

TG

LEVEL BOOK

#101596

6/21/16 - 4/12/17

 **BEN MEADOWSSM**

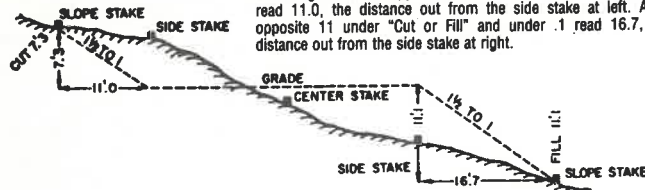
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When the
Outdoors
is Your
Office.

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

CARBON

DRIV
OVER

ALRP

ALRD

HCRP

HCRV

RIVC

ACON

COIL

STEV

HOLE

SRSP

ELLA

SUWA

WITH

ALRG

WATER

HOLT

ALAP

The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

[illegible]

TG/CF/RK

STOP FOR LUNCH IN MONTICELLO

3:00 PM ALAPAHUA RISE

CALIBRATED 200 mL SAMPLE

21 JUNE 16

CALIBRATED 200 mL SAMPLE

22 JUNE 16

15/05 08:15 12.48 V

CALIBRATED 200 mL SAMPLE

2.1 BOTTLE 1 AT 12:00 AM

22 JUNE 16

1500 4 BAT 22 JUNE
CALIBRATED 200 ML SAMPLE
R-1 BOTTLE 4 AT 6:00 AM

MEET JC/GB/KW AT PEPE'S

8:30 PM GRAB SAMPLE FROM SRSP
BOAT RAMP R-1 SRSP

22 JUNE 2016

7:00 AM UP, COOK BREAKFAST

8:00 AM HEAD TO DEAD RIVER

8:30 AM DEAD RIVER

STAGE: ~64 @ JASPER

~500 CFS

OVERFLOW IS STILL TAKING
WATER

9:15 AM DEPLOYED CARBON IN OVERFLOW
R-1 OVER

MEET TARA, ROSS, TREY,

11:00 RELEASE 100 LBS FLUORESCEN
UPSTREAM OF DR SWALLET

12:00 PM TOM MORRISON SHOWED US
A SPRING AT JENNINGS BWFF

LUNCH AT CROSSROADS

2:45 PM 5-HOLE
TOOK GRAB R-1 5 HOLE
PLACED R-1 CARBON AT
2:50 PM

TOM SWAM ACROSS TO
STEVENSON AND TOOK GRAB
R-1 ~~LEAF~~^{STEVE} AT 3:15 PM
PLACED CARBON AT 5:15 PM

4:00 PM STOPPED AT BIG SHOALS ON
WITH LACOOCHIE

5:00 PM STOPPED AT THUNDERHOLE.

~~ON~~

JC/KW/CF/SB WENT TO
GET GROCERIES WHILE
TOM AND I WENT TO CHURCH

ISCOS

6:00 PM ALAPAH RISE. WATER LEVEL
HAS DROPPED 1-2 FT
ISCOS LOOK GOOD

7:00 PM DEAD RIVER

NO VISIBLE TRACES OF DYE
WATER LEVEL HAS DROPPED
1-2 FT AT SWALLET.
SMALL CREEK PAST OVERFLOW
IS NEARLY DRY

8:30 PM TIGER CREEK LODGE

23 JUNE 2016

TG ACK

10:00 AM HOLSTON CREEK RISE

ISCO 4 "BOTTLE 4 AT 1800
CHECKED, ALL 3 SAMPLES
LOOK GOOD

ISCO 5 "BOTTLE 5 AT 1200"
CHECKED, ALL 3 SAMPLES ARE FINE

11:00 AM WENT BACK TO TIGER CREEK
THEN MET CF/KW/JC/SB IN
WRAVILLE TO GIVE THEM
KW'S MEDS.

12:00 PM SPOKE WITH TR ON PHONE
DECIDED TO MEET AT COLLE
TO TAKE FLOW MEASUREMENT

1:00 PM COLLE. MET TR & ROSS.
CARBON PACK WAS PULLED
UP ON BANK BUT OTHERWISE
INTACT. REDEPLOYED
TOM POST AN INFORMATIONAL
SIGN TO HOPEFULLY PREVENT
FUTURE TAMPERING

2:15 PM TR & ROSS FINISHED FLOW
SW 92971 PRELIM: 15.3 CFS

TR PULLED UP STEVENSON DATA
WITH RECTANGULAR CROSS
SECTION, 85 CFS 40% ERROR
SAW LANDOWNER, CAROLINE

4:00PM HOLTON CREEK
STOPPED WITH TR/RD

4:30PM ALAPAHUA RISE
ISCO 1 "BOTTLE 5 AT 600"
SAMPLES LOOK GOOD
ISCO 2 "BOTTLE 5 AT 000"
SAMPLES LOOK GOOD

25 JUNE 2016

8:00AM ALAPAHUA RISE

ISCO 2 "BOTTLE 8 AT 1200"
ISCO 1 "BOTTLE 9 AT 1800"
ALL APPEARS NORMAL.

8:30AM HOLTON CREEK

ISCO 4 "BOTTLE 8 AT 1800"
ISCO 5 "BOTTLE 12 AT 1200"
ALL WELL & NORMAL

11:00AM DEAD RIVER

OVERFLOW IS DRY STAGE IS
1/6 FT LOWER THAN WED

1:15PM S-HOLE

CARBON PACK STILL PRESENT

2:30PM SWANACOCHEE

PLACED CARBON PACK IN
SPRING R-1 SWWA AT 3:00PM
PLACED R-1 WITH AT 3:15PM
UPSTREAM OF SWWA

3:45PM SRSP PLACED R-1 SRSP
UPSTREAM OF LIME SPRING

5.00PM ELIAVILLE

R-1 PLACED R-1 ELIA IN
ELIAVILLE SPRING

26 JUNE 16

HOLTON CREEK 8:30AM 36.8'
STAGE

ISCO 4 "BOTTLE 10 AT 1800"

ISCO 5 "BOTTLE 10 AT 1200"

REDEPLOYED AFTER COLLECTING SAMPLES

ISCO 5 "BOTTLE 01 AT 1200"

ISCO 4 "BOTTLE 01 AT 1800"

HOLT R-1 SAMPLES 01-18 COLLECTED

AT 8:30AM TOOK ~30 MINS

HCRP R-2 COLLECTED 8:40AM

~~9:30~~ MET SOME LOCALS OUT FOR
A WALK AS WE DROVE OUT
OF HOLTON CREEK

9:30AM ALAPAH RISE

COLLECTED ALRP R-2, LEFT
ALRP

ISCO 1 "BOTTLE 11 AT 1800"

ISCO 2 "BOTTLE 10 AT 1200"

COLLECTED ALAP R-1 1-19

REDEPLOYED ISCO 1

"BOTTLE 1 AT 1800"

REDEPLOYED ISCO 2

"BOTTLE 1 AT 1200"

27 JUNE 2016

1:30 PM ARRIVE AT FGS

PICK UP NEW BATS

3:00 PM DEPART FGS

28 JUNE 2016 TG/KK

9:30 AM DEAD RIVER

R-2 COLLECTED

DEPLOYED R-3 9:45 AM

9:50 AM COLLECT R-1 OVER

OVERFLOW HAS BEEN DRY

SINCE 2 DAYS AFTER DYE
INTRO (POSSIBLY LONGER)

11:15 AM SUWANNEE RIVER CAMP

COLLECT R-2 DEPLOYED

R-3 R-3

MET NEW CAMP HOSTS STIVER
MARU (sp?) GOT PHONE NUMBER

12:15 PM HOLTON CREEK RISE

CHECKED ECOS

ISCO 4 " BOTTLE SAT 1800 "

ISCO 5 " BOTTLE 6 AT 000 "

COLLECTED R- HCU

DEPLOYED HCU R-

MET SOME CITY OF JASPER

EMPLOYEES OUT TAKING

WATER SAMPLES. TOOK

THEM TO SEE HOLTON CREEK.

WATER IS CLEAR/TANNIC LOW TURBIDITY

12:50 PM ALAPAHA RISE.
GREEN.

ISCO 1 "BOTTLE 6 AT 1800"

ISCO 2 "BOTTLE 5 AT 000"

TOOK ALRP R-2

DEPLOYED ALRP R-3 AT 1:00 PM

1:30 PM HEADED TO CROSSROADS FOR
LUNCA

3:30 PM MEET TARA BACK AT
ALAPAHA RISE.

~~THE~~ STILL GREEN.

WAITED FOR RAIN TO GLOW

4:30 PM HOLTON CREEK

TURBID. SLIGHTLY GREEN??
WAY MORE MURKY THAN THIS
MORNING.

29/JUNE 2016

7:00 AM GOT UP EARLY & MET WITH
DAVID STILL & MEGHAN
WEATHERINGTON AT PCS

10:00 AM HOLTON CREEK

STILL A LITTLE TURBID. NOT
VISIBLE GREEN

ISCO 4 "BOTTLE 7 AT 1800"

ISCO 5 "BOTTLE 7 AT 1200"

WALKED UP ON THE GS PLATFORM
AND IT LOOKS HAZY, MUDDY GREEN
IN SUNLIGHT ESPECIALLY.

ALMOST LOOKS LIKE THERE IS
A HAZY DUE LAYER ON
SURFACE, AND CLEARER
UNDERNEATH

10:30 AM ALAPAHA RISE

STILL PEASOUP GREEN

ISCO 1 "BOTTLE 7 AT 1800"

ISCO 2 "BOTTLE 7 AT 1200"

11:15 AM DEPLOY R-1 ACROSS
FROM AL. RISE CONE

12:15PM PEACOCK RAINED OUT

WENT TO LUNCH IN MAYO

3:30PM LAFAYETTE
RAINED OUT

30 JUNE 2016

7:00AM WAKE UP

8:00 AM MEET ANNA & CATHERINE
AT ELLAVILLE BREAKFAST

9:00AM SRSP

9:23AM RETRIEVE SRSP R-1
DEPLOY SRSP R-2

MET SCOTT & KASEY IN LEE

10:45 AM S-1 HOLE
COLLECT HOLE R-1
DEPLOY HOLE R-2

12:00PM DEAD RIVER
8 FT LESS THAN DYE INTRO.

WENT BACK TO TIGER CREEK LODGE
AND GRABBED LUNCH, LOADED
VAN TO SEND STUFF BACK
WITH SCOTT

2:00PM ALAPAH RISE

STILL GREEN

3:00PM COLLE COLLECTED R-2
DEPLOYED R-3

4:00PM EDWARDS COLLECTED
STEVE R-1
DEPLOYED STEV R-2
FOUND FALMOUTH CARBON!?

STOPPED FOR DINNER AT PEPES

6:30 ALAPAHA RISE
COLLECTED ALAP R-2
01-15
ISCO 1, BATT 12.5V ODDS
ALL 9 SAMPLES PRESENT
BUT SAMPLE VOLUMES
WERE LOW/IRREGULAR
REDEPLOYED "SAMPLE 1 AT
6:00 1-JUL"

ISCO 2, BATT 12.18V EVENS
ALL 9 SAMPLES PRESENT
SAMPLE SIZE FAIRLY CONSISTENT

REDEPLOYED "SAMPLE 1 AT
0:00 1-JUL"

7:55 PM HOLTON CREEK

1 JULY 2016

10:30 AM HOLTON CREEK
WATER IS LESS TURBID,
LESS TANNIC, AND
GREEN.

ISCO 4 "BOTTLE 11 AT
1800" SAMPLES LOOK
NICE + EVEN.

COLLECTED R-2 1-20 EVENS

ISCO 5 "BOTTLE 11 AT 1800"

GOOD SAMPLES...

COLLECTED R-2 1-20 ODDS

REDEPLOYED ISCO 4

"BOTTLE 1 AT 18:00"

REDEPLOYED ISCO 5

"BOTTLE 1 AT 12:00"

5 JULY 2016 KK/TG

5:22 PM AORNSBY

BATT 3 12.04 V

BATT - 12.48 V

DID NOT DOWNLOAD SERIAL #

MISSED 5:20 PM

REDEPLOYED FOR 6:00 PM

6 JULY 2016

7:00AM UP TOM COLLECTED
SRSP R-2

BREAKFAST AT JIFFY

8:30AM ALAPAHA/SWUA CONFLUENCE
COLLECT R-1 DEPLOY R-2

9:30AM RIVER CAMP
COLLECT R-3 DEPLOY R-4

10:00AM HOLTON CREEK RISE
ISCO 4 "BOTTLE 11 AT 1800"
ISCO 5 "BOTTLE 11 AT 1200"
ISCO 5 TUBING WAS TOO
TIGHT AT THE JOINER, CAUSED
IT TO BREAK DOWN A LITTLE
TOM TOOK ABOUT 1" OFF.
COLLECTED HOLT R-3 1-20
ODDS REDEPLOYED ISCO 5
SAMPLE 1 AT 1200
COLLECTE HOLT R-3 1-20
EVENS FROM ISCO 4.
SAMPLE 04 IS BELIEVED TO
BE AN ACCIDENTAL RINSE SAMPLE

* DOUBLE CHECK LAB RESULTS
TO CONFIRM.

AS A RESULT COLLECTED
HOLT R-3 21

REDEPLOYED ISCO 4

SAMPLE 1 AT 1800

COLLECTED ~~HA~~ HCRP R-3

~~HA~~ DEPLOYED HCRP R-4

BATT 5 12.35

BATT 12.26

11:15AM ALAPAHA RISE

ISCO 1 "BOTTLE 12 AT 1800"

ISCO 2 "BOTTLE 13 AT 1200"

BATT 12.49

BATT

COLLECTED ISCO 5 SAMPLES

4:30PM 1-23 ODDS, ALL GOOD
REDEPLOYED "BOTTLE 1 AT 0:00"

ISCO 4 ONLY TOOK 1 SAMPLE
ABOUT 200ML IN BOTTLE 11,
SAMPLE 22

RAN CALORATION DREW ~150 ML
PERAN, DREW ABOUT 1200 ML
THIRD TIME DREW 300 ML

3:15 PM PEACOCK

SWITCHED BATT 1 11.96 V
FOR BATT 11 12.71 V

JULY
12 ~~JUNE~~ 2016 TWWK

LEAVE FGS AROUND 10
STOP AT TUPELOS FOR
LUNCH

2:00 PM HOLTON CREEK RISE

COLLECT HCRV R-4 ^{*1} _{CHECK}
SAMPLE IS RIFE WITH THIS
LEECHES

ISCO 4 BOTTLE 13 AT
1800" SAMPLES ALL PRESENT

ISCO 5 BOTTLE 14 AT 000"
SAMPLES ALL PRESENT
COLLECTED HOLT R-4
1-25

* ACCIDENTALLY PUT ISCO
4 IN "ODD" BOTTLES THIS
ODDS 1-23 ARE REALLY
EVEN. SAMPLE 25 IS CORRECT
ISCO 5 SAMPLES ARE IN
"EVEN" BOTTLES 2-24
DESPITE BEING 1-25 ODDS FOR
REAL. SWITCH!!

3:15 PM ALAPAH RISE

RAINED OUT
WENT TO CROSSROADS TO
PICK UP ICE

4:30PM ALAPAH RISE AGAIN
"BOTTLE 13 AT 1800"
1, 3, 5, 7, 9, 11 HAVE SMALL
AMOUNT OF WATER.
OTHERS ARE EMPTY
COLLECTED SAMPLES 1, 3, 5, 7, 9, 11
AND REPLACED ISCO 1 WITH
ISCO 6. BATT 12.46
CALIBRATED ISCO 6
FIRST TRY: 600ML SECOND TRY 200ML
DEPLOYED FOR R-5 BOTTLE 1
AT 1800
ISCO 2 LOOKS GOOD BOTTLE
13 AT 000.

COLLECTED RINC 6:00PM
POURING RAIN

13 JULY

186763

7:30AM WALK TO LIME SPRING
7:45AM COLLECT SRSP R-3
7:50PM SRSP R-4
BREAKFAST

9:30AM 5-HOLE
COLLECTED HOLE R-2
DEPLOYED HOLE R-3

TIG CREEK - DRY

12:00PM ALAP - SWA CON
COLLECTED ACON R-2
DEPLOYED ACON R-3

12:30PM ALAPAH RISE CHECKED
ISCO 6. SAMPLE 1 WAS
GOOD, SAMPLE 2 WAS ~100ML
TOM RESET THE TUBING
BECAUSE HE THOUGHT IT
MAY BE AGAINST A ROCK.
NO VISIBLE OBSTRUCTIONS
IN THE TUBING.
TOOK A MANUAL SAMPLE
WHICH WAS DELIVERED
TO BOTTLE 2...

HENCE SAMPLE 2 IS A
MIX OF ~100ML 6:00AM
~100ML OF 12:45PM.
TOOK SECOND MANUAL
SAMPLE ~250.
SET TO TAKE SAMPLE 1
IN BOTTLE 3 AT 1800.
WILL CHECK TOMORROW
OR FRIDAY

~~PAINTED 000~~

15 JULY 2015 TQ/KK

6:30AM LEAVE FGS.

DROVE DOWN TO JASPER

MET WITH TODD FROM FWCC

MET WITH HARRY DAVIS FROM
WASTE WATER TREATMENT.

HE DROVE US TO LAKE
CLARITY. IT HAS #3 FINGERS
AND A WEIR WHERE IT
FLOWS INTO TIGER CREEK
~3 FT BELOW WEIR
TODAY. MR. DAVIS SAID IT
RARELY FLOWS IN THE SUMMER

10:30AM STOPPED AT ALAPAH RIST ✓

ISCO 6 BOTTLE 7 AT 1800

ISCO : BOTTLE 6 AT 1200

ISCO 6 SAMPLES LOOK
FAIRLY UNIFORM. BOTTLE 5
WAS CLOSER TO ~300ML

LUNCH AT PEPES

1:00PM CONVICT SPRINGS

BATT 8: 11.89V switched
with unnumbered Watt: 12.69V
TOOK DOWNLOAD AFTER 1:00PM
MEASUREMENT
LOTS OF VERY CLOSE THUNDER
LIGHTNING.

7-19-16

SUN BASIN ALAPAHUA DYE TRACE
CINDY RISCHLER, TOM GREENHALGH

1:15P LEFT TLT AFTER TRUE COLORS
STOPPED HILLTOP FOR SANDWICH
EAT ON DRIVE.

~3:19P LAFAYETTE BLUE SPRING
DOWNLOAD ACM BATT 12 @
12.75V REPLACED BATT 6 @
12.23V

DROVE TO SR STATE PARK
FOR KEY TO CABIN.

GAS @ ELLAVILLE, THEN
DROVE TO NOBLES FERRY
RAINING HARD DID NOT
SAMPLE @ ALAPAHUA RISE.

DROVE TO DEAD RIVER BY
TIGER CREEK - NOT FLOWING

7:00P EATING OUT @ CROSSROADS
12HRS

7/19/16 TG

ALAPANA DYE TRACE

7-20-16

C. FISCHLER T. GREENHALGH
TRACI BILLINGSLEY AND SUSAN
TROMBLEY TO JOIN US.

10:49A

ALAP #6 BOTTLE 17 @ 18:00

16 samples volume
200ml $\rightarrow$ 100ml
vol. gradually getting
less

BATT #4 12.28V

RAN MANUAL SAMPLE 200ml
RAN CALIBRATE

ISCO #2 BOT #16 @ 12:00

Battery #2 - 12.04

Replacing w/ Battery #3 - 12.78
RAN CALIBRATION

SAMPLE BOTTLES
WERE NOT Rinsed.

Replaced power cord because
of broken fuse.

7/20
2016

7-20-16

ALRP

HCRP 12:44

HCRV

RIVE? 1:11

ACON

STEVE

HOLE 9:11

SRSP 7:26A R-5

COIL?

ALAP 10:49 R-5

#2 even #6 odd

12:13 HOLTON CREEK RISE

SAMPLE HCRP 12:44

HOLT 1-32 BOTTLES

#4 odd #5 even

ROUND #5

#4 ISCO Battery 12.19

#5 ISCO Battery 12.19

ACON

3:36 PM

COIL

4:10 PM

STEVE

5:20 PM

ALAPAH DYE TRACE 7-21-16
GREENHALGH

8:00A CROSSROADS BREAKFAST

8:45A ALAPAH/DEAD RIVER
RIVER CONTINUES TO DROP
NO FLOW BUT SEETAGE PAST
DEAD RIVER. DEAD RIVER
SWALET ~30 CFS DROPPING
IN SWALET.

10:20A ALAPAH RISE CHECK
ISCO₃ PROGRAMMED
7/20 WANTED TO SEE
IF OPERATING AS I HAVE
NOT PROGRAMMED IN A
WHILE. ALL OKAY ON
3rd SAMPLES.

11:40A 5-HOLE SWANNEE STILL
DROPPING ~3 CFS @
5-HOLE. SAMPLER IN
PLACE.

7-26-16

Little Gem 4:30 pm Carbon
Sample + Replace SWSP Pack

ALAPAH TRACE 7-27-16
C. FISCHLER, T. BARNETT, T.G.

8:22 ALAPAH RISE
COLLECT WATER SAMPLES
SWITCH BATTERY ISCO #6
COLLECT ALRP PACKET
ISCO #2 BOTTLE 15 @ 12:00
SAMPLE COLLECTED @ ISCO #2 ^{ODD}
FIRST. 8:45AM START
Battery #3 1257V VOLUMES GOOD

ISCO #6 BOTTLE 15 @ 18:00
Samples 200 ml → 75 ml.
ALL SAMPLES COLLECTED EXCEPT
#6 on #3 in ISCO #6.

BATTERY #4 12:38V recover
BATTERY #6 12:55V deploy

CALIBRATE DELIVERED ~150 ml
RECAL TOLD 100 ml DELIVERED
RECAL LOOKED FINE 200 ml vol.

ALAPAHUA TRACE

7-27-16

CF/TB/TG

10:00 HOLTON CREEK

ISCO #5 BOTTLE 14 @ 12:00

EVEN SAMPLES #2...26

Battery #5 Repair w/ #13 12.65V
12.014V

Creek low moved tubing in take
Stage 34.38 Ft. Intake

HCRD collected @ 10:16 A
not replaced

ISCO #4 BOTTLE 15 @ 18:00

ODD SAMPLES #1-27

ISCO 4

Battery # NO # 12.13V Replace
w/ #1 12.85V

34.38
33.55
43
drop

ALAPAHUA DYE TRACE

8-2-16

TG, JESSE HURD, SCOTT DYER

9:30 LEFT TLH

10:00 WAUKEENA FERTILIZER

BOOTS FOR SCOTT

11:20 O'NEALS MADISON

12:40 SRSP CABIN #1

1:33 COIL SPRG. PACKET

2:00 DEAD RIVER/JENNINGS PLUFF

4:14 ALCON PACKET

5:32 RIVE. PACKET

6:30 CAROLYN HOME

7:00 CROSSROADS

8:10 WITH LACOCHEE SHORE

8-3-16

9:27 HOLTON CREEK STAGE 33.95'

ISCO #5 - odd all 2000

15 @ 12:00

ISCO #4 15 @ 18:00 even

SR-8 BOTTLE 1 @ 18:00

BATT #1 12.73V

ISCO #5 odd

R-8 BOTTLE 1 @ 12:00

BATT #13 @ 12.51V

10:50 am

8-3-16

ALAPAH RISE

ISCO #6 READS:

... 15 @ 18:00 Bat #5 = 12.46

EVEN'S 2-28 *Volums varien 100-400 ml

ISCO #2 READS:

15 @ 12:00

Batt 3 @ 12.50 *~~values~~ *

ODDS 1-27 ~~values~~ *

*ABOUT 8000'S ARE ROUNN
#7

ISCO #6 Round 8

Bottle 1 @ 18:00

ISCO #2 Round 8

Bottle 1 @ 12:00

12:01 P STEVENSON SPRG.
COLLECTED PACKET

2:37 5-HOLE COLLECTED
HOLE PACKET.

8-9-2016

1:41 ALAPAH RISE

ISCO #6 BOTTLE 13 @ 18:00

EVEN ROUND 8 2,4,6...

BATT #6 12:43V

ISCO #2 BOTTLE 14 @ 0:00

ODD ROUND 8 1,3,5...

BAT

ALRD Recovered + Deployed
Carbon Pack

ISCO 2

12.46 Battery 3

ISCO #4 Bottle 13 @ 1800 EVEN
Battery #1 12.70V 2,4,6

ISCO #5 Bottle 14 @ 0000
Battery #13 12.46V ODD 1,3,5

34.58 FT

HERP - Carbon pack
picked up + Replaced.

8-9-16

4:10 RINC COLLECTED/
REPLACED

PAID CLAY

6:30 CROSS ROADS

8-10-16

10:10 HOLE COLLECTED/DEPLOY

TIGER CK TRACE

8-12-16

8:22 ALAPAH RISE GRAB

TCAL R-1

8:55 HOLTON CREEK

TCHC R-1

8-13-2016

9:50 TCAR R-2

TCAR CR-1 (CARBON)

10:40 TCHC R-2

TCHC CR-1

11:30 TCCO R-2 SR TURBID

TCCO CR-1 RED.

8-14-16

11:43 TCHC R-3

12:05 TCAR R-3

SUN RIVER ISN'T RED

TURBID IT WAS ON FRIDAY

DARK TANNIN COLORED

TODAY

8-15-16

8:10 TCAR R-4

TCAR CR-2

8.15.16

9:05 TCHC R-4
TCHC CR-2
STAGE 35.10' TURBIDITY
VISIBLE SULFUR ODOR
PRESENT.

2:45 TCAR R-5

3:25 TCHC R-5

8.16.16

10:00 TCHC R-6

10:15 RIVC R-

~~10:25~~

11:25AM TCAR R-6

11:40AM TCAR R-2 RIVER BED +
TURBID

12:15PM TCCO R-2

TCCR R-1

TCCR CR-2

3:45 HOLE R-

4:30 SUWA

Swannacordchee Spring.

5:20 STEV

8.17.16

9:30 TCHC R-7
STAGE 35.40'

9:50 TCAR R-7
" TCAR R-3

10:15AM MET STEVERSON + DANA
AT SKSP

10:50AM ELLA R-1

8/31/16

1:00 PM ALAP

COLLECTED CR-4 TCAR

DEPLOYED CR-5

1:20 PM HOLT

COLLECTED CR-4 TCAR

DEPLOYED CR-5

2:30 PM DEPLOYED TCOR-3
COLLECTED R-3

3:00 PM ALAPHA
COLLECTED TCAR R-
DEPLOYED TCAR R-
MOSQUITOS ARE FERCE.

3:50 PM HOLTON CREEK
BACK WAY BLOCKED BY
TREE HAD TO GO AROUND
COLLECTED TCHC R-
DEPLOYED TCHC R-
WATER LEVEL IS UP
VERY DARK/TANNIC
NOT VERY TURBID
36.38 AT GAGE

11:00 AM PEACOCK SPRINGS
OLSEN COVERED IN
DUCKWEED
WAITED A FEW MINS
TO TAKE DOWNLOAD
MET ALEX RANGER FOR
PEACOCK AND —
RANGER FOR SILVER SPRING
BATT: 12.23 V
DOWNLOADED DATA
REDEPLOYED FOR 11:30 AM

12:00 PM CONVICT SPRING
12.29 V
WAITED A FEW MINS FOR
DATA COLLECTION

0:15AM LEFT FGS

2:15 PM FANNING

CRABBED LUNCH AT LIGHTHOUSE

2:45 PM FANNING, SP

MET CAROL & GROUP OF
5 LEAS STUDENTS FROM
UF REPRESENTATIVES

PARK RANGERS (MARK ~~NOB~~
FIRST SPOKE ABOUT FLSP
SYSTEM AND PRACTICES, AND
SPRINGS MGMT.

TOM DISCUSSED AQUIFER
HYDROLOGY & DARRYL
& HUGH DISCUSSED WMD
PRACTICES.

5:00 PM MEET AT CEDAR KEY FOR
TOUR & DISCUSSION ON
CLAM FARMING.

TOM AND I WENT TO THE
UF DOCK BUT UF CHANGED
PICKUP LOCATION LAST
MIN & WE MISSED TOUR.

12:30 PM HORNSBY SPRING

12.15 V

Collected download

Redeployed for 1:00 PM

3:30 PM ~~LA~~ LAF BLUE

12.24 V

TOOK DOWNLOAD AND REDEPLOYED
FOR 4:30 PM

11/3/16

KF/JC/KW

8:15 AM DEPART FGS FOR HORNSBY

11:00 AM HORNSBY-1. TOOK
DOWNLOAD AND REDEPLOYED
CHANGED BATT 12.13

12:00 PM LUNCH IN HIG A SPRINGS
~~CHANGED BATT 12.13~~

2:00 PM CONVICT TOOK DL
REDEPLOYED FOR 2:30 PM
CHANGED BATT 12.13

3:00 PM ~~LA~~ Peacock TOOK DL
AND REDEPLOYED
CHANGED BATT 12.02

4:00 PM LAF BLUE TOOK Download
Redeployed for 4:30 PM
DID NOT CHANGE BATT
~~AS AND COOK~~ WE COULD NOT
FIND PLIERS.

11/7/16 KF/CA

8:30AM LEFT FGS

10:20AM ARRIVE LAF RUE.

WAITED FOR 1030 DL.

TOOK DL AND REDEPLOYED

11:01AM. MISSED 11:00AM

CHANGED OUT BATT. 12.17V

12.13V

11/28 TG/KF

11:00AM LEFT FGS

STOPPED AT SAVANNAH
WAKULLA STATION

12:00PM ST MARKS

PUT IN BOAT AT RAMP

BY OUZTS

USED A BORROWED OAR
FROM NEIGHBOR

BOAT SPUTTERED A BIT AT
FIRST BUT DD WELL OVERALL

* LIFE JACKETS

* WHISTLE

* THROWABLE

* OAR!

* ANCHOR

* LINE

1130 HORNBY
BATT #2 REPLACED WITH
12.77V

ERROR MESSAGE INITIALY
RESTARTED LAPTOP
WAS FINALLY ABLE TO
OPEN PORT

GOT ANOTHER ERROR
MESSAGE STATING

"DATA WAS PREVIOUSLY
DOWNLOADED"??

DOWNLOADED ANYWAYS.

HAS 11-02-1-18...

REDEPLOYED FOR 1230

"LOG DATA" WAS UNCHECKED

RE-CHECKED IT

2:15 PM CONVICT SPRING

BATT #7 12.04V REPLACED

WITH BATT 3 12.38V

TOOK DOWNLOAD AFTER

2:30 REDEPLOYED AT

2:00

315 REPLACED BATT 12.13V

WITH #8 12.30V

TOOK DOWNLOAD AFTER
3:30 PM

~~TH~~ BATT FELX ON COM CABLE
APPEARS TO HAVE DAMAGED
IT. "UNABLE TO COMMUNICATE;
CHECK COM CABLES"
* NEED TO REPLACE COM
CABLE!!!

445 LAF BLUE.

12 APRIL 2017 KF/TG

1000 LEAVE FGS

STOP BMC FOR YSI

STOP PUBLICA FOR FOOD

1200 BSL WMA

WALK INTO TAY 616992

TAKE SAMPLES + YSI

READING @ 12:30 PM

MUCH MORE TANNIC THAN
FIRST VISIT...

HAD TO SWITCH FILTER ON
SYRINGE HALFWAY THROUGH
FILLING 125 mL SAMPLE
BOTTLES (PSO₄)

245 WALK INTO ORANGE CRUSH

TAKE SAMPLES + YSI

READING AT 330

LAT: 29 97551

LONG: 083 69834

BOATSHED 2743

MASTERKEY 0464 IS FOR LAFAYETTE SHED

RANDY HAVENS OFFICE: 850-838-9027

CELL: 386-365-3746
x104

BIG BENO WMA

LOCK COMBO: 9027

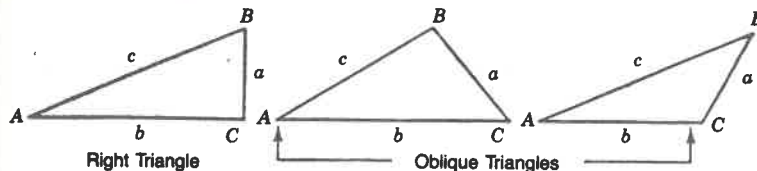
MIKE DALUIS 850-245-8023

CELL: 813 787 8950 O: 58023

Willie Oxendine + Carolyn
paradise 44 @ fairpoint.net

TCCO-
R-2
is R-3

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	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

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

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 $(1 - \cos \text{ of vertical angle})$. 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.

