pretty consistently 24-32 in

Do not trust Lowrance reported deeper water depth. It is actually shallow

Transect	Direction	Start	Stop	Pigtail
EGN406B	N-S	9:03	9:30	5m
EGN406C	S-N	9:34	10:01	5m
EGN406D	N-S	10:06	10:36	10m
EGN408	W-E	10:47	11:03	5m
EGN409A	E-W	11:12	11:29	5m
EGN410A	W-E	11:38	11:54	5m
EGN411A	E-W	12:01	12:18	5m
EGN408B	W-E	12:55	13:17	10m
EGN409B	E-W	13:28	13:43	10m
EGN410B	W-E	13:52	14:10	10m
EGN411B	E-W	14:20	14:—	10m
EGN411C	E-W	14:40	14:53	10m

Water depth too shallow for T7 so we skipped it
Always collect CRP data w/
Radon in order to record depth via Lowrance to use for

Starting at 408, CRP lines are
Shore perpendicular

EGN411A very curvy line due to crab traps

12:30 wind switched to coming out of SE

13:10 wind has picked up and is now out of the East @ ~8 knots; this will make staying on line for the 10 m passes of the \perp transects more difficult due to wind curving the cable
EGN411B deviated from 5m pigtail path due to wind direction and crab traps

EGN11B cut off because we discovered that we got off the line; cut @ 14:31

EGN11C should be on the line

When we pulled in CRP cable after EGN11C, the 7th electrode from the buoy was partially covered by a noodle

Next time tighten the 3rd green noodle from the front (closest to red noodle)

The transducer is 36cm below the water surface

At site ~~402~~ EGN 400
the water depth was 50cm
however the lowrance recorded

1.0m the transducer is
36cm below the water surface

At site 402 water depth

is ~~0.72m~~ 0.72m

Transducer is really 0.7-0.8m

Transect	Direction	Start	Stop	Pigtail
RWP404A	S-N	13:49	14:24	5m
RWP405A	N-S	14:30	15:03	5m
RWP406A	S-N	15:08	15:30	5m
RWP407A	N-S	15:39	15:49	5m
RWP404B	S-N	16:07	16:39	10m
RWP405B	N-S	16:48	17:14	10m
RWP406B	S-N	17:21	17:48	10m
RWP407B	N-S	17:55	18:05	10m

hit
measure @ 17:53

*ALWAYS a 2hr off set btwn
real (EST) time and CRP +
Lowrance GPS time *
Have been setting
YST started at 13:49
Have been entering X = -10m
in survey information but
should have entered it as -60m
for 5m pigtail
South wind at start of day
— strong so no Radon mapping

13:50 CRP beeps but did not
catch the error read
wind curving cable during
RWP404A so unable to keep
line as straight as normal
Blown off course by wind during
initial (14:02) portion of line
Slightly off course to keep out of
the no wake zone for RWP404A

Slight variation from normal line on RWP405A due to crab traps (2)

Wind shifted to coming ~~out~~ more out of the south 15:17

RWP407A+B was cut short in comparison to usual line due to docks/island; stopped just north of the island at the end of the park

YSI off @ 18:05

Started purging RAD7s: 7:57

USGS 1 consists of
USGS RAD7s 2265 + 2528
and 2976 borrowed
from duntidge to
replace 2531

HOB0 A
untaped temp probe

USGS 2 consists of
VF RAD7s
HOB0 B
taped temp probe

USGS 1 Test Start: 8:39
Stop: 18:06

USGS 2 Test Start: 8:42
Stop: 18:06

Generator on: 8:36 off: 18:04

Pumps on: 8:36 off: 18:04

YSI started: 8:33 off: 18:07

Transect	Direction	Start time	Stop time
T4A	S-N	8:43	9:07
T4B	N-S	9:08	9:27
T4C	S-N	9:30	9:59
T5A	N-S	10:02	10:21
T5B	S-N	10:32	10:03
T5C	N-S	11:05	11:24
T5D	S-N	11:26	11:48
T6A	N-S	12:02	12:21
T6B	S-N	12:25	12:46
T6C	N-S	12:49	13:14
T7A	S-N	13:22	13:38
T7B	N-S	13:40	13:58
T7C	S-N	14:02	14:18
T1A	N-S	14:54	15:16
T1B	S-N	15:23	15:46
T1C	N-S	15:55	16:24
T2A	S-N	16:38	16:54
T2B	N-S	17:02	17:29
T2C	S-N	17:38	

09174 + 0674 = 0358
 2528 2265 2796

Lowrance GPS using for water depth has time offset by 2 hrs from EST

Bathymetry needs 36 cm added to it to account for the distance transducer ~~out of~~ is into water

For USGS 2, ^(run 4) 1534 is 2 runs ahead of 1533 + 186 ^(run 7) starting 4/1/17

For USGS 1, 2976 is on run 1. 2265 is on run 6 + 2528 is on run 9

*Thought we were recording water depth at start of T4A but actually started logging/recording water depth @ 9:00 on Lowrance

Bottom depth since we started has been ~1.9-2m w/ small fluctuations to ~1.7m when structures on bottom

Transect	Direction	Start time	Stop time	pigtail
RWP401A	N-S	14:54	15:19	5
RWP401B	S-N	15:23	15:50	5
RWP401D	N-S	15:55	16:28	10
RWP402A	S-N	16:38	16:58	10
RWP402B	N-S	17:02	17:34	5
RWP402C	S-N	17:38	18:03	5

No RWP401C, file was created w/ wrong settings + later deleted

For today's CRP, as w/ all runs this trip, we have been entering $x = -10$ m even though the value should have been $x = -60$ m when using 5 m pigtail

Wind out of the NE @ ~10 knots (Note: winds are gusty w/ variable speed)

2976 stopped after 10:04 cycle reading 012

2976 restarted @ 10:31

to be on cycle w/ other RAD7s (0301) $2976 \ 0301 = 2205 + 2528$ ⁶¹⁷

Discard T5A due to 2976 shutting off during first pass T5B-T5D represents the true 3 passes along T5 ⁶¹⁷

Generator off @ 11:53 to refuel; generator back on @ 11:55

Chris' first line (T6A) is a little ~~curvy~~ curvy only about 8 m off

12:32 wind coming of the east now

12:55 small cresting waves are

Around the island on T7
Lowrance did not read properly - depth reported as deeper than reality by ~0.3m

Generator off: 14:22

Generator refreshed @ 14:25

14:23 purging RAD7s w/
generator off + input +
output tubing disconnected
from RAD Aquas (tests still
running)

Stopped purging at 14:49 +
restarted generator

14:50 USGS 1 about to
start new cycle and showed
value of 0 in window A for
USGS 1

Slight delay w/ written time for
T2A by a few minutes (maybe
2?)

Started purging: 7:55

USGS 1 consists of:

USGS RAD7s 2265 + 2528
and borrowed Durrige
RAD7 2976

HOB0 A

untaped temp probe

USGS 2 consists of:

VF RAD7s

HOB0 B

taped temp probe

USGS 1 Test Start: 8:24
Stop: 10:54

USGS 2 Test Start: 8:28
Stop: 10:56

Generator on: 8:23
off: 10:53

Pumps on: 8:23

YSI started: 8:23

YSI stopped:

Transect	Direction	Start time	Stop time
T3A	S-N	9:04	9:27
T3B	N-S	9:39	10:15
T3C	S-N	10:24	10:47

Transect	Direction	Start	Stop	Pigtail
RWP403A	S-N	9:04	9:32	5
RWP403B	N-S	9:37	10:20	5
RWP403C	S-N	10:25	10:52	10
RWP408A		11:11	12:08	5

12:54 is GPS/CRP time @
8:54 EST

Gain margin in general settings
is set to LOW

X = -10 m in survey info +
GPS offset -10 m

0521 2976 = 0721 2265 =
1021 2528

1021 1534 = 0821 1533 = 0821
1186

RWP408A represents one file
for all shore \perp lines w/ 5m pigtail

RWP408A started going E-W

Start of turn @ measurement
102; moving into next
shore \perp

straightened out of turn @
155 measurement

RWP408A moving from N of RWP
Study area to South

At measurement #242 turned onto
next shore \perp

#361 measurement going into the turn

#517 measurement making turn into the new shore \perp

#560 measurement CRP cable straight and on shore \perp

#632 measurement cable moving slightly diagonal toward beach to move cable away from dock ~~this is essentially the start of turn into next line~~

#663 start of turn into next \perp

#710 cable straightened out into next shore \perp

#802 stopped measurements/
end of line

Wind from SW