

WACISSA RIVER TG

4/15/18 - 1/9/19

Forestry Suppliers, Inc.

1-800-847-5368

#49354 Level Book

FLORIDA GEOLOGICAL
SURVEY

Tom Greenhalgh, P.G.
850/488-4191
GUNTER BLDG.
903 W. Tenn. St. MS 720
TALLAHASSEE, FL
32304

WACISSA RECON

6-6-07

Louis Mantini SRWM

John Garte SRWM

Tom Greenhalgh FGS

Russ Frydenborg - DEP

River very low & clear. Traveled
up to Log Spring. Flow measurement
possible but not going to be
precise. Sub track Horsehead Spg.

Thomas Spg. visible boil. Vent
obscured by hydrilla.

Wacissa #1 located using lg. Cypress
in parking lot and gum tree on
west bank as references. Need
to bring canoe back and recon.

Wacissa Recon.

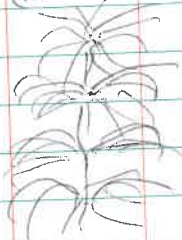
6-6-07

8:30 A Cusside Sprg.
Conductivity 299 μ m/s

land
See if we access to Horsehead
can be obtained.

Cabomba sp? (Banwort) native

very green, frilly
soft



Egaria (Elodea sp?)

Exotic

Light green,
2-species

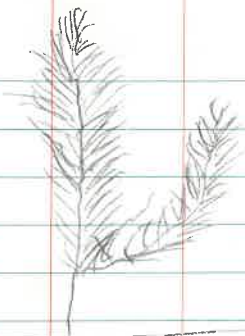


Egaria densa - doesn't
branch "Snakey"

Hydrilla

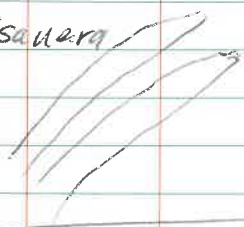
Exotic

coon tail

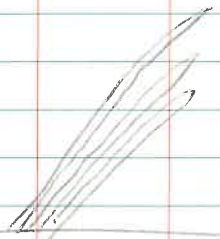


native

valisneria



segitaria



grasses

Race @ bottom of Slave Canal.

N 30 09 14.0

W - 83 58 25.8

Springs to sample

Horse head

N, Metab

Log

Thomas

Wacissa Head

Cassidy

Big Blue

PAT, metab, Nutrient

Joe North - Landuse detailed.
color or spectral.

Goose Pasture & above
noted Hemlock / Bullrush
appeared dissipated / burned
Hemlock burnt red blades & brown
on the bullrush Louis took pic.

Watched swallow tailed kites
drink on the fly. Saw (7)
Mississippi kites in one thermal.

Wacissa Sample tube ^{12/15/11}

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Todd Kincaid Geddydros

Tom Greenhale GFGS

Scott Dyer FGS

Andrew Fanning, FWC

12-28-11

Wacissa River - Bird Bait 2-7-2012
10:00 Am Dyer Greenhalgh
Deploy ISSCO Samplers at
Big Blue Run and east side of
river run north of Big Blue.
Access Butte Camp.

ALAPAH DYE TRACE REGION 11-4-15

T.G. CINDY FISCHLER
6:45 TLT → SW BASIN
8:30 ANDERSON SPRG. CLEAR
SEVERAL BIRDS NOTED IN RIVER.
RIVER DROPPING.
9:00 MET TOM EDWARDS, WILL MCLEA
@ TSE PLANTATION LLC.
SWEET POTATOES UNDER PIVOT
RODE 6-WHEEL ARGO TO
STEVENSON SPRING. SPRING CLEAR
VIGOROUSLY BOILING. LOWER
SHELF BARELY SUBMERGED.
TOURED PROPERTY AFTER
ARGO BROKE DOWN @ RIVER.
KARST WINDOWS VERY
BEAUTIFUL.
11:30 PEPE'S LUNCH.
ROPE SNAPS, WIRE @
TRACTOR SUPPLY
~~11:30~~ DAVID GOOLSBY SIGN
13:30 ACCESS FORMS. HARD COPY
HE WILL HAVE KAREN
SIGN AND LEAVE @ OFFICE.
ON TO HOLTON CREEK.

14:34 DEPLOYED SAMPLER
BELOW ALAPAH CONFLUENCE
WALK DOWN STREAM TO CUT-OFF
LIGHTER STUMP. TIED TO
SWEET GUM ROOT AT OUTCROP.

14:57 ALAPAH RISE
SAMPLERS IN WATER.

15:30 HILTON CK RISE
SAMPLERS IN WATER

15:45 HILTON CK RIVER CAMP
DEPLOYED SAMPLER IN
FRONT OF CAMP HOST
UPSTREAM LANDING.

17:00 STEVENSON SPRG.
DEPLOYED SAMPLER

18:30 Caroline Coile
386/842 5003

DON'T LET DOGS

4/4/18 TG, KF

1:45 PM NATURAL BRIDGE
ISCO 2, ALL SAMPLES
COLLECTED AND EVEN
~225mL (instead of 300mL)
Recalibrated and redeployed

4/5/18 TG/KF/BW/EL

10:30AM LEAVE WACISSA

11:15AM DEPLOY CARBON

@ LITTLE BLUE, DS
OF VENT TIED TO SMALL
BRANCH IN RUN.

12:00PM DEPLOY CARBON

@ LOG, DS OF VENT
TIED TO ROOT OF TREE
OVERHANGING RUN

GARNER?
TG

1230PM DEPLOY CARBON

AT BIG BLUE
AT DOUBLE TREE
ON L. BANK OF
RUN

1:00PM UNCATALOGED SPRING

DS OF BIG BLUE ON L.
BANK OF WACISSA.

RUN BLOCKED BY LOG,
WALKED AROUND LOG
AND DEPLOYED CARBON
IN VENT "WOODALL SPRING"

130PM MINNOW SPRING
DEPLOYED CARBON IN
RVN, HANGING FROM
SHRUBS ON L. BANK

PADDLED BACK TO LANDING
ATE LUNCH

3:00PM LOG SPRING
DEPLOYED CARBON IN
VENT

3:15PM THOMAS SPRING
DEPLOYED CARBON IN
VENT

10:27 AM Dye introduced to Sink.
✓ 40 lbs.

1:00PM NATURAL BRIDGE
ISCO BOTTLE 3 @ 0:00
7-7-18

2:00PM BRITTLE CAMP
ISCO BOTTLE 4 @ 0:00
4-7-18

4/13/18 BRIAN, Emily, SBD
via Kynack

HHD CR4 ~~Replaced~~
@ 10:32 AM

HHD CR2 Deployed
@ 10:40 AM

1140 BRITTLE

CHECK ISCO "BOTTLE 11"
@ 0:00 BAIL 12.33V
COLLECT BRI R-1 ~~12.33V~~
1-7 (BOTTLES 4-10)
RI-01 TAKEN AT 0:00
4/7/18 R-1 07 @ 0:00
ON 4/13/18

REDEPLOYED ISCO
0:00 ON 4/14/18
@ 3 PM SAMPLES A DAY.
COLLECT BRI CAR-1 @
11:55 AM
DEPLOYED BRI CAR-2
@ 12:00 PM

4/13/18

1:30 PM NATURAL BRIDGE

"BOTTLE 10 @ 000"

NAT CAR-1 COLLECTED

1:29 PM

NAT CAR-2 DEPLOYED

1:30 PM

BULL ANTS IN ISCO

HOUSING. BVA SPRAYED...

BATT: 12.36 V

9 EVEN SAMPLES PULLED

DUMPED 1+2 (BEFORE DYE

INTRO) COLLECTED BOTTLES

3-9 (R-1 01-07)

R-1 01 FROM 0:00 4/7/18

2:15 HORN

COLLECT HOR: C R-1

2:17

DEPLOY HOR CR-2

4/16/18

JL/KF

1:00 PM NAT BRIDGE

"BOTTLE 9 @ 4:00 PM"

8 CONSISTENT SAMPLES

COLLECTED NAT R-2

DEPLOYED NAT R-3

"BOTTLE 1 @ 16:00"

BATT 12.32 V

2:15 PM BRITTLE

"BOTTLE 9 @ 1600"

8 EVEN SAMPLES

COLLECTED ~~NAT~~ BR. R-2

BATT 12.23 V

1-8

DEPLOYED ~~NAT~~ BR. R-3

"BOTTLE 1 @ 1600"

4/18/18

12:00 PM NAT BATT: 12.32 V

DEPLOY NAT CBR-1

FROM GREEN PARACORD

V.S. OF NAT CAR

ISCO "BOTTLE 7 @ 1600"

COLLECTED NAT R-3

1-6. DEPLOYED NAT R-4

"BOTTLE 1 @ 1600"

12:45 PM HORN

DEPLOYED HOR CBR-1

D.S. OF CAR-1
WITH GREEN PARACORD
AND PINK FLAGGING

145 PM BRITTLE

DEPLOYED BRI CBR-1
ON U.S. SIDE OF DOCK.
HANGING FROM GREEN
PARACORD

COLLECTED BRI R-3 1-6
"BOTTLE 7 @ 1600"
BATT

245 PM HORSEHEAD

DEPLOYED MHD CBR-1
ADJ. TO CAR-1 ON
GREEN PARACORD.

4/20/18 KF/KM/SD/EL/SL/BW
930AM NATURAL BRIDGE

"BOTTLE 7 @ 1600"

COLLECTED NAT R-4

01-06

BATT 12.31V

COLLECTED

NAT CAR-2

NAT CBR-1

10:15AM HORN

COLLECTED HOR CAR-2
HOR CBR-1

10:30AM COLLECTED BUR
CR-1 DEPLOYED CR-2

10:50AM RHODES

COLLECT RHO CR-1

12:15PM BRITTLE

COLLECT BRI CAR-2

BRI CBR-1

BRI R-4 01-06

OS SHORT DUE TO VIAL BREAKING
MOVED TO NEW VIAL

12:15 PM HHD CBR-1
HHD CAR-2

DEPLOYED CBR-2
CAR-3

@ 12:20 PM
PARACORD TORN ON CBR

LOG CR-1 12:25 Collected
CR-2 12:50 Deployed

BIG 2:20 PM
COLLECTED BIG CR-1

3:05 CAS DEPLOYED
CAS CR-1

4/23/18

11:45 AM COLLECTED NAT R-5
01-09
NAT CBR-2 DEPLOYED
NAT R-6, NAT CBR-3

12:25 PM HORN COLLECTED
HOR CBR-2, DEP. CBR-3

130 PM BRITILE
COLLECTED BRI CBR-2
1:35 PM DEPLOYED
BRI CBR-3
COLLECTED BRI R-5
DEPLOYED BR, R-6

11:00AM NAT BRIDGE

COLLECTED NAT R-6 1-6

NAT CBR-3

DEPLOYED NAT R-7

NAT CBR-4

11:50AM HORN

COLLECTED HOR CBR-3

DEPLOYED CBR-4

1:00PM BRITILE

COLLECTED BRI R-6

BRI CBR-3

DEPLOYED BRI R-7

BRI CBR-4

4/27/18

KF/BW

10:40AM HORSEHEAD

COLLECT CAR-3, CBR-4
LHHO DEPLOY CAR-4, CBR-5

10:55AM LOG COLLECT LOG CR-2
DEPLOYED LOG CR-3

11:27AM CASSIDY

COLLECT CAS CR-1
DEPLOY CAS CR-2

11:40AM BIG BLUE

BIG CR-2 COLLECTED
DEPLOYED CR-3

12:00PM BRITTLE

COLLECTED BRI CAR-3
BRI CBR-4 BRI R-7 1-6
DEPLOYED CAR-4, CBR-5

1:35PM NATURAL BRIDGE

M COLLECTED CAR-3, CBR-4
R-7 1-6
BATT 12.25V

2:05PM HORN

COLLECTED HOR CAR-3
CBR-4

2:15PM BURNED BRIDGE

COLLECT CR-2

2:40PM RHODES

COLLECT RHO CR-2

4/30/18 KF/TG/SL

10:00AM BRITTLE

COLLECTED BRI CBR-5
BRI-R-8

10:55AM - HHD CBR-5

5/2/18

2:50PM NATURAL BRIDGE

COLLECT NAT R-9
01-06 DEPLOY R-10 + CBR-7
NAT CBR-6

HORN

COLLECT HOR CBR-6
DEPLOY CBR-7

4:05PM BRITTLE

COLLECT BRI CBR-6
BRI R-9
DEPLOY BRI R-10, CBR-7

4:45 HHD CBR-6

DEPLOY CBR-7

5/4/18

TG/KE/EL/BW

10:55AM HHD CAR-4, HHD CBR-7
COLLECTED. DEPLOY CAR-5, CBR-8

11:20AM LOG COLLECT LOG CR-3
DEPLOY LOG CR-4
SAMPLE PACK IN LOG MIA.

12:05PM COLLECT CAS CR-2
DEPLOY CAS CR-3

12:21PM BIG CR-3 COLLECTED
DEPLOY BIG CR-4

1:05PM BRITTLE COLLECTED
BRI R-10, BRI CAR-4,
BRI LBR-7 DEPLOYED R-11
CAR-5, CBR-8

NATURAL BRIDGE
COLLECT R-10 CAR-4 CBR-7

3:25PM HORN

3:35PM BUR

3:55PM RHD COLLECT CR-3

5/7/18 1:00PM NAT BRIDGE
R-11 01-09 COLLECTED
CBR-8 COLLECTED
BATT: 12.16V
DEPLOY R-12, CBR-9

1:30PM HORN
COLLECT HOR CBR-8
DEPLOY HOR CBR-9

2:35PM BRITTLE
COLLECT BRI CBR-8
COLLECT BRI R-11 01-09
BATT: 11.98V
DEPLOY BRI CBR-9
" BRI R-12

3:30PM HHD CBR-8 COLLECTED
DEPLOY HHD CBR-9

4/11

5/9/18

305 NATURAL BRIDGE
COLLECTED R-12, CBR-9
DEPLOYED R-13, CBR-10

330 HORN
COLLECTED CBR-9, DEPLOYED CBR-10

445 BRITTLE
COLLECTED R-12, CBR-9
DEPLOYED R-13, CBR-10

545 HORSEAD
COLLECT CBR-9 DEPLOY CBR-10

615 LOG DEPLOY CR-3

5/11/18

HHD COLLECT CAR-5 DEPLOY CAR-6
" CBR-10 " CBR-11

BIG COLLECT BIG CR-4 DEPLOY
BIG CR-5

BRITTLE COLLECT BRI CAR-5 DEPLOY
BRI CAR-6 C. CBR-10, D. CBR-11

NATURAL COLLECT CAR-5 + CBR-10
DEPLOY CBR-11 + CAR-6

HORN COLLECT CAR-5 + CBR-10
DEPLOY CAR-6 + CBR-11

RHODES 4:35PM ROCK/CARBON WAS
SITTING ON BANK. STILL WET
AS IF IT HAD BEEN RECENTLY
PULLED. COLLECTED RHO CR-4
DEPLOYED CR-5.

5/14/18

10:30AM ANOLON

LOOKED AT CYPRESS POOL

HAWTHORNE EXPOSED

COLD/CLEAR GW RUNNING

INTO POOL

12:30PM HHD

COLLECTED HHD CBR-11

DEPLOYED HHD CBR-12

1:15PM BRITTLE COLLECTED

BR ~~CBR-11~~ CBR-11

DEPLOYED CBR-12

5/18/18

10:25AM MEET WACISSA

11:00AM NAT

COLLECT CAR-6 CBR-12
R-15 01-12 DEPLOY CAR-7
CBR-13, R-16

11:20AM RHODES

COLLECT CR-5

11:30AM CHICKEN BRANCH

COLLECTED CR-1 DEPLOYED
CR-2

12:10AM HORN

COLLECTED CBR-12
COULD NOT LOCATE CAR-6

BUR COLLECTED CR-5
DEPLOYED CR-6

1:30PM MHD COLLECTED CAR-6
CBR-12, DEPLOYE CAR-7, CBR-13

1:45PM LOA COLLECT CR-3
DEPLOY CR-4 & 14

2:15PM CASSIDY
COLLECT CR-3

2:45PM MINNOW
COLLECT CR-1

2:55PM BIG. COLLECT CR-5
SPRING IS TURBID...
MILKY BUT NOT TANNIC

3:10PM BRI COLLECTED CAR-6
CBR-12 R-15 01-12
DEPLOYED CAR-7, CBR-13
R-16

23 MAY 2018

11:00 AM JONES MILL CREEK

N30.29043' W083.89239'

DEPLOYED CARBON "JMC CR-1"

11:15 AM ON DS SIDE OF
ONEAL TRAM IN RIGHT CULVERT
CAND 228. TEMP 21.5°C
SMELLS LIKE SULFUR

STOPPED AT GAMBLE DECIDED
NOT TO DEPLOY

12:50 PM BEAR TREE SPRING
DEPLOYED "BTS CR-1" @ 1:15 PM

2:35 PM AUCILLA @ HWY 257
DEPLOYED "AUB CR-1"
US OF BRIDGE OFF SMALL
CYPRESS ON TAYLOR CO SIDE

KF/TW/MBL/EL
MY/BW/NJR

24 MAY 2018

10:45 AM AVALON

12:15 PM DYE INTRO

12:44 PM DYE INJECT VIA
HOSE COMPLETE (APP.
40 G WATER W/ 35 LB COSIN)
PUMPED "RINSE" WATER
W/ DYE FROM 12:45 - 12:49
12:50 - 12:53 PM RINSED
GARBAGE DIRECTLY IN
STREAM.

NO DYE VISIBLE AT SURFACE
UNTIL THE FINAL RINSE
SAVE FOR 2-3 TIMES
BUBBLES CAME THROUGH
HOSE END AND WAFTED DYE

→ TOM SET GARBAGE CAN,
BATT, PUMP, HOSES, AND DYE
ON RIGHT BANK OF INPUT
STREAM. RAN HOSE VIA
FISHING POLE TO ~15' OFF
OF PENINSULA.

5/25/18 KF/TG/MB/BW

11:51AM NATURAL BRIDGE
COLLECT CBR-13, CAR-7
R-16 01-21
DEPLOYED CAR-8
TURNED ISCO OFF

2:45 BRI COLLECT CBR-13
CAR 7 R-16

5/29/18 TG/KF/AS

11:15AM MEET ABBY @ WACISSA

11:45AM NAT BRIDGE
1 PICK UP ISCO + HEAD TO WAC.

12:45PM DALE'S SWITCH BATT
(11.99V) FOR BATT #6 (12.49)

1:45PM BIG BLUE
DEPLOYED ISCO BOTTLE 1
@ 1600" SET UP BY
CARBON PACK

2:45PM BRI
COLLECTED R-17 01-12
CBR-14

30 MAY 2018

12:10 PM DEPLOY CARBON PACK
IN LITTLE RIVER LRV CR-1
JUST US OF COOLEY'S RAMP
TIED TO STICK IN FELLED
TREE

12:45 PM DEPLOY @ 2-ROOTS
TRB CR-1

6/1/18

JONES MILL CREEK - JMC
AUCILLA BRIDGE - AUB
BEAR TREE - BTS

MEET EL/BW @ WACISSA
SENT THEM TO GRAB
RIVER SAMPLES.

TOM + I RAN TO FILL TANK
+ PICK UP ICE

11:40 AM AUB. RIVER ROSE ~ 3.5'
MAKING IT IMPOSSIBLE TO
GET CARBON PACK

12:15 COLLECTED JMC CR-1
DEPLOYED 2K-2

1310 BTS COLLECT CR-1
DEPLOY CR-2

6/6/18

12:44A BATT 12.3V
BIG R1 24 SAMPLES UNIFORM
350 mL
01-11 obvious color dye?
01-07 appear stains on
SAMPLE BOTTLES IN ISCO.

BRI R-18 01-24 @ 13:25

BATT 12.0V A LOT OF
ORGANICS IN CONTAINERS
STAINING BUT LESS THAN
BIG BLUE

6/12/2018

TG KF LINDSI ALLMAN

13:25

BRITTLE CAMP R-19 01-18

ORGANICS IN ISCO CONTAINERS

BATT 12.69V OLD 11.84V

13:50

BIG R-2 01-18

STAINING, STILL PRESENT IN
FIRST FEW CONTAINERS

6/13/18 TG/SD NOTES
TRANSFERED TO

13:06 BIG BLUE BIG R-3

01-18 uniform samples

BLUE CLEARER THAN MAIN RIVER

BATT 12.25V

13:40 BRITTLE BRI-20

01-18 all had organics.

BATT 12.59V

6/22/18

1:15 PM LITTLE BLUE

COULD NOT LOCATE
CARBON REDEPLOYED
BY SUNK BOARD @
1:30 PM

1:50 PM COLLECT MIN CR-2
DEPLOY MIN CR-3

2:15 PM COLLECT LRV - CR-1
DEPLOY LRV CR-2

2:35 WAC COLLECT CR-1
DEPLOY CR-2

2:45 COLLECT THO C-R-1
(2 PACKS) DEPLOY CR-2
(1 PACK)

6/25/18

2:25 PM BIG BLUE

"PROGRAM HALTED"
NO SAMPLES COLLECTED
TOOK MANUAL SAMPLE
REDEPLOYED "BOTTLE
4 @ 16:00" (WOULD BE
R-8 IF R-4 HAD BEEN
COLLECTED. WILL CALL
NEXT BIG ROUND R-4
TO USE LABELED

2:45 BRITTLE

R-21 01-21 COLLECTED
DEPLOYED R-22 "BOTTLE
1 @ 16:00"

FRI 6/29/18 KE/KW

LIT COLLECT LIT CR-1 DEPLOY
LIT CR-2 @ 12:00

BRIT COLLECT BRI CAR-11
+ CBR-14, DEPLOY CAR-12
+ CBR-15

BIG COLLECT BIG CR-10
DEPLOY BIG CR-11

NAT COLLECT NAT CAR-10 DEPLOY
CAR-11

7/23/18

4:00PM BIG 24 Samples
Collect R-6 1-24
TURN OFF ISCO

5:00PM BIG BRITTLE
Collect R-24 1-24
TURN OFF ISCO

7/26/18

1130 AUC Underwater
Deployed AUC CBR-1

1230 UMC

1535 AAT COLLECT CAR 12
DEPLOY CAR 13

1630 SALLY WARD
DEPLOY SAL CR-1

7/27/18

12:00 Leave office

12:45 Stop for lunch in Woodville

2:00 Deploy Carbon pack
at Bruce + Mel's @
Nuttall Rise. Just off
dock house

Chris, Paul, TG

2/4/12

Celia block (west)

→ pulp planting

9x5 planting 800-900 stems

current 500-720 planting

"logger select" rows thinning
logger select in remaining
rows

→ uniform talley

Clear competition in replant

50 ac plant/clear cut.

basal area east of Celia Blk.
~ 10 rows east of cut for
lighting tree. 5-160 sq ft/ac

140 north of sink north of Haybarn.
130 sq. ft./ac. est. 800 trees/ac.

thin 27 to 600 stems

8/7/18

1:00 PM NAT BRIDGE

WATER RAN ACROSS
N.B. ROAD BEFORE PARKING
LOT. WATER OUT IN
FLOODPLAIN - FLOWING -
WATER UNDER BRIDGE
APPEARED TO MOVE TO
NAT. BRIDGE

2:00 PM NUTALL RISE

WATER IN YARD AROUND
HOUSE, SAMPLE IS TIED
TO NOW SUBMERGED
DOCK

3:00

CYPRESS POOL.

WATER ~15' UP FROM
WHEN WE DEPLOYED DYE
~2' UNDER LEVEL OF ROAD.
SPOKE TO FRANK & HELEN.

2:30

WACISSA

~1' FT RISE AT DALE'S
DOCK. 3-4' FT AT THE
DAM PER LOCALS.



8/16/18

10:55 COLLECT CAR-10, CBR-
ONLY REDEPLOYED CAR-11
LOG WAS CUT, BUT
STILL IN PLACE.

11:20 COLLECT LOG-7
DEPLOY LOG 8
STILL FAIRLY TANNIC

11:40 THO CR-3 COLLECTED
DEPLOYED CR-4

COULD NOT LOCATE
WAC

SKIPPED CAS DUE
TO POOR VIS &
PRESENCE OF LARGE
GATOR EATING A DEER

1235 LIT CR-3, DEPLOY CR-4

1250 BR, COLLECT CBR-18,
DEPLOYED CBR-19
LEFT CAR-13.

11

CR-12

1330 BIG ISCO LOOKS OK
CAR BAN PACK IS MISSING
DEPLOYED NEW PACK
AT SAME LOCATION, BY ISCO
BIG CR-13.

1350 COLLECT GAR CR-4
DEPLOY CR-5

1420 WOO CR-3 COLLECTED,
DEPLOY WOO CR-4
TREE ACROSS RUN
JUST DS OF VENT

1435 MINNOW
COLLECTED MIN CR-5
OFF "B" ROPE (CAMO, DS
LINE). DEPLOYED CR-6
MIN, GAR, BIG ALL
CLEARER THAN NW SPRINGS

9/7/18 KF/BW

10:46AM COLLECT HMD CAR-11
DEPLOY CAR-12

11:10AM COLLECTED THO CR-4
DEPLOYED THO CR-5

11:48AM COLLECTED LIT CR-4
DEPLOYED LIT CR-5

12:05PM COLLECTED BRI CAR-12
BRI (BR-19, DEPLOYED CAR-13
CBR-20.

* WATER IS UP, ~4" UNDER
BRITTLE DOCK. VERY DARK
VIS IN W. SPRINGS W/OUT
DIRECT SUN ~3FT. LESS
IN THE RIVER.
CAS VIS WAS TOO LOW TO
FIND SAMPLE. HMD DARK
LOG & THOMAS VIS WAS
BETTER ~6FT

12:31 BIG CR-12 COLLECTED
DEPLOYED CR-13

BIG MUCH CLEARER THAN
WEST SIDE SPRINGS, SOME
TANNINS & TURBIDITY

12:50 COLLECT GAR-CR-5
DEPLOY CR-6

1:05 WOODALL COLLECT WOO CR-4
DEPLOY CR-5

1:25 MINNOW COLLECT
MIN CR-6 (BROWN ROPE)
DEPLOY CR-7

2:00 COLLECT LOG CR-8
DEPLOY CR-9

VERY DARK & TURBID BY
HEADSPRING. POOR VIS.
& RAIN = COULD NOT FIND
WAC.

14:50 NAT CAR-14 COLLECTED
DEPLOY CAR-15

15:35 COLLECT SAL CR-1, DEPLOY CR-2

9/10/18 B

12:00 PICK UP 1500 FROM
BIG. LEFT TUBING.

1:15 PM LRIV CR-3 - COLLECTED
DEPLOY LRIV CR-4

9/24/18 TG/KF AUCILLA

12:10 PM AUC CR-1 COLLECTED
AUC CAR-1 & AUC CBR-2
CBR-2 WAS DRY DUE TO WATER
LEVEL DROPPING. REDEPLOYED
CAR-2.

13:15 COLLECTED NUT CR-1,
DEPLOYED NUT CR-2

14:04 JMC CR-4 COLLECTED, DE-
PLOYED CR-5

16:25 BTS CR-3 COLLECTED,
DEPLOYED CR-4

9/27/18 TG/KF WACISSA

10 NAT BRIDGE
COLLECT CAR-
DEPLOY CAR-

11:25 BRITTLE COLLECT
CAR-13 DEPLOY CAR-14

11:30 BIG COLLECT
CR-13 DEPLOY CR-14

12:15 GARNER MAPLE TREE
FELL RIGHT NEXT TO
GUM TREE SAMPLE
WAS SECURED TO.
COULD NOT RECOVER
SAMPLE. REDEPLOYED
NEW SAMPLE.

12:45 COLLECTED MIN CR-7
MIN CR-8

1525 WAC COLLECT CR-³
DEPLOY CR-4

15:45 COLLECT LAG CR-9
DEPLOYED CR-10

10/22/18

14:00 COLLECT BIG CR-14
DEPLOY CR-15

14:11 COLLECT GAR CR-6
DEPLOY CR-7
CR-6 DEPLOYED 9/27
WHEN CARBON PACK COULD
NOT BE LOCATED DUE TO
DOWNED TREE

14:32 COLLECT MIN CR-8
DEPLOY MIN CR-9

14:50 COLLECT LRV CR-4
DEPLOY CR-5

11/8/18

11:50 COLLECT JMC CR-5
DEPLOY CR-6

COLLECT NUT CR-2
DEPLOY CR-3

12:48 BIG COLLECT CR-15
DEPLOY CR-16

14:00 COLLECT GAR CR-7
DEPLOY GAR CR-8

14:26 COLLECT MIN CR-9
DEPLOY CR-10

15:12 COLLECT LRV CR-5
DEPLOY LRV CR-6

15:35 COLLECT WAC CR-4
DEPLOY CR-5

15:40 COLLECT THO CR-5
DEPLOY CR-6

11/9/18

11:35 AM JMC.

COLLECTED

12:38 HHD SAMPLE ~~MISSING~~,
COLLECTED

LRIV IS MUCH CLEARER
THAN RIVER + HHD BRANCH

13:10 LRV - COLLECTED

13:23 MIN COLLECTED
ALSO VERY CLEAR

13:37 GAR COLLECTED
A LITTLE FLOCK

1400 BKG COLLECTED
COLOR IN WATER + A LOT
OF FLOCK

1430 LIT COLLECTED
DARK, TANNIC

TOM EDWARDS, ECHO PLANTATION
904-219-4547
GATE CODE "1014"

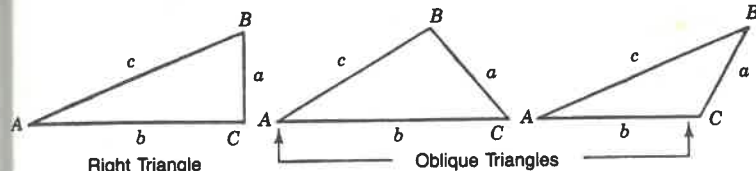
HOLTON CK. RISE CAMP HOST
GARY GABRIEL
828-337-2188

FRANK PURVIS

850 997 2669 0
850 545 9054 C

Wed @ 9
Adah

TRIGONOMETRIC FORMULAE



Solution of Right Triangles

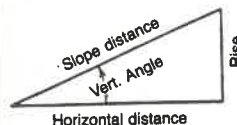
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\csc = \frac{c}{a}$

Given a, b	Required A, B, c	$\tan A = \frac{a}{b} = \cot B$, $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B$, $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

Given b, c, C	Required a, A, B	$a = \frac{b \sin C}{\sin A}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180^\circ - C$, $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$
a, b, c	A, B, C	$c = \frac{a \sin C}{\sin A}$ $s = \frac{a + b + c}{2}$, $\sin \frac{1}{2} A = \sqrt{\frac{(s - b)(s - c)}{b c}}$ $\sin \frac{1}{2} B = \sqrt{\frac{(s - a)(s - c)}{a c}}$, $C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}$, $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{b c \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = $5^\circ 10'$. From Table, Page IX. $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft.
Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\cos 5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately: - the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

location 1 South of Big Blue

30 19 32.48 -83 58 57.25

30 19 24.37 -83 58 53.7

30 19 20.91 -83 58 55.7

30 19 24.68 -83 58 49.94

jump off

entry 30 19 35.3 -83 58 34.89

