

*Allen & Rainey*  
ALL-WEATHER  
ENVIRONMENTAL  
No. 550

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100-1

"Rite in the Rain"  
ALL-WEATHER WRITING PAPER



ALL-WEATHER  
ENVIRONMENTAL FIELD BOOK

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Project BBNPP Dredge Support

This book is printed on "Rite in the Rain" All-Weather Writing Paper - A unique paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather. For best results, use a pencil or an all-weather pen.

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[illegible]

Location SUSQUEHANNA RIVER Date 10/11/10  
Project / Client 60166208 / UNE

154p - Archive on-site at PPL  
Labs (ECOL H<sub>2</sub>)

16pp SAFETY Orientation given to all attendees. The following were in attendance.

NAME Ted Jacobson Signature [Signature]

ANDREW J. BURZYNSKI. Andrew J. Burzynski

Hyle R. Harvey      Hyle R. AI

DAVID C. KLINCH *DK*

Kris W Dunnebacke B-W Park

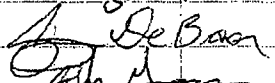
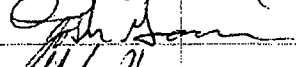
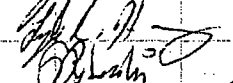
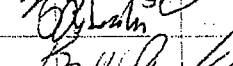
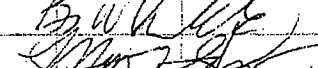
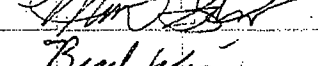

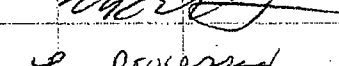
Jeffrey R. Pydeski  
Matthew Shappell  
Jenny DeBoer

1715 - Am OFFSITE

1 R  
①

Location SUSQUEHANNA R. Date 12/12/16  
 Project / Client 60160208 / UNE  
 Author: AL MODJESKI (AM)

0710 Ann onsite. Safety Briefing given. Author AL Modjeski (AM)

	NAME	Signature
1. Azum1)	Jenny DeBoer	
2.	Josh Gowan	
3)	Mike Harvey	
4)	John Pyle	
5.	Kris Donabate	
6.)	Matt Shappell	
7.	Brian Wise	
8.	Mike Hauser	

0730 Going to set up processing area near boat ramp.  
 Weather: Overcast C 60°F  
 NO WIND Chance of rain.  
 C 19% today weather will clear by noon w/ winds up to 7 mph NNE. River stage about 2.0'. Current moderate. ASI prepping vessel for deployment. Water level gauge is ECU III and is located on the premises

↓ ① A

Location SUSQUEHANNA R Date 12/12/16  
 Project / Client 60160208 / UNE

0750 - Discussed coordinates and station locations w/ Matt of ASI. Looks like we have 6 stations w/ same coordinates called Dion Lewis (ASI) and left message to adjust coordinates and fax back to me. If they're that coordinates are so close, we may need to pull out another decimal or two.

0820 - Vessel launched received call from Dion Lewis (AZUM) and gave him repeat coordinates to recheck. Early engine trouble fixed on cargo vessel. He also wants probing coordinates in PA STATE PLANE NAD 83.

0840 - ASI having generator problems and are repairing in order to raise the barge. Still at boat ramp.

↓ PC  
 ③

Location SUSQUEHANNA R. Date 12/2/14  
 Project / Client 60160208 / UNE

- 0841 - Generator repaired for now.  
 Going to inspect vessel and  
 then deploy for probing.
- 0922 Vessel prepped. All gear stored  
 accordingly. MAST RAISED.  
 Removed 20' barrels from  
 boat. Will use 2- 15' barrels.  
 Generator working. ENGINE up and  
 running. Elevation of water  
 is 483' (8'). We will adjust  
 for project depth by taking depth  
 to surface of substrate from  
 water's surface and then using  
 the difference as our project  
 depth. So, if taking a sample  
 on the bank at water's edge,  
 we will set for an elevation  
 dredge depth of 473' + 2'  
 over dredge for a project  
 dredge depth of 471', or a  
 drill depth of 10'.



Location SUSQUEHANNA RIVER Date 12/12/14  
 Project / Client 60160208 / UNE

- 0935 - Called M. Hewser, Processor,  
 and shore team to let them  
 know our float plan and  
 project depth / elevation of river  
 for processing. Inspected  
 coring vessel. Vessel deck  
 clear and safe for work.  
 Proper PPE donned. Going to  
 depart in 5'.
- 0950 - RECEIVED call from D.  
 Klinck (UNE). Gave him an  
 update briefing. All clear.
- 0955 - Depart boat launch for  
 CW-1. Will probe, then  
 core that station so  
 processors can start work.
- 1012 - On-site CW-1 @ 5' west  
 of site due to canopy.  
 Core. Can not get in much  
 more. Depth at site  
 is 9'. Based on that,  
 we need about a water  
 level is 491' →



SUSQUHANNA R  
60160262/UNE

10/12/14

Lyle just told me water level is 491' so we change our calculation reflect new target depth. CW1 - ELEVATION of substrate 482' so we need 11' to 12' core for project depth. We are on-site  
Lat:  $\rightarrow$  to be converted later  
LONG:  $\rightarrow$

Nothing - 339636.597

EASTING - 2414689.699

1025 RECEIVED call from Dion about coordinates. Needed to pull to 6 decimals as coordinates were not sensitive enough. New coordinates are going to be e-mailed to Lyle (BUTLER) and he will bring to boat after he delivers 1st core.

1026 START CW1. BBNPP-CW-C.  
Target depth - 11-12' below substrate.

Penetration depth - 13'.

+ pr ⑥

SUSQUHANNA R.  
60160262/UNE

10/12/14

REMARKS - 126.5" = 10'6 1/2".  
1041 - Core labeled and support vessel depart carrying vessel. Called M. Haver (processor) and let him know core on the way and details of core. Core sandy on top and mostly clay on the bottom w/ @ 5-6" of silt on top of core. Setting up for next station. will go to CW2.

1050 - Lyle from EOLITH back on-site w/ coordinates (updated) and w/ EASTING & NORTHINGS AS WELL REPOSITIONING FOR CW2. INPUTTING COORDINATES IN BETWEEN STATIONS.

1104 - ON-SITE CW2. Water depth - 13'8"  
Target core depth - 7'4"-10'  
Nothing - 339640.438  
EASTING - 2414715.530

+ pr ⑦

Location SUSQUEHANNA R. Date 10/12/14  
 Project / Client 60160208 / UNE

Target depth based on water elevation of 491' w/ the need to get to @ 471' or 470' for dredge depth (w/ 2' overdrage.

1116 Start at CW2 for sample # BBNPP-CW2-C Substrate elevation at 477' 4" or @ 478 so we are going for a core between 7' 4" and 10'.

1117 - BBNPP-CW2-C complete and bringing on deck. Penetration depth - 8.0' 11.0' Recovery depth - 10' 8" Substrate either rock or extremely hard clay at the 8.0' mark, LOOKS LIKE HARD clay. Called Processors, left message but told them to process to 8'. Going to change bennell as the one we are using is a little better.   
 1 in (2)

Location SUSQUEHANNA R. Date 10/12/14  
 Project / Client 60160208 / UNE

Once we change bennells we will go to CW3. No probing needed yet but we did hit pebbles on last core. Hitting some rocks w/ the anchor so this maybe a more difficult core.

1156 - On-site CW3 weather clearing. BACRY cloudy @ mid 60's F w/ 1-2 mph breeze from N.

EASTING - 2414754.717

NORTHING - 339629.846

Depth - 17' 7"

ELEVATION OF SUBSTRATE - 473' 5"

Target core depth - 2.5' - 4'

We will shoot for a 3' to 4' core to bring to dredge depth of about 471' - 470'.

1202 - Start at CW3 - sample # BBNPP-CW3-C. might be rocky based on how w/ from depth skipped on bottom 1 in (1)

Location SUSQUEHANNA R. Date 10/12/10  
 Project / Client 60160208 / UNE

1210 Vibracore at CW3 for  
 BBNPP-CW3-C complete. Boring  
 on deck. Penetration to 10' 10"

Only need to process the  
 upper 3-4'. Called Dion  
 Lewis (AECOM) and gave status  
 update and processing information  
 Recovery - 9' 3"

1212 Called D. Kinch and let him  
 know status. Called processors  
 and let them know to process  
 top 3' 6" of core for BBNPP-  
 CW3-C. Will add water depth  
 to that label.

1228 ONSITE CW6. Using Arcobars  
 and will drift this site, set  
 anchor and then, once done  
 coring, we will either move  
 inshore on the transect or  
 continue using the drift. Have  
 to readjust anchors again as  
 not getting a good bite. Will  
 be on-station momentarily.

JA (10)

Location SUSQUEHANNA R. Date 10/12/10  
 Project / Client 60160208 / UNE

1235 - ONSITE at CW <sup>6</sup><sub>3</sub>. Repositioned  
 Nothing - 3396 (2, 17)  
 EASON - 2414755.34

@ 2.7' from target Good Set.

1240 - START SAMPLE BBNPP-CW6-C.  
 Depth to substrate - 18' 2"  
 Substrate elevation - 472' 10"  
 Water surface elevat. 491'  
 Target core depth - 2' 10"

WE NEED A 3' core at this  
 SITE. RESETTING AND REANCHORING  
 FOR PENETRATION DEPTH AS  
 LAST ONE SLIPPED SLIGHTLY ON  
 cable

1245 - Core started and coring  
 stopped at 1246. Target  
 depth reached. Penetration  
 7' 0' length in  
 Recovery depth - 3' 0'

MET TARGET DEPTH Recovery  
 SATISFACTORY. Going to sit  
 ON next site. Called processors

↓ (11)



Location SUSQUEHANNA R. Date 14/12/16  
 Project / Client 60160208 / UNE

1307 Onsite at CW-9 <sup>A</sup> 281' - @  
 2.5" off target  
~~Nothing - 339589.241~~  
 Nothing - 339589.79  
 EASTING - 2414759.09  
 Water depth - 17' 2"  
 Substrate elevation - 473' 10"  
 Target core depth - 4' 0"

1335 Having some difficulties Barrel  
 bent and will have to go ahead  
 and swap out barrels. Barrel  
 slipping and lost the shoe.  
 Readjusting for penetration co-  
 well. will remain on-site  
 but will check position prior  
 to next attempt.

1400 New barrels back on-site. Drilling  
 a 17' barrel into the hammer.  
 River level up 1/10 of a foot per  
 ECOTIDE TIDE GAGE. IF barrel  
 bends again, we will move  
 inshore to complete inshore  
 samples where current is probably  $\rightarrow$

I A (12)

Location SUSQUEHANNA R. Date 14/12/16  
 Project / Client 60160208 / UNE

slower. Lyle of ECOTIDE said the  
 current speed we are experiencing  
 is normal for the water here.  
 1410 - New barrel INSTALLED. Reposition-  
 ing to the following  
 COORDINATES FOR CW-9.  
 Those recorded at 1307 are  
 not valid. - CW-9  
 Nothing - 339586.593  
 EASTING - 2414754.10  
 Water depth - 17' 1"  
 Substrate elev - 473' 11"  
 Target core depth - 4' 0"

(@ 5' from target but OK)

1419 - Start CW-9, 2nd attempt.  
 NO RECORD

1423 - Start 3rd attempt at  
 CW-9.

Penetration <sup>An</sup> 7' 9" 8' 3"  
 Attempt Good. Checking barrel.

1440 - Sample complete at  
 BRPP-CW-9-C and going  
 to shore. Going to CW-12.

(13) I A

Location SUSQUEHANNA R Date 18/12/14  
 Project / Client 60160208 / UNE

1445 <sup>CW12</sup> ONSITE AT <sup>CW12</sup> ~~CW12~~ and  
 POSITIONED @ 3' from  
 original target  
 NORTHING - 339562.90  
 EASTING - 2414749.815  
 WATER DEPTH - 16' 9"  
 SUBSTRATE ELEV. - 474' 3"  
 TARGET CORE DEPTH - 4' 3"  
 (BASED ON 491')  
 (water elevation)

Revolving up to 4 1/2' target  
 depth or more

1451 START BOND - CW12 - C  
 AT STATION CW12

SHOOTING FOR 4 1/2' feet  
 recovery and penetration.

Penetration - 10' 4"

RECOVERY - 7' 5"

1455 - Sample away by support  
 boat to processors. Sample  
 4' 6". Barrel slipping again  
 from head. RETIGHTENING AND  
 ADJUSTING.

In (14)

Location SUSQUEHANNA R Date 18/12/14  
 Project / Client 60160208 / UNE

1510 - GOING TO GO TO STATION  
 CW-15 for next sample

1530 - Barrel fixed from slipping  
 at head. LINER INSOLVED.  
 POSITIONING ON CW-15  
 momentarily

1541 - POSITIONED AND ON SITE  
 CW-15

NORTHING - 339538.833

EASTING - 2414746.436

WATER DEPTH - 16' 8"

SUBSTRATE ELEV. - 474' 8" 4"

TARGET CORE DEPTH - 4' 4"

1549 - START BOND - CW15 - C

AT STATION CW15. NEED

A CORE 4 1/2' to 5.0' deep,  
 penetration based on 470'  
 dredge target depths (w/  
 2-3' air dredge)

Penetration - 10' 1"

Barrel did not slip.

RECOVERY length - 7' 6"

In (15)

Location SUSQUEHANNA R. Date 10/12/10  
 Project / Client 60160208 / UNE

- 1547 Support vessel away w/  
 BBNPP-CW15-C Going  
 to station CW-18 for  
 next sample.
- 1605 Onsite & position CW18  
 Northing - 339508.487  
 EASTING - 2414748.27  
 @ 3' from target  
 Water Depth - 16'9"  
 SUBSTRATE ELEVATION - 474'3"  
 Target core - 4'3"  
 Looking for 4'2" to 5'0" target
- 1611 START CW18 Sample #  
 BBNPP-CW18-C  
 Penetration depth - 9.0'  
 Recovery length - 6'7"
- 1620 - Support vessel underway  
 w/ BBNPP-CW18-C to  
 Processors Going to get  
 one more core station and  
 finish out the offshore  
 transect.

Jan 10

Location SUSQUEHANNA R. Date 10/12/10  
 Project / Client 60160208 / UNE

- 1623 - On-site CW-21 and  
 positioned.  
 Northing - 339487.308  
 EASTING - 2414750.24  
 Off station by 1.0'  
 Station Good to Go.  
 WATER DEPTH - 14'4"  
 Substrate elev - 476'8"  
 TARGET CORE DEPTH - 6'8"  
 (Still based on 491' elev  
 of 1/2 fm ECOL III  
 Tide gauge)  
 Need to get about a  
 7 foot recovery or penetration  
 for processing.
- 1629 - Start BBNPP-CW21-C  
 Target core depth - 7.0'  
 Penetration - 11'6"  
 Recovery length - 4'7"  
 Hit bedrock at 11'6"
- 1640 - Support vessel away.

Jan 10



Location Susquehanna R Date 10/12/10  
 Project / Client 60160208 / UNE

1645 - Depart CW-21 for Boat  
 Launch. LAST CORE FOR day  
 in total, we completed  
 9 STATIONS today. Weather -  
 winds 5-7 mph - NNW, 62-  
 60°F, mostly sunny.

1654

1654 - Back at boat launch going  
 to secure vessel and prep  
 for tomorrow. D. Klinck  
 on-site.

1300 AECOM OFFSITE. Samples  
 stored inside the facility  
 and secure.

(19)

Location Susquehanna R Date 10/13/10  
 Project / Client 60160209 / UNE  
 Author: AL MURGESKI (AM)

0700 - AM onsite. Rivermen will  
 arrive a little later. Rest of  
 crew to arrive at 0730.  
 Weather: Clear, no wind, 37°F  
 High today of 65°F w/  
 wind up to 1 mph from NW.  
 Will prep for day and give  
 H&S Briefing. ASI onsite.  
 ECOL III onsite Boat  
 Crew below H&S gear.

name	sig	org
Kris Hendricks	Kris Hendricks	H&S
Mat Shapoval	Mat Shapoval	ASI
Jeff P. Lesh	Jeff P. Lesh	ASI
Kyle R. Hively	Kyle R. Hively	Fedlog, III

River level, per gauge at  
 ECOL III is still holding  
 491'. Will use to calculate  
 to get depth.

AL  
 (19)

Location SUSQUEHANNA R Date 10/13/16  
 Project / Client 60160208 / JUNE

0740- Report boat launch for  
 CW-S. Will do CW 5,  
 CW 9, CW 11, CW 14, CW 17  
 CW 20, CW 23 first and  
 then inshore transects  
 starting w/ either CW 22  
 and working upstream or  
 most likely CW 4 and  
 working downstream.

0750 On-site AND POSITIONS AT  
 CWS. 35' feet off target  
 North - 339611.720  
 EASTING - 2414716.266  
 WATER DEPTH - 16'5"  
 current H<sub>2</sub>O elev - 491'  
 substrate elev - 474'7"  
 target core depth - 4'7"

Target core is 5'4".  
 Sample BBPP - CWS-C  
 Start  
 Penetration about 9'0"  
 Recovery - 0.00  
 WASH OUT

(20)

Location SUSQUEHANNA R Date 10/13/16  
 Project / Client 60160208 / JUNE

0825 Attempt #2 at CW 5

Start BBPP - CWS-C

~~EASTING~~

NORTHING - 339603.389

EASTING - 2414717.447

WATER DEPTH - 16'6"

w/ 1 1/2' of target

Penetration - 10'0"

Clay very hard and compacted.

Need at least 5'0" to

process to ensure sediment

from target dredge depth

w/ 2-3' over dredge.

Coe good - Recovery 6'5".

Chilled processors and let

then know core on the

way

0843- Core on support vessel and  
 away. Positioning on CW-8.

100

(20)

Location SUSQUEHANNA R Date 12/13/14  
 Project / Client 60160208/UNE

0851 - On-site at CW8  
 Northing - 339584.48  
 East - 2414725.503

3 ft off target. Anchor  
 set good. Weather

warming up and big  
 lifting. Temp around  
 50°F, NO wind, current  
 about 1300-1800 CFS

0855 - Start BONPP-CW8-C

- Water depth - 16'8"
- substrate elev - 474'4"
- target core depth - 4'4"

- Penetration depth needs to  
 be about 5'. Labeling  
 cores as follows -

- sample # penetration depth
- 1/20 depth recovery length
- process amount - start time

Processing team - M. Huser,  
 J. Debuier, J. Gwynne, M. Huser  
 give it's to shoe team

↓ m  
 (20)

Location SUSQUEHANNA R Date 12/13/14  
 Project / Client 60160208/UNE

Boat crew - A. Modyoshi, M. Shapell  
 (ASU), J. Rydalski (ASU), and  
 Kris Dunnabache (ASU). Lyle  
 Henney (EOL III) on support vessel.  
 Crew same as yesterday.

0904 - Coring slip at CW8

Sample # BONPP-CW8-C

9'0" penetration to refusal.

Perrel bounced about 3x and  
 was scraped in portions  
 about 6-7". So there may  
 be some larger rocks in  
 this site. Recovery

4'10" - Core acceptable

Next station will be CW-11.

Called processors and let them  
 know core on the way.

0914 - Onsite CW-11

Northing - 339564.049

Easting - 2414726.593

OFF target 1' but pretty

much dead on 473'5"

Water depth - 17'7" →

↓ m (23)



Location Susquehanna R. Date 10/13/10  
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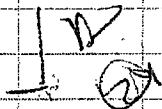
(cont) Will need to penetrate to a depth greater than 3'5" so we will shoot for 4' greater in recovery. Coming into contact w/ small rock / boulder lenses in between clay.

0925 Start BBNPP-CW11-C  
 target core depth - 3'5" or 4.0' 12'

Penetration 14'9" to REFUSAL. Top lens (@ 3-4') rocky and barrel bumpy to poke through. Barrel slipped slightly so we will retape and re-tighten.

0940 - Support vessel away to shore w/ core CW11. Called processors.

0950 Preparing to position on CW14.



Location Susquehanna R. Date 10/13/10  
 Project / Client 60160208 / UNE

0951 - Onsite CW14

Nothing - 339539.114

EASTING - 2414721.240

WATER DEPTH - 14'9"

WATER ELEVATION STILL 491'

SUBSTRATE ELEV - 476'3"

TARGET CORE DEPTH - 6'3"

WE WILL NEED AT LEAST 6-7' penetration

1001 START BBNPP-CW14-C

Add 4' to penetration depth.

Penetration 14'6". NO

REFUSAL. Recovery - 7.0'.

1015 - CW14 on way to shore called processing team. Going to CW17 next.

1022 - Onsite CW17 and positioned

Nothing - 339514.988

EASTING - 2414717.156

Water depth - 16'8"

SUBSTRATE ELEV - 474'4"

TARGET CORE DEPTH - 4'4"

Looking for 4 1/2 - 5' penetration.

25m

Location SUSQUEHANNA R. Date 10/13/16  
 Project / Client 60160208 / UNE

1025 START BBNPP - CW17-C  
 TARGET DEPTH 5' (or 4.5')  
 ADD ~~AM~~ <sup>216"</sup> 6" to penetration  
 depth due to depth to  
 substrate. REFUSAL AT  
 11' 7" Penetration depth  
 11' 7". Recovery - 6' 4"  
 Appears to be mostly gravel  
 and rocks w/ clay entire  
 length of core.

1042 - Support vessel away w/  
 BBNPP - CW17-C. Moving  
 to CW20.

1105 ONSITE CW20 (@ 2' from target)  
 Northing - 339488.012  
 Easting - 2414720.589  
 Water Depth - 14' 2"  
 Surface H<sub>2</sub>O elev - 491'  
 Substrate elev - 476' 10"  
 Target core depth - 6' 10"  
 Looking for about a 7' 0 core.  
 Rocky bottom when take depth.

+ PV  
 (26)

Location SUSQUEHANNA R. Date 10/13/16  
 Project / Client 60160208 / UNE

1115 START BBNPP - CW20-C (w/ 3'  
 for 7' 0 penetration to ensure  
 target depth w/ 2-3'  
 overdrudge. Add 4' to  
 penetration based on  
 H<sub>2</sub>O depth. Penetration  
 to 12' 7" no refusal  
 but slow going. Very  
 Rocky. will process  
 upper strata of 7' in  
 barrels Recovery - 7' 10"

1131 - Support vessel away to  
 shore process area w/  
 BBNPP - CW20-C. Next  
 SITE CW23 to finish  
 out midshore transect.

1140 - ONSITE CW-23 (@ 2 1/2' off target)  
 Northing - 339461.077  
 Easting - 2414722.657  
 Water Depth - 15' 4"  
 Substrate elev - 475' 8"  
 Target core depth - 5' 8"  
 Will go at least 6' 0 penetration.

(27)

Location SUSQUEHANNA R. Date 10/13/14  
 Project / Client 60160208 / UNE

1157 Called Dion Lewis (AECOM) to give status update. Going to stick to penetration depths of target dredge and not exceed. Recovery is that sediment at that target depth. Target depth for CW23 is 6'0".

\* From update 17690 CFS w/ lower height at 491' and holding.

We were checking to refusal at times to assess w/ dredge applicability but will now only concentrate on penetrating to dredge depth. Penetration 7'0". 1' foot over target depth.

1158 Recovery - 4'0". We will process all. SKT-CW BRPP - CW23-C  
 Going to chase out barrels

LA 20

Location SUSQUEHANNA R. Date 10/13/14  
 Project / Client 60160208 / UNE

1214 - Talked to Dion again and explained that offshore and midshore sites, dependent on project depth (relatively shallow) and the way the vibrocore moved as well as washout rate was determining depth of core to make sure we actually could get a good plug and retrieve sediment. Processors only processing the amount of project depth overages were disposed of. It was in concurrence w/ this approach we will now be getting deeper cores ashore and will only need to go beyond penetration target depth if 1st core up is a wash. Substrate offshore and midshore somewhat gravelly and rocky which must be hard to go penetrate beyond target depth to ensure recovery of sample.

LA 20



Location SUSQUEHANNA R. Date 10/13/14  
 Project / Client 60160208/UNE

1215 Positioning out CW22. Tree  
 Canopy thick and hindering  
 safe tower placement. Going  
 to sample 10' off target  
 eastward.

Asks for  
 check  
 new  
 for  
 2nd  
 attempt

Waiting: 339452.419

EASTING: 2414071.606

Water depth - 7'4"

Substrate elev - 483'8"

Target core depth - 13'8"

Called Dave Klinck (UNE) and  
 gave status update.

Sediment a little softer  
 Going for 14' penetration.

1225 BBNP - CW-22-C stat -

Lost since in substrate  
 due to refusal at about

@ 10-11' - Sample a wash  
 will reconfigure, change brisels,  
 fuel, and break for lunch

Will retry station in a  
 little bit once we are all set  
 2nd attempt a wash

(30)

Location SUSQUEHANNA R. Date 10/13/14  
 Project / Client 60160208/UNE

1245 - Crew from Camp Vessel  
 back on shore momentarily  
 to get more fuel and another  
 barrel. Will go back to vessel  
 soon. In the meantime, I  
 will conduct the field  
 Activity TSA as described  
 in Section 3.3.1 of the  
 SAP. Results and observations  
 will be recorded in the logbook.

BA

- 1 - SAP & HASP ON STATION
- 2 - DATA SHEETS, LABELS, ORGANIZED
- 3 - REVIEWED DATA SHEET FOR

LOGS, MINOR THINGS SUCH  
 AS page 1 of 1 missing on some  
 sheets as well as H<sub>2</sub>O depth

Processing leader fixed errors and  
 sheets are good.

- Review characterization records:  
 Core Processing Forms reviewed  
 and data complete. No changes  
 to documents was needed.

(31)



Location SUSQUEHANNA R. Date 10/13/16  
 Project / Client 60160208 / UNE

Reviewed COCs and labels. Labels good. All info included. COC complete as much as can be before shipping.

4. Processing VOCs - Processing done after PID taken of each discrete sample in time-series. Each vial warmed to 10g w/ vial tined. Process followed SOP w/ no modification.

5. Processing of remaining sediment followed SOP procedures and procedures as given in the SAP. Area where processing was done was clean and no cross contamination evident.

5 PPE - EYEWEAR & gloves worn. HABP followed.

6. Calibration - Logbook indicated daily calibration of PIDs was completed. Fresh AIR calibration and 100 ppm isobutylene complete as given by manufacturer/PINE.

LM (37)

Location SUSQUEHANNA R. Date 10/13/16  
 Project / Client 60160208 / UNE

7. Sampling handling. Processed samples in coolers on ice. Coolers not overpacked. Here ample ice. Temperature blank present. Other samples cooled in fridge set at  $<4^{\circ}\text{C}$ .

8. Field processing lead also provided oversight and reviewing COCs and labeling and providing QA/QC prior to shipping.

- TSA complete. Processing being done according to SAP. Minor comments on some documentation but overall, documentation was fixed. Logbook satisfactory.

- 1320 Back at R/V منصور w/ AZI crew and Ecol III Support vessel. Going to change at barrels and refuel. Then take a second attempt at station CW-22.

LM (38)

Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60160208/UNE

1336 Onsite CW-22

Net Nothing - 339439.437

U EASTING - 2414672.256

C 10-15' from original due to bank vegetation.

Water depth - 7' 8"

borel and vibroacoe length - 19'

substrate - 483' 4"

target core depth - 13' 4" or @ 14'.

1340 Start BBNPP - CW22 - C

Lost shoe again 7.5' penetration to rehook.

Going to abandon this station for now and reposition at CW4. Will come back to this station but will rehook by probing.

1402. On-site At CW4.

Nothing - 339618.576

EASTING - 2414685.659

Water depth - 8' 8"

@ 8,68' off site due to river bank vegetation for station (50)

Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60160208/UNE

Going to go ahead and probe first to see if we will be close to target depth or not or if we need to reposition slightly.

1430 Borel complete. Going to probe. Depth at CW4 is 8' 8".

substrate elevation - 482' 4"

target core depth - 12' 4"

Going to attempt 13' penetration. Probing shows very gravelly lens of 3". Hard to get probe through but will try core in the SE corner of main pool where it had a little more silt.

1437 Start BBNPP - CW4 - C.

17' distance from shore to borel. Start at 9'. Penetration - 14' 4"

12  
 35

Location Susquehanna R. Date 10/13/10  
 Project / Client 60160208/UNE

1438 - Core up. SITE ATTACHED  
 Looks like a good core.  
 from the outside.

TBBNP-CW4-C

Penetration - 14' 0"

Target depth - 13' 0"

water depth - 8' 8"

Will process all.

Recovery length - 10' 5"

Called processors and let  
 them know to process all.

Next station will be

CW-7.

1455 On-site CW-7. Vegetation

Thick and limited by  
 trees and tower.

Northing 329579.677

Easting 2414687.764

@ 10' off original target.

Water depth - 7' 4"

Probed and sediment feels

fairly soft to about 3' 0".

Will take a shot at →

LA-30

Location Susquehanna R. Date 10/13/10  
 Project / Client 60160208/UNE

SE piece of the main pool.

1504 START BBNPP-CW7-C

Substrate elev - 483' 8"

Target core depth - 13' 8"

or @ 14'.

Penetration exactly 14' 1"

to refusal.

Recovery 9' 9"

1517 Onsite CW7 and positioning

Northing - 329561.147

Easting - 2414680.287

Again - heavy canopy cover. Dug

best to get as close to

proposed station as possible

Water depth - 7' 6"

Substrate elev - 483' 6"

target core depth - 13' 6"

Going for 13 1/2' - to 14'

penetration. Probed and

need to keep barrel towards

the offshore quadrant of

the main pool to avoid

tree roots.

LA-32



Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60100200/UNE

- 1530 Start CW10 - Sample #  
 BBNPP-CW10-C  
 Looking for B $\frac{1}{2}$  - 14'  
 penetration - 14'  $\phi$   
 on the money.  
 recovery - 7.  $\phi$   
 1540 - Core on the support  
 vessel and in transit. Setting  
 up for CW13.  
 1544 On site CW13.  
 Northing - 339535.618  
 Easting - 2414673.443  
 close to 5' from original  
 target.  
 water depth - 5'5"  
 substrate elevation - 485'7"  
 target core depth - 15'7"  
 Need a 16' core onto  
 refusal, whichever is  
 first. Probes; seems soft.  
 1549 - Start BBNPP-CW13-C  
 Penetration - 14'5" to  
 refusal.

for (30)

Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60100200/UNE

Sample BBNPP-CW13-C

Penetration - 14'5"

Target - 15'7" - 16'  $\phi$ "

Bot REFUSAL AT 14'5"

Water Depth - 5'5"

Recovery - 4'8"

We will process all. Could  
 not reach target depth due  
 to refusal but this is

the sediment that will  
 be encountered until refusal.

1603 Onsite CW16 BBNPP-  
 CW13-C on support vessel  
 to shore. Called Processors  
 and let them know we  
 were going to try and  
 finish CW15.

Northing - 339519.493

Easting - 241405.527

Water Depth - 3'2"

Substrate Elevation - 487'9"

Wd elevation - 491'

Target core depth - 17'9"

for (39)



Location SUSQUEHANNA R. Date 14/3/08  
 Project / Client 60160208/UNE

1610 START BBNPP-CW16-C  
 GOWE TO try and get an  
 18' core or refusal. Whichever  
 comes first. 17'2"  
 Penetration - ~~46'4"~~ to  
 limit of gear (to the  
 top of barrel within  
 the head. Core  
 acceptable even though  
 we couldn't get to the  
 bottom 7". Probably  
 would have encountered  
 rock. Will check cutter/  
 catcher. Overall, we are  
 still well w/in dredge  
 target depth of 473'  
 so we have been adding  
 an extra 1-2 feet  
 on top of the overhelf.

} JAV  
 (40)

Location SUSQUEHANNA R. Date 14/3/08  
 Project / Client 60160208/UNE

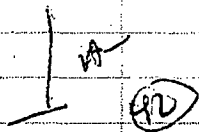
• BBNPP - CW16-C - start 1610  
 Penetration - 17'2"  
 TARGET - 18'  
 substrate elev - 487'9"  
 160 elev - 491'  
 est. Dredge w/ over - 472-471'  
 Recovery - 13'4"  
 160 depth - 3'2"  
 1625 - Support vessel depart  
 w/ core. Bottom of cable  
 new rock and clay.  
 • On location at CW19 and  
 Prepping for next sample  
 1626 - CW19  
 Northing - 339500.750  
 Easting - 2414671.912  
 WATER DEPTH - 5'6"  
 SUBSTRATE ELEV - 485'6"  
 TARGET CORE DEPTH - 15'6"  
 Looking for 15 1/2 - 16' full  
 penetration depth or refusal  
 whichever is.

} JAV  
 (41)

Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60160208 / UNE

1632 Start BBNPP-CW19-C  
 Penetration - 14' 6" (REFUSAL)  
 Recovery - 11' 7"  
 BEEN RECONNOISSING HEADS  
 AND CATERPILLAR W/ ALCONY  
 AS WE GO.  
 REFUSAL AT 14' 6".  
 H<sub>2</sub>O depth - 5' 6"  
 TIDEWET - 15' 6"

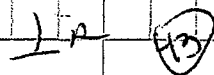
1644 - BBNPP-CW19-C on the  
 way to shore processing  
 team going back to  
 CW-22 for 3rd Attempt  
 Will position on coordinates  
 slightly different from  
 other two (2) attempts and  
 will probe 1st. IF STILL  
 NOT FEASIBLE, WILL REPOSITION  
 w/in 10 feet of current  
 position to get a core along  
 shore.



Location SUSQUEHANNA R. Date 10/13/10 45  
 Project / Client 60160208 / UNE

1646 - ONSITE 3rd Attempt of  
 CW22.  
 Nathy - 339,442.118  
 EASING - 241,4670.502  
 WATER DEPTH - 7' 8"  
 Probed w/in moon pool and  
 found a spot not too  
 rocky but still may be bad.  
 Substrate elev - 483.4"  
 Substrate depth - 13' 4"  
 for core

1652 Hit refusal at 7' 1". Will  
 see if we still have shoe  
 Start/stop BBNPP-CW22-C.  
 Penetration - 7' 1"  
 Recovery - Another WASH  
 H<sub>2</sub>O depth - 7' 8"  
 Recovered less than 1'.  
 We will try downriver tomorrow  
 about 20 - 30' from this  
 site to see if we can get  
 one more sample (core) at  
 that location w/in →



Location SUSQUEHANNA R. Date 10/13/10  
 Project / Client 60160208/UNE

boundary of the proposed  
 CURS.

1600 Departing CW22 for boat  
 ramp. So far 3 attempts  
 w/in 5'10' of each other  
 at CW22 and am hitting  
 rock/refusal around 7'0"  
 might be on outcrop.  
 Tomorrow we w'll attempt  
 22 once more, finish  
 CW24 and 4 grabs at  
 discharge, collect reference,  
 and complete Equip Blanks  
 for core and grab.

1620 Back at processing station  
 Going to help decon while  
 Mike's team processes.

1815 Completed processing and  
 going to site samples.  
 Completed 11 stations  
 today. Samples rec p/d 17  
 earlier and another p/d tomorrow

1830 - OFFSITE.

10

Location SUSQUEHANNA R. Date 10/14/10  
 Project / Client 60160208/UNE  
 Author AL MOORE

0700 - Am on-site going to  
 knock at remaining sample  
 sites today. EAD III on-site.  
 Weather: 38°, partly cloudy,  
 wind - calm but will get up  
 to 4 mph today N-NE. Rain  
 expected in the afternoon. High  
 about 65°F. Talked w/ Dave  
 Knoch last night about the  
 3 attempts at CW22 and  
 what he would like to do  
 if the 4th attempt fails.  
 He will call me early AM.

0725 - AST ON-SITE AND  
 COMING TO PREP BOAT

0815 - Processors on-site. Went  
 through mouse blank bottle  
 map and set up station.  
 Processors coming out to take  
 1st core and then will process  
 back onshore. We will then  
 attempt 22 again, come  
 ashore to do grab & core.

15



Location SUSQUEHANNA R Date 10/14/16  
 Project / Client 60160208 / UNE

blanks, and then the whole team will come back on the boat to process the remaining grab samples. Gave HCS briefing to Processors M. Huser, J. Gowan, and J. Decker on on-water safety.

0840 GAVE morning HCS to all staff. Discussed overhead hazards, slip trip falls, communication, and pinch pts.

	name	sig	org
1.	Lyle R. Huser	[Signature]	Ecology II
2.	Mike Huser	[Signature]	AECON
3.	Matt Shappell	[Signature]	AST
4.	Jenny Decker	[Signature]	AECON
5.	W. W. Winkler	[Signature]	AST
6.	Jeff Pydeski	[Signature]	AST
7.	Josh Gowan	[Signature]	AECON

0842 Depart for station D-1

Core samples. Coordinates inputted and ready to go.

for (42)

Location SUSQUEHANNA R Date 10/14/16  
 Project / Client 60160208 / UNE

0850 ARRIVE STATION D-1. Wind light and large tree making it difficult to position.

0855 On site and positioned at station D-1.

Nothing - 338239.030

ETIMING - 2414681.425

WATER DEPTH - 9.0'

Substrate elev - 481'6"

Core target depth - 11'6"

River elevation 490'6" per

ECOL III WATER GAGE

Going to shoot for a 12' core

0900 Start BBNPP-D1-C Target depth 12'. Hit RESUSP at 2'. Felt like a very slubby bottom. Barrel cracked at head and will replace sample a wash.

Going to try another attempt about 10' closer to shore to see if it was a boulder or a large oyster.

for (42)



Location SUSQUEHANNA R Date 10/14/16Project / Client 60160208 / URG

0925 Call D. Klunch to discuss sample stations and abandoned due to presence of bedrock. Left msg. We will move inshore of the last site and probe to see if we can get an area where there is no rock and to see extent of rock spatially. Borehole length is now 15' 8" so will calculate penetration depth accordingly.

0938 Sent processors back to get jers for grabs. 2nd attempt @ 6-10 feet upper end inshore of D1. EASTING - 2414690.241 NORTHING - 338832.268 WATER DEPTH - 8' 9" substrate elev - 481' 9" Target core - 11' 9" or 12' 2ND ATTEMPT 3' of penetration to refusal

LPV (48)

Location SUSQUEHANNA R Date 10/14/16

Project / Client

0940 Will do a 3rd attempt to see if we can get below rock. Probed for 2nd attempt and hit big rocks but thought we had found a gap and only got to 3' before refusal.

Saving sediment from attempt 1 (@ 1' 6" of sed and 2nd core @ 2' 1/2') will composite all three samples for volume if needed or we will take 4 samples and composite. Attempt 1 - RECOVERY - 16" (1' 4") Attempt 2 - RECOVERY - 2' 6"

1000 Called Dion Lewis (AECOM) and let him know we were experiencing rock at 2-3'. We have repositioned 3x and are now within footprint onshore and will make 3rd attempt. If we make target depth, this will be →

LPV (49)

Location SUSQUHANNA R Date 10/14/10  
 Project / Client WΦ16Φ2Φ8 / UNE

sample. IF NOT, then to characterize shoreline sediment near D-1, we will treat as 3 discrete samples and composite into 1.

On site 3rd attempt.

10/15 Noddy - 338861.475  
 Easting - 2414648.939  
 W/in 25' of original D1  
 if not closer. Sediments not being cooperative.

Start 3rd Attempt at D1. Sample # BDNPP-DI-C-A-C.

Water depth - 3'4"

Penetration - 3'φ to REFUSAL

Target depth - 18'2"

Substrate elevation - 488.2"

Gear is compromised due to hard substrate. (line also) cracked barrel and also the bent a few others. Lost some

Jan (20)

Location SUSQUHANNA R Date 10/14/10  
 Project / Client WΦ16Φ2Φ8 / UNE

Shore as well between this and STATION C122

10/20 - Transferred 3 discrete cores labeled as follows to support vessel.

BDNPP-DI-C-A

BDNPP-DI-C-B

BDNPP-DI-C-C

We will treat as separate discrete samples as given to characterize sediment in vicinity of D1 and shoreline. Going to go to D2

and begin grab sampling.

10/25 - DECOMMISSIONING grab sampler. Going to process onboard. Mike will check each w/ PID and take VORTS at one of the grabs. Crew will process aboard support vessel.

Jan (21)

Location Susquehanna R. Date 14/14/14  
 Project / Client 60160208 / UNE

1427 We will liveboat to get grab samples. Positioning ON D2. Will get water depth and position, then grab.

1429 Sample start for BBNPP-D2-G.

Northing - 338798.128

Easting - 2414755.396

Water depth - 15' 7"

1st attempt - NO sediment

1431 taking 2nd attempt  
 NO RECOVERY

1433 Taking 3rd attempt 3rd attempt a wash. Only cobble in the jaws at a depth 1/2".

1435 Taking 4th attempt. If this does not work, we will take shallow cores at each to a depth of 2'. Jaws open known here. Attempt 4 wash. (52)

Location Susquehanna R. Date 14/14/14  
 Project / Client 60160208 / UNE

1437 - Called Don Lewis (AECOM) and gave him the contingency plan. Will collect a shallow 2' core at D2-D5 and composite. We will liveboat to get each core. Onsite Station D2. Water depth 15' 7".

Nothing -

Easting -

1438 - Vibracore IN Start  
 BBNPP-D2-C (NOT GRAB)  
 Penetration - ~~2' 3"~~ 3' 3"  
 Recovery -  $\phi$   
 Target depth - 2'  $\phi$ .

1439 - Called client to let him know we are only getting cobble and rock. First attempt w/ core was a wash out, probably due to lack of fines. Will try one more attempt. Our derivations will be.  $\rightarrow$

(53)



Location SUSQUHANNA R Date 10/14/10  
 Project / Client Explo 2008 / UNE

At stations D2-D5 we will attempt a grab 3 times. If 3 attempts fail, we will attempt 1 skiffow coring to a target depth between 2-3'. If that fails, per client, we will abandon station (if gravel and rock). What we do get between D2-D5 will be composited and processed.

1055 2ND core attempt  
 Station D2 START.

2'4" penetration

Netting - 338802.365

ENCLOSURE - 2414762.999

Water depth - 15'7"

Recovery 8"

Mostly cobble and gravel w/ a very small amount of clay. May not be enough to process

1055

Location SUSQUHANNA R Date 10/14/10  
 Project / Client Explo 2008 / UNE

We will hold on to it to see what we get at D3. Live boating again. We will just go right to coring as grabbing not working and we want to stay consistent w/ current methodology. We will not need to on empty blank of grab as we will not be using the grab. PID taken last sample (D2) read 0.

1113 Onsite D3 - Taking Sample  
 # BRNPP-D3-CC6)

Netting 338802.365

ENCLOSURE 2414762.999

Water depth - 17'2"

penetration - 3'3"4"

Target depth 2'0"

No grabs taken for this

Recovery less than 3"

All cobble - 95%

5% clay

1055

Cobble  
 5% clay



Location SUSQUEHANNA R Date 14/14/14  
 Project / Client 69160243 / UNE

1120 Positioning on D4. Slight  
 drizzle, no wind. Temp  
 min. to high 50's F.

1126 On-site D4. Starting  
 DBNPP-D4-C(G)  
 Water depth - 17' 3"  
 Substrate felt cobbly.  
 Nothing - 338762.718  
 EASTING - 2414897.149  
 Target depth - 2-3'  
 Penetration - 3' 1"

@ 5' off from target when  
 core on surface. Still  
 live broadcasting. Recovered  
 about 1' and converted  
 about 60% cobble and  
 40% clay. We should  
 be able to create a  
 composite of these  
 stations.

↓ P (50)

Location SUSQUEHANNA R Date 14/14/14  
 Project / Client 69160243 / UNE

1142 On-site D5. Start sample  
 # DBNPP-D5-C(G)

Nothing - 3387470.971

Easting - 2414954.647

Target depth - 2-3'

Water depth - 17' 4" seen

Penetration - 3' 4" seen

1st attempt a washout most  
 likely due to size of sediment  
 (cobble/rock)

1154 2nd attempt start for  
 sample # DBNPP-D5-C(G)

Nothing - 338743.808

EASTING - 2414949.243

Water depth - 17' 2"

penetration - 3' 6"

Berries scuffed first foot  
 or so indicative to bald  
 cobble lens about a 1' deep  
 on surface. Recovery about  
 3-4". A lot of water in the  
 sample

↓ P (57)

Location SUSQUEHANNA R. Date 10/14/14  
 Project / Client COPI 0208 JUNE

1156 Called Client and let him know I was thinking about moving the reference site since it most likely cobble. He asked we make an attempt first and see what we get. IF it is cobble, we will move the site inshore and take a core to an elevation of 470' (dry depth.)

1202 Onsite REFERENCE STATION  
 Nothing - 344590.494  
 EASTING - 2414923.987  
 WATER DEPTH - 15' 7"  
 TARGET CORE - 2-3'

Current relatively fast here.

1204 Start BBNPP-R-C(6)  
 Penetration - 3' 4"  
 Sample a wash  
 All cobble and wood.  
 Photo taken.

JK (58)

Location SUSQUEHANNA R. Date 10/14/14  
 Project / Client COPI 0208 JUNE

Moving reference sample to a midshore and will take a core to dredge depth at that site to get a more representative sample.

1215 Onsite new ref station  
 Nothing - 344579.322  
 EAST - 2414317.657  
 WATER - 15.3'  
 SHOOTING FOR A 6' core  
 Water elev - 490' 6"  
 Substrate depth 475' 3"  
 Target core - 5' 3" or 6'

1220 Start BBNPP-R-C  
 Penetration - 6' 0"  
 Recovery - 5' 6"  
 Good core. No longer grab at reference dredge sediment composition. Will use this core. Go to CW-22 to try a sample again.  
 JK (59)

Location SUSQUEHANNA R. Date 10/14/10  
 Project / Client 60160208 / UNE

This is the site where we  
 lost 2 shoes and ruined  
 a couple of barrels. We will  
 try to move a little  
 south of the original  
 site and try again but  
 not at the other sites.

1240 - On site south of CW22

Northing 339441.572

Easting 2414672.008

@ 15-18 south of original  
 target station

WATER DEPTH - 7'2"

Water elevation - 490'6"

substrate elev - 483'4"

target core depth - 13'4"

or about 14'. Going to  
 probe first.

1245 Penetration 7'8" to  
 refuse. much like the  
 other CW22 attempts.  
 Hopefully we will get  
 some sediment to →

LA @

Location SUSQUEHANNA R. Date 10/14/10  
 Project / Client 60160208 / UNE

process. Vozz core still intact,  
 shoe still there. Still complete  
 BBNPP-CW22-C.  
 Recovery - 2'7"

1250 - OFF-STE CW22. Going  
 to eat and then do equip.  
 blank.

1300 Arrive Boat ramp.  
 Unloaded core from  
 CW22.

1310 - ASH GOING TO GET ICE  
 AND SANDWICHES. GOING TO  
 CALL DON LEWIS & CLINT  
 AND LET THEM KNOW  
 STATUS

\* DETAILS ON GAGE USED  
 FOR RIVER ELEVATION. LOCATED  
 NORTH CORNER OF DEER BROS  
 (LBB) ON RIVER. IT IS A  
 NITROGEN BUBBLER WATER  
 LEVEL GAGE W/ RECORD  
 (REAL TIME) IN LAB. Calibrated  
 Quarterly

LA @



Location SUSQUEHANNA R Date 10/14/10Project / Client 60160208 / UNE

1415 - Called Dion Lewis to  
confirm bottles for rinse  
blanks left msg.

1501 Got bottle map set for  
core equip blank spot  
blank

1534 Called lab since we are  
missing HCL reserved  
Blank vials. Left msg.  
Called Dion to check  
bottle map. All was good.  
Going to see what we can  
do w/ the lab to get  
Processing blanks.

1535 Start Processing EQUIPMENT  
Blank BOWAP-PO.

1604 Joe Garza from Acutest  
on-site. Said we could  
do the Blank for Vials  
and equipment by using  
we preserve vials w/  
no head space and they would  
correct in lab

LA (62)

Location SUSQUEHANNA R Date 10/14/10Project / Client 60160208 / UNE

1720 - Acutest Departed w/  
containers at 1635. META  
could packed and Fed Ex  
will pick up @ 1730-1745.  
Grain size will be shipped  
Monday by J. Deboer of  
Acetom.

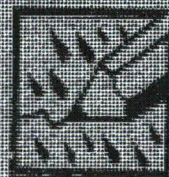
US Forest Service #

8131 7321 2374 for META  
ONE META sample, per processing  
may have been shipped to  
Acutest. Mike is checking  
to see and if so, it will  
be shipped by lab to META.  
Please check BOWAP-SP-1  
Logbook for details.

1730 - Fed Ex p/u Acetom  
OFFSITE. Acutest contacted  
M. Hauser and will ship  
sample to META and let  
him know when they do.

LA (63)





*Ats in the Rain*  
ALL-WEATHER  
ENVIRONMENTAL  
NO. 170

PROCESSING Logbook  
BBNPP-SP-1



"Rite in the Rain"  
ALL-WEATHER WRITING PAPER



# ALL-WEATHER ENVIRONMENTAL FIELD BOOK

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Project \_\_\_\_\_

This book is printed on "Rite in the Rain" All-Weather Writing Paper - A unique paper created to shed water and enhance the written image. It is widely used throughout the world for recording critical field data in all kinds of weather. For best results, use a pencil or an all-weather pen.

## Specifications for this book:

Page Pattern		Cover Options	
Left Page	Right Page	Polydura Cover	Fabritoid Cover
Columnar	1/4" Grid	Item No. 550	Item No. 550F

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PAGE	REFERENCE	DATE
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	Felix driver (N. 510-351-7205)	

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149	Sampling guidelines (Solids)
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153	Soil Classification
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155	Conversions (Concentrations, Volume/Flow or Time, Velocity, Acceleration)
156	Maximum Concentration of Contaminants for the Toxicity Characteristic

[illegible]

PPL  
Bell Bend Sediment  
Foggy SD

10/12/10

Aqua Lively on 11/7

A. Modjeski gives ATIS briefing to everyone

0745 = setting up processing  
area near river

Calibrate PFD's


08:30- But reports to  
probe.

Call Mr Lewis to classify  
archive sample bottles

Decorating bowl 15' & finishing set up  
12' core to get to elevation  
depth.

10.44 13' penetration  
10.6.5" recovery  
sand + clay

Boat arrives w/ cork



Susquehanna River 14/12/14  
60160208/UNE

Processing core mostly silt + sand

collect sample - (see workplan for  
parameters) 14:26 sample time

11:30 CW2

Pen: 11' 12"

sample @ 11:10  
water depth: 13.8"

Rec: 10.8"

only process 4'

photos CW2 - C-A, B, C

collect sample for parameters  
listed in work plan

12:10 - CW3

water depth 17.7'

BBNPP - CW - 3-C

water elev: 491'

water

substrate elev: 473.5'

only process 3.5'

Pen: 6.8' 10'

T.W: 12:02

Rec: 4.3'

①

Time

M

Susquehanna River 14/12/16  
60160208/UNE

12:15 D. Kline onsite

12:40 - BBNPP CW6 - C

Pen: 7.0"

Water Depth: 18.2"

Recovery: 3.0"

13:00 - Break for lunch

14:30 all Lab. courier to Con. from  
pickup tomorrow Lab  
Sample pickup @ 4pm

CW1-9

BBNPP - CW9 - C

Time 14:23

only process

Pen: 8.3"

top 4'

Recovery

4.10"

Water depth:

17.1"

will collect a deep  
sample from  
this core



Location Susquehanna River Date 10/12/10  
 Project / Client 60160208 / UNE

CW-12  
 BBNPP-CW12-C

Time 14:51 H<sub>2</sub>O Depth: 16'9"  
 Penetration - 10'0"  
 Recovery - 7'5" Process 7.5'

Sampled for target parameters

CW 15  
 BBNPP-CW15-C

Time: 15:49 H<sub>2</sub>O Depth: 16'8"  
 Penetration: 10'1"  
 Recovery: 7'6" Process 4'6" - 5.0'

Sampled for target parameters

CW-18  
 BBNPP-CW18-C

Time: 16:11 H<sub>2</sub>O Depth 16'9"  
 Penetration: 9.0'  
 Recovery: 6'7" Process 5'

Sampled for target  
 parameters

NY

Location Susquehanna River Date 10/12/10  
 Project / Client 60160208 / UNE

CW21  
 BBNPP-CW21-C

Time: 16:29 H<sub>2</sub>O Depth: 14'4"  
 Penetration: 11'6"  
 Recovery 4'7" Process all  
 (bedrock)

17:00 - R/V Manasquan returns

Cleaning up processing area

17:50 - offsite

NY

Location Susquehanna River Date 10/13/10  
 Project / Client 60160208 / UNE  
foggy - 40°

0800 - on site setting up  
 processing station. elv Manager  
 already in river collecting  
 samples  
 H+M meeting. + Calibrate PTD's  
 08:35 - A. Hodge's call to  
 give update, say 1 core  
 coming soon

CW5  
 BBNPR CW5-C  
 Pen: 10' Time: 8:25  
 Rec: 6'5" H<sub>2</sub>O Depth: 16'5"

Sampled for parameters in  
 workplan  
 M1/M20 collected

CW8  
 BBNPR CW8-C  
 Start: 08:55 H<sub>2</sub>O Depth: 16'8"  
 Pen: 9.0'  
 Rec: 4.10'

9  
 Location Susquehanna River Date 10/13/10  
 Project / Client 60160208 / UNE

10:00 - 2 K/Inch on site  
 CWS Sampled for parameters  
 in workplan

CW11

BBNPR CW11-C  
 Start: 09:25 H<sub>2</sub>O - 17'7"  
 Pen: 12'9"  
 Recovery: 4'9"

Sampled for all parameters  
 in workplan

CW14  
 BBNPR CW14-C  
 Start: 10:01 H<sub>2</sub>O: 14'4"  
 Penetration: 14'6"  
 Recovery: 7'0"

Sampled for all parameters  
 in workplan

MM

Location Susquehanna River Date 10/13/18  
 Project / Client 60160208 / UNE

CW 17

BBNPP CW 17 - C

Start 10:25

H<sub>2</sub>O Depth 16'8"

Per: 11'7"

Rel: 6'9"

Samples taken for parameters listed  
 in workplan

CW 20

BBNPP CW 20 - C

Start: 11:15

H<sub>2</sub>O Depth: 14'2"

Per: 12'7"

Rel: 7'10"

Samples taken for parameters  
 listed in workplan

duplicate  
 taken

MA

Location Susquehanna River Date 10/13/18  
 Project / Client 60160208 / UNE

CW 23

BBNPP CW 23 - C

Start: 11:58

H<sub>2</sub>O Depth: 15'4"

Per: 7'10"

Rel: 4'0"

13:40 ~~Boat~~ Boat having  
 technical diff. further

14:50 - Lab courier  
 arrives

CW 4

BBNPP CW 4 - C

Start: 14:37

H<sub>2</sub>O Depth 8'8"

Per: 14'10"

Rel: 10'5"

10'5" processed

Samples taken for parameters  
 listed

MA



Location Susquehanna River Date 10/13/10  
 Project / Client 60160208 / UNE

CW 7  
 BBNPP-CW7-C

15:00 H<sub>2</sub>O Depth: 7'9"

Pen: 14'1" process all

Rec: 18'9"

Samples collected for  
 parameters listed in work plan

CW 10  
 BBNPP-CW10-C

15:30 H<sub>2</sub>O - 7'6"

Pen: 14'0"

process all

Rec: 7'0"

Samples collected for  
 parameters listed in work plan

AM

Location Susquehanna River Date 10/13/10  
 Project / Client 60160208 / UNE

CW 13  
 BBNPP-CW13-C

15:44 H<sub>2</sub>O Depth: 5'5"

Pen: 14'5"

Rec: 4'8" process all

Samples collected for  
 parameters listed in work plan

CW 16  
 BBNPP-CW16-C

16:10 H<sub>2</sub>O depth: 3'2"

Pen: 17'2"

Rec: 13'4" process all

Samples collected for  
 parameters listed in work  
 plan

AM



Location Susquehanna River Date 10/13/10  
 Project / Client 60160208 / UNE

CW 19  
 BBNPP - CW 19C

16:32

H<sub>2</sub>O Depth: 3' 6"

Per: 14' 6"

Rel: 11' 7"

probers  
 all

sampled for all parameters  
 listed in workplan

18:06 - Cleaning up

18:45 - offsite

*[Signature]*

Location Susquehanna River Date 10/14/10  
 Project / Client 60160208 / UNE  
 partly sunny 50° → rainy

0800 - onsite. H/S talk and  
 setting up processing area  
 will go on boat to collect  
 first core

0830 - Depart for station

0915 - Back at shore to get  
 jars for grab samples

10:30 - No grabs due to rubble  
 riverbed - coming to  
 collect grabs per A. Modjeski

D2 - location - cored to ~3'  
 Recovered ~7 feet  
 O.D. - PID reading - will allow  
 Vol from affected grab

D3 - location cored to 3' 4"  
 with 9" recovery - mostly  
 gravel with little clay

*[Signature]*

Location Sagehen Ave Date 10/14/10  
 Project / Client 60160208/UNE

D4 - and 3' → ream  
 6-8 inches gravel/cobble/  
 some silty clay

D5 - and 3' → ream  
 6-8 inches sand + gravel

12:30 - Composed D2, D3, D4,  
 D5 into one bowl  
 to take composite  
 grab sample (this core used  
 to collect grab)  
 very cobbly/sandy mixture  
 attempt to jar  
 it

12:30 - DI core  
 BBNPP-DI-C  
 \* 3 separate cores were  
 drilled due to shallow  
 penetration - ~~there~~ There  
 Three cores will be  
 sampled so that

Location Sagehen Ave Date 10/17/10  
 Project / Client 60160208/UNE

BBNPP-DI-C-A @ 10:40  
 Pen: 2' 9" H20 depth 9' 0"  
 Rec: 1' 4"

BBNPP-DI-C-B @ 10:43  
 Pen: 3' 0" H20 depth 8' 8"  
 Rec: 2' 6"

BBNPP-DI-C-C @ 10:45  
 Pen - 3' H20 3' 4"  
 Recovery - 2' 0"

These three cores will  
 be split into 4 sections  
 Each - A, B, C, D and

the individual sections will  
 be composed together, then  
 the combined A, B, C, D  
 will be composed for  
 a final sample?

12:45 BBNPP-DI-C  
 12:45

Location Susquehanna River Date 10/14/10  
 Project / Client G0160208 JUNE

~~12/15~~ ~~BBNPP-D1-C~~ (continued)  
 samples + field duplicate  
 collected for parameters  
 listed on workplan

Ref  
 BBNPP-R-L

Per ~~8.0~~ - 12/20  
~~5-16~~ 12/20 = 12/20

sampled for all parameters  
 listed in workplan

MS MSD collected

CW22  
 BBNPP-CW22-C

12/15

Per 7.8

Per 3.6

12/20 - 7.2

12/20

Location Susquehanna River Date 10/14/10  
 Project / Client G0160208 JUNE

BBNPP-CW22-C sampled for  
 all parameters listed in workplan

Rinse blank -

~~BBNPP-CW22-C-R~~  
~~BBNPP-PB~~

16:30 While packing cooler for  
 analyze we are missing

5 samples - BBNPP-CW9-CFD,  
 BBNPP-CW12-C, BBNPP-CW15-C,  
 BBNPP-CW18-C, BBNPP-CW21-C

→ must have sent with accurate  
 samples yesterday, all

Joe Givins from Acutech to  
 see if he can locate them

- packing more cooler 12/21

## **Appendix C**

### **Field Data Sheets**



		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208		BBNP-CW-C	
		Coring		CWI	
		Date: 10/12/10	Time: 10:26		
		GPS Northing: See Vessel Logbook		Sheet: 1 of 1	
		GPS Easting:		Water Depth (ft): 9'	
		Weather: partly cloudy, 60			
Logged By: M. Hawser					
Sampling Equipment and Size (dia): vibracore					
Equipment Decontamination: Y / N, Alconox <input checked="" type="checkbox"/> Isopropanol <input checked="" type="checkbox"/>					
Unpenetrated length (ft-in):		Recovered length (ft-in): 10.66'			
Penetrated length (ft-in): 13'		Recovery (ft-in): N/A			
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc.)			
		PID $\Phi = \Phi_{0.6}$ - dark grey silt			
		0'-1' - 1.6 ppm grey SAND and silt + $\Phi_{0.6}$ - 2'			
1					
		1'-2' - 1.5 ppm 2'-4' grey fine SAND with some silt			
2		~0.2' clay layer @ 3.5'			
		2'-3' - 1.3 ppm			
3					
		3'-4' - 1.5 ppm			
4					
		4'-5' - 2.8 ppm 5'-6' grey SILT with fine sand			
5					
		5'-6' - 2.3 ppm			
6					
		6'-7' - 3.3 ppm 6'-10.66'			
7		grey fine SAND with silt + gravel			
		7'-8' - 2.8 ppm			
8					
		8'-9' - 3.0 ppm			
9					
		9'-10' - 2.6 ppm			
10		END			
Catcher: YES					
Comments: NO visible contamination, vials 2'					
photos - 3 taken top, middle, bottom BBNP-CW-C-A, B, C					

Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/10  
 CW1

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>									
Time	10:26	10:26	10:26	10:26					
Interval Top (ft-in)	0	2.5	5	7.5					
Interval Bottom (ft-in)	2.5	5	7.5	10					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D -> compressed to BANPP CW1-C

		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
		Project Number 60160208		CW2
		Coring		
		Date: 10/12/10	Time: 11:10	
		GPS Northing: see vessel logbook	Sheet: 1 of 1	
GPS Easting:		Water Depth (ft):		
Weather: partly cloudy 60				
Logged By: M. Hawser				
Sampling Equipment and Size (dia): vibracore				
Equipment Decontamination: Y / N, Alconox <input checked="" type="checkbox"/> Isopropanol				
Unpenetrated length (ft-in):		Recovered length (ft-in):		
Penetrated length (ft-in):		Recovery (ft-in):		
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheet, staining on tube, catcher present/full etc)		
1		0-1.5' - grey fine SAND and SILT		
2		1.5' - 2.9' - grey fine SAND with some SILT		
3		2.9' - 3.2' - grey SILT & CLAY		
4		3.2' - 6' - fine grey SAND and SILT		
5				
6		6' - 8' fine grey SAND with some SILT & gravel		
7				
8				
9				
10		END		
Catcher: yes				
Comments:				
VOC's sampled @ 2'				
only sample top 8' BBNP-CW2-C-A,B,L				

PID

0

0.6

1.0

1.6

2.6

3.6

3.4

4.2

4.5

Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/16  
 CW2

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	11.10	11.00	11.10	11.10					
Interval Top (ft-in)	0	2	4	6					
Interval Bottom (ft-in)	7	4	6	8					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited into BBNPP CW2-C



Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW 3
Coring	BBNP-CW3-C	
Date: 10/12/10	Time: 12:02	Sheet: 1 of 1
GPS Northing: see vessel logbook	Water Depth (ft): 17.7'	
GPS Easting:		
Weather: Partly Sunny 60		
Logged By: M. Hauser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconax		
Isopropanol		
Unpenetrated length (ft.in):	Recovered length (ft.in): 10' 8"	
Penetrated length (ft.in): 1'	Recovery (ft.in):	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1.5' - grey fine SAND and SILT
2		1.5'-6' - fine grey SAND and silt + gravel (cobble @ 3')
3		
4		
5		
6		6-8' - fine grey SILT and sand with trace clay with trace gravel
7		8'-9' - silt and clay with some gravel
8		
9		END
10		
Catcher:		
Comments: VOC'S sampled @ 2'		
only sample top 3.5'		

PI D

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

Φ.Φ

0.575 1057.625 3.5

1.25  
1.75  
2.625

Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/10  
 CW3

Sample ID	A	B	C	D				
Equipment decontamination <sup>1</sup>	Yes	Yes	Yes	Yes				
Time	12:02	12:02	12:02	12:02				
Interval Top (ft-in)	0	0.75	1.75	2.675				
Interval Bottom (ft-in)	0.575	1.75	2.625	3.5				
VOCs <sup>2</sup>	X	X	X	X				
VOC solids (if applicable)	X	X	X	X				
Ethylene Glycol	X	X	X	X				
TELead	X	X	X	X				
TCDD Dioxin	X	X	X	X				
Formaldehyde	X	X	X	X				
OrganoPhos Pesticides	X	X	X	X				
Combined Chemistry	X	X	X	X				
Grainsize	X	X	X	X				
Archive	X	X	X	X				
Archive VOCs	X	X	X	X				

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited into BBNPP CW3-C

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring	BBNPP-CW4-C	
Date: 10/13/10	Time: 14:37	
GPS Northing:	see vessel log	Sheet: 1 of 1
GPS Easting:		Water Depth (ft): 8'8"
Weather: sunny 60		
Logged By: M. Hasler		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconox	Isopropanol	
Unpenetrated length (ft-in):	Recovered length (ft-in):	
Penetrated length (ft-in): 14'	Recovery (ft-in): 10.5'	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-2' fine grey silty SAND with some gravel
2		2' - fine grey silty SAND
		10'
3		
4		
5		
6		END
7		
8		
9		
10		
Catcher: yes		
Comments: JOC'S @ 2'		
photo BBNPP-CW4-C-A,B,C,D		

Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/13/10  
 CW4

Sample ID	A	B	C	D					
Equipment decontamination	yes	yes	yes	yes					
Time	14.37	17.37	14.37	14.37					
Interval Top (ft-in)	0	2.5	5.0	7.5					
Interval Bottom (ft-in)	2.5	5.0	7.5	10.5					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELcad	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited into BONAP CW4-C



Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW5
Coring	BBNP-CW5-C	
Date:	Time: 08:25	Sheet: 1 of
GPS Northing:		Water Depth (ft): 16'5"
GPS Easting:		
Weather:		
Logged By: M. A. J. L. C.		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconox		Isopropanol
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 10'		Recovery (ft-in): 6'5"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1' - SILT + FINE SAND - grey with trace gravel
2		1-7' - Layered SILT with trace gravel and little fine sand
3		
4		
5		
6		
7		
8		
9		
10		
Catcher:		
Comments: Vols sampled @ 2'		
Photo: BBNP CW5-C - A, B, L		

PID

0.3

0.4

1.0

1.5

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring BBNPP CW6-C		CW6
Date: 10/12/10	Time: 12:40	
GPS Northing: see vessel logbook	Sheet: 1 of 1	
GPS Easting:	Water Depth (ft):	
Weather: Partly Sunny, 60		
Logged By: M. Hauser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alcohols		Isopropanol
Unpenetrated length (ft-in):	Recovered length (ft-in):	
Penetrated length (ft-in): 7.4'	Recovery (ft-in): 3.0'	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1' - GRAVEL with trace sand
2		1'-3' - <sup>fine</sup> SAND with silt and trace gravel
3		End
4		
5		
6		
7		
8		
9		
10		
Catcher: yes		
Comments: Photos - BBNPP CW6-C A, B		
Sample Vols @ 2' Sampled @ 4 discrete samples & composited		

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/23/10  
 CW6

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	X	X	X	X					
Time	12:40	12:40	12:40	12:40					
Interval Top (ft-in)	0	0.5	1.0	2.25					
Interval Bottom (ft-in)	0.5	1.50	2.29	3.0					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formeldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C → composited to BBNPP-CW6-C

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring	BBNPP CW7-C	CW7
Date: 10/13/10	Time: 15:44	
GPS Northing: see vessel logbook		Sheet: 1 of 1
GPS Easting:		Water Depth (ft): 7'4"
Weather: Sunny b4		
Logged By: A. Haver		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y: N, Alconox Isopropanol		
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 14' 1"		Recovery (ft-in): 8' 9"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1' - grey sandy SILT with little organics
2		1'-4' - grey silty fine SAND
3		
4		4'-6.7' - M/F grey SAND
5		6.7' - 8.5' - grey silty sandy SILT
6		8.5' - 8.9' - grey SAND and GRAVEL
7		
8		
9		
10		END
Catcher: 481		
Comments: Vols 2'		
photos BBNPP-CW7-C-A,B,C,		

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/13/10  
 CW7

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	15:44	15:04	15:20	15:10					
Interval Top (ft-in)	0	2.22	4.44	6.66					
Interval Bottom (ft-in)	2.22	4.44	6.66	8.88					
VOCs <sup>2</sup>	x	x	x	x					
VOC solids (if applicable)	x	x	x	x					
Ethylene Glycol	x	x	x	x					
TELead	x	x	x	x					
TCDD Dioxin	x	x	x	x					
Formaldehyde	x	x	x	x					
OrganoPhos Pesticides	x	x	x	x					
Combined Chemistry	x	x	x	x					
Grainsize	x	x	x	x					
Archive	x	x	x	x					
Archive VOCs	x	x	x	x					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composite to BONF CW7-C

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring	BBNP-CW8-2	CW8
Date:	Time 10/13/10	
GPS Northing:		Sheet: 1 of
GPS Easting:		Water Depth (ft):
Weather: Sunny SD		
Logged By: M. Havier		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconox		Isopropanol
Unpenetrated length (ft-in):	Recovered length (ft-in):	
Penetrated length (ft-in): 9.0'	Recovery (ft-in): 4' 10"	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0.1' - Fine SAND and SILT.
2		1' - 2.0' - Medium grey SAND with coarse sand + gravel
3		2.0' - 3' - Fine grey SAND
4		3' - 5' - Grey <del>SILT</del> SILT and Clay with trace gravel
5		
6		
7		
8		
9		
10		
Catcher: YES		
Comments: vol 1 collected @ 2' photos BBNP-CW8-A, B		

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Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring	BBNAPCW9-C	CW 9
Date: 10/12/10	Time: 14:23	
GPS Northing: see vessel logbook		Sheet: 1 of 1
GPS Easting:		Water Depth (ft): 17.1'
Weather: sunny 60		

Logged By: M. Hunter

Sampling Equipment and Size (dia):

Equipment Decontamination: Y / N: Alcand

Isopropanol

Unpenetrated length (ft-in):

Recovered length (ft-in):

Penetrated length (ft-in): 3.3'

Recovery (ft-in): 4'

Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1.2' - GRAVEL with some sand
2		1.2'-4' - F/M SAND - grey with some silt & trace gravel
3		4'-5' - grey SILT with some fine sand and trace clay & gravel
4		
5		
6		
7		
8		
9		
10		END

Catcher: VB

Comments:

Duplicate taken sample total core length → (@ 1' intervals + composited)  
sample VOC 1' @ 2'

Photos BBNP-CW9-C-A, B, X

PID

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Core Processing Form  
Bell Bend NPP Characterization Project  
Project No. 60160208

Date  
Core ID:

10/12/10  
CW9

Sample ID	A	B	C	D					
Equipment decontamination	Y	Y	Y	Y					
Time	14:23	14:23	14:23	14:23					
Interval Top (ft-in)	0	1	2	3					
Interval Bottom (ft-in)	1	2	3	4					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formeldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

Duplicate sample taken

A, B, C, D → composited to BBNPP-CW9-C + BBNPPCW9-C-ED



		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208		CW 10	
		Coring BBNP-CW10-C			
		Date: 10/13/14 Time: 15:30		Sheet: 1 of	
		GPS Northing: see vessel logbook		Water Depth (ft): 76'	
		GPS Easting:			
		Weather: Sunny 60			
Logged By: M. Hauser					
Sampling Equipment and Size (dia):					
Equipment Decontamination: Y / N, Alcon					
		Isopropanol			
		Unpenetrated length (ft-in):		Recovered length (ft-in):	
		Penetrated length (ft-in): 14'		Recovery (ft-in): 7'	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)			
1		0-2' grey fine silty SAND with some organic			
2		2'-4' - grey FINE SAND with little silt & gravel			
3		4'-6' grey fine SAND			
4					
5		6'-7' - grey sandy SILT with little clay and trace gravel			
6					
7					
8		end			
9					
10					
Catcher: YES					
Comments: VOB @ 2.0'					
photo BBNP-CW10-C-A, B, C					

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		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208			
		Coring		BBNPP/CW11-C	
		Date: 10/13/10	Time: 0925		
		GPS Northing: see vessel logbook		Sheet: 1 of 1	
		GPS Easting: see vessel logbook		Water Depth (ft): 17' 7"	
		Weather: Sunny 50			
Logged By: M. Hays					
Sampling Equipment and Size (dia):					
Equipment Decontamination: Y / N, Alcanox Isopropanol					
		Unpenetrated length (ft-in):		Recovered length (ft-in):	
		Penetrated length (ft-in): 12' 9"		Recovery (ft-in): 4' 9"	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)			
1		0-2.5' - <sup>grey</sup> Fine SILT and SAND very wet			
2		2.5' - 4.9' - Fine SAND and gravel with some silt			
3					
4					
5					
6		End			
7					
8					
9					
10					
Catcher: Y/N					
Comments: JOC's @ 21					
photos BBNPP-CW11-C-A,B,C,D					

PID

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		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID <b>CW12</b>
		Project Number 60160208		
		Coring	<b>BBNPP-CW12-C</b>	
		Date: <b>10/12/10</b>	Time: <b>14:57</b>	
		GPS Northing: <b>See vertel logbook</b>		
GPS Easting: <b>See vertel logbook</b>		Sheet: 1 of		Water Depth (ft): <b>16'9"</b>
Weather: <b>Sunny 50's</b>				
Logged By: <b>P. Hawser</b>				
Sampling Equipment and Size (dia):				
Equipment Decontamination: Y / N, <b>Alconox</b> Isopropanol				
Unpenetrated length (ft-in)		Recovered length (ft-in)		
Penetrated length (ft-in): <b>10'</b>		Recovery (ft-in): <b>7'5"</b>		
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)		
1		<b>0 - 1.3' - F/M SAND and SALT</b>		
2		<b>1.3' - 2.5' - F/M <sup>grey</sup> SAND with <sup>trace</sup> silt + gravel</b>		
3		<b>2.5' - 5' - Fine grey SAND and silt with trace gravel</b>		
4		<b>5' - 7.5' - grey m/ SAND <del>and silt</del> and GRAVEL</b>		
5				
6				
7		<b>END</b>		
8				
9				
10				
Catcher:				
Comments:				
<b>Vol 1) sampled @ 2' Composite 0 - 4' (@ 1' intervals + composite)</b>				

PHOTOS - BBNP-CW12-C A + B

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/18  
 CW12

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	YES	YES	YES	YES					
Time	14.51	14.51	14.51	14.51					
Interval Top (ft-in)	0	1	2	3					
Interval Bottom (ft-in)	1	2	3	4					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composted to BBNPP CW12-C



		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208		CBNPP-CW13-C	
		Coring		CW13	
		Date: 10/13/10		Time: 15:49	
		GPS Northing: see vessel logbook		Sheet: 1 of 1	
		GPS Easting:		Water Depth (ft): 5'5"	
		Weather: Sunny 60			
Logged By: M. Hauser					
Sampling Equipment and Size (dia):					
Equipment Decontamination: Y / N. <u>Alcohol</u> Isopropanol					
Unpenetrated length (ft-in):		Recovered length (ft-in):			
Penetrated length (ft-in): 1'4"5"		Recovery (ft-in): 4'8"			
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)			
1		0' - 2.5' <del>soft</del> grey sandy SILT with little organics			
2		2.5' - 3.0' FINE grey SILTY SAND and gravel			
3		3.0' - 3.3' - sandy GRAVEL			
4		3.3' - 4'8" - mfk grey SAND			
5					
6					
7					
8					
9		END			
10					
Catcher: <u>yes</u>					
Comments: <u>DOC @ 2'</u>					
plot CBNPP-CW13-C-A, B					

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		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208		CW19	
		Coring		BBNPP CW19-C	
		Date: 10/13/14		Time: 10:01	
		GPS Northing:		Sheet: 1 of 1	
		GPS Easting: Secretariat Paybook		Water Depth (ft): 18'4"	
		Weather: Sunny 60			
Logged By: M. Hulse					
Sampling Equipment and Size (dia):					
Equipment Decontamination: Y / N. Alconyl Isopropanol					
Unpenetrated length (ft-in):		Recovered length (ft-in):			
Penetrated length (ft-in): 14'6"		Recovery (ft-in): 7.0'			
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)			
1		1-3.5' - Fine SAND with some silt			
2		3.5'-6' - grey clayey SILT with some gravel			
3					
4					
5					
6		6'-7.0' - Fine sand + gravel w/ trace silty clay			
7					
8					
9		End			
10					
Catcher: yes					
Comments: silt @ 2'					
photo BBNPP CW19-C-A, B, C,					

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date 10/13/16  
 Core ID: CW14

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	10:01	10:01	10:01	10:01					
Interval Top (ft-in)	0	1.75	3.50	5.25					
Interval Bottom (ft-in)	1.75	3.50	5.25	7.0					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELlead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formeldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D 7 computed into BBW PP- CW14- C

		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID	
		Project Number 60160208		CW15	
		Coring		BBNPP CW15-C	
		Date: 10/12/10		Time: 15:49	
		GPS Northing: see vert log book		Sheet: 1 of 1	
		GPS Easting:		Water Depth (ft):	
		Weather: Sunny 70			
Logged By: M. Hausel					
Sampling Equipment and Size (dia):					
Equipment Decontamination: Y/N, Alkox Isopropanol					
Unpenetrated length (ft-in):		Recovered length (ft-in):			
Penetrated length (ft-in): 10' 1"		Recovery (ft-in): 7' 6"			
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)			
1		0-2' Grey F/M SAND with little silt			
2		2-3.4' M/C SAND with some silt + gravel			
3		3.4'-3.8' - Wood/Timber			
4		3.8'-7.6' - Grey F/M SAND + silt with trace gravel + silt + clay			
5					
6					
7					
8		END			
9					
10					
Catcher: vel					
Comments: sample VDL @ 2' photos BBNP- CW15-C-A, B, C, D					

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## Core Processing Form

Bell Bend NPP Characterization Project

Project No. 60160208

Date

10/12/10

Core ID:

CW15

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	15:49	15:49	15:49	15:49					
Interval Top (ft-in)	0	12.5	2.5	37.5					
Interval Bottom (ft-in)	12.5	2.5	37.5	5.0					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited to ~~60~~ BBNPP CW15-C

		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
		Project Number 60160208		
		Coring	BBNPP-CW16-C	CW16
		Date: 10/13/10	Time: 16:10	
		GPS Northing:	see vertical logbook	Sheet: 1 of
		GPS Easting:		Water Depth (ft):
		Weather: Sunny 62		
Logged By: M. Haver				
Sampling Equipment and Size (dia):				
Equipment Decontamination: Y / N, Aleana Isopropanol				
Unpenetrated length (ft-in)		Recovered length (ft-in)		
Penetrated length (ft-in)		Recovery (ft-in)		
1-7' 2"		13' 4"		
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)		
1		0'-2' - dark grey sandy SILT with organic and little gravel		
2		2'-3' dark grey sandy SILT with organic and some gravel		
3		3'-4' grey sandy SILT with little gravel		
4		4'-5' - sandy SAND and gravel		
5		5'-6' grey SAND and GRAVEL		
6		6'-8' grey F/M SAND with some gravel		
7		8'-10.5' - grey F/M SAND		
8		10.5' - 11' - grey clayey SILT		
9		11'-13.4' - grey silty SAND with little organic		
10				
Catcher: Yes				
Comments: VDCS taken @ 3.5' photos BBNPP-CW16-C-A, C, D, E				

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Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring	BBNPP-CW17-1	
Date: 10/13/10	Time: 10:25	CW17
GPS Northing:	See vessel logbook	Sheet: 1 of 1
GPS Easting:		Water Depth (ft): 16'8"
Weather: sunny 60		
Logged By: M. Haddock		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alcohol	Isopropanol	
Unpenetrated length (ft-in):	Recovered length (ft-in):	
Penetrated length (ft-in): 1' 7"	Recovery (ft-in): 6' 4"	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube catcher present/full etc)
1		0 - 3' - Fine grey silty SAND <del>with</del>
2		
3		3' - 4' - Fine grey silty SAND with some gravel
4		4' - 4.2' - Fine grey silty CLAY with little gravel
5		
6		4.2' - 6.5' - Fine grey silty SAND with some <del>gray clay</del> clayey silt and gravel
7		
8		END
9		
10		
Catcher: 70		
Comments: V01 Y Q 21		
photo BBNPP-CW17-1-AA1		

Core Processing Form  
Bell Bend NPP Characterization Project  
Project No. 60160208

Date  
Core ID:

10/13/10  
CW17

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	10:25	10:25	10:25	10:25					
Interval Top (ft-in)	0	1.6	3.2	4.8					
Interval Bottom (ft-in)	1.6	3.2	4.8	6.4					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formeldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D = composited into BBNPP-CW17-C



Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW 18
Coring		
Date: 10/12/10	Time: 16:11	
GPS Northing:	see vessel logbook	Sheet: 1 of
GPS Easting:		Water Depth (ft): 16'9"
Weather: sunny 60		
Logged By: M. Hauser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconol		
Unpenetrated length (ft-in): 9'0"		Recovered length (ft-in): 6'7"
Penetrated length (ft-in): 9'0"		Recovery (ft-in): 6'7"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1' - FINE SAND with some wood / organics
2		1-3.5' - FINE SAND and SILT with trace gravel
3		3.5-4.5' - FINE SILT with sand and some gravel and trace organic
4		4.5' - SILT & FINE SAND with trace clay & some gravel
5		
6		
7		End
8		
9		
10		
Catcher: (X)		
Comments: sample VOC @ 2'		
photo BBNP - CW18 - C A, B, C		

RID

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Φ.Φ  
Φ.Φ

Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/10  
 C678

Sample ID	A	B	C	D				
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes				
Time	16:11	16:11	16:11	16:11				
Interval Top (ft-in)	0	1.25	2.5	3.75				
Interval Bottom (ft-in)	1.25	2.5	3.75	5				
VOCs <sup>2</sup>	X	X	X	X				
VOC solids (if applicable)	X	X	X	X				
Ethylene Glycol	X	X	X	X				
TELead	X	X	X	X				
TCDD Dioxin	X	X	X	X				
Formaldehyde	X	X	X	X				
OrganoPhos Pesticides	X	X	X	X				
Combined Chemistry	X	X	X	X				
Grainsize	X	X	X	X				
Archive	X	X	X	X				
Archive VOCs	X	X	X	X				

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited to BBNPP U18-C

		Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
		Project Number 60160208		
		Coring	BBNPP CW19-C	CW19
		Date: 10/13/10	Time: 16:32	Sheet: 1 of 1
		GPS Northing: see vessel logbook	GPS Easting: see vessel logbook	Water Depth (ft): 5'6"
Weather: Sunny 60				
Logged By: M. Hauer				
Sampling Equipment and Size (dia):				
Equipment Decontamination: Y / N, Alcon				
Isopropanol				
Unpenetrated length (ft-in):		Recovered length (ft-in):		
Penetrated length (ft-in): 14'6"		Recovery (ft-in): 11'7"		
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)		
1		0-3.5' soupy sandy SILT with organic gravel		
2				
3		3.5'-4.5' grey clayey SILT		
4		4.5'-5.5' MIF grey SAND		
5		5.5'-8' grey sandy SILT		
6				
7				
8		8'-11.7' silty SAND and gravel + soupy		
9				
10		end		
Catcher:				
Comments: VDC sampled @ 2.5'				
BBNPP-CW19-C-A,B,C,D,E				

P10

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Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW20
Coring	BBNPPCW20-C	
Date: 10/13/10	Time: 11:15	
GPS Northing: see vessel logbook		Sheet: 1 of 1
GPS Easting:		Water Depth (ft): 14'2"
Weather: Sunny 58		
Logged By: M. Hawser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N (Alconox) Isopropanol		
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 12' 7"		Recovery (ft-in): 7' 10"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/fail etc)
1		0-1' - organic wood chips
2		1-6' - <sup>gray</sup> silty SAND with wood & organics
3		6'-7' - fine clayey SILT and SAND w/ gravel
4		
5		
6		
7		
8		
9		
10		
Catcher: yes		
Comments: vol @ 6.5'		
		Opt. core sample taken (cp)

PID

QC

2



Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/13/10  
 CW 20

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time	11:15	11:15	11:15	11:15					
Interval Top (ft-in)	0	1.88	3.5	5.38					
Interval Bottom (ft-in)	1.88	3.5	5.38	7					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

Duplicate sample taken

A, B, C, D combined into BBNPP-CW20-C + FD

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW21
Coring	BBNPP CW21-C	
Date: 10/12/10	Time: 16:09	
GPS Northing:	see vessel logbook	Sheet: 1 of 1
GPS Easting:		Water Depth (ft):
Weather:	60 Sunny	
Logged By: M.H. Se		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, <u>Alconox</u> Isopropanol		
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 11' 6"		Recovery (ft-in): 4' 7"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1' - COBBLE & GRAVEL
2		1'-1.5' - coarse SAND and some gravel
3		1.5'-2.5' - FINE <sup>grey</sup> SAND with trace gravel and some silt
4		2.5'-4.5' - SILT and fine sand with little gravel and trace clay
5		
6		
7		End
8		
9		
10		
Catcher: Y/S		
Comments: Sample VOLT @ 2'		
photo BBNPP-CW21-C-A, B, C		

PID

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φ φ

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/12/10  
 CW21

Sample ID	A	B	C	D					
Equipment decontamination <sup>1</sup>	yes	yes	yes	yes					
Time									
Interval Top (ft-in)	0	1.17	2.34	3.51					
Interval Bottom (ft-in)	1.17	2.34	3.51	4.7					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formeldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A/B/C/D completed into BBNPP CW21-C

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW22
Coring	Date: 10/14/10	Time: 12:45
GPS Northing: 5000000	GPS Easting: 1000000	Sheet: 1 of 1
Weather: Rain		Water Depth (ft): 7'2"
Logged By: M. Huser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, <input checked="" type="checkbox"/> Isopropanol		
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 7'8"		Recovery (ft-in): 7'6"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-1.5' - grey black sandy SILT and organic material
2		1.5'-3.5' - grey sandy SILT with some gravel & organics
3		
4		
5		
6		End
7		
8		
9		
10		
Catcher: <input checked="" type="checkbox"/>		
Comments: JDS, @ 21		
Photo BBAPP-CW22-C-A,B		

PLD



CW-4

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		CW23
Coring BBNPP CW23-C		
Date: 10/13/10	Time: 1515	
GPS Northing: see vessel logbook	GPS Easting: see vessel logbook	Sheet: 1 of
Weather: Sunny 60°		Water Depth (ft): 15' 4"
Logged By: M. Hauser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alconox <input checked="" type="checkbox"/> Isopropanol		
Unpenetrated length (ft-in):		Recovered length (ft-in):
Penetrated length (ft-in): 7.0'		Recovery (ft-in): 7.0'
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheet, staining on tube, catcher present/full etc)
1		0-1' - fine grey SAND and GRAVEL with little silt
2		1'-5' - grey clayey SILT with little gravel + fine sand
3		
4		
5		
6		END
7		
8		
9		
10		
Catcher: YES		
Comments: VOL 1 @		
photos BBNPP-CW23-C-A, B, C		

PID

0.0

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Core Processing Form  
 Bell Bend NPP Characterization Project  
 Project No. 60160208

Date  
 Core ID:

10/13/10  
 CW23

Sample ID	A	B	C	D					
Equipment decontamination	Y	Y	Y	Y					
Time	11:58	11:58	11:58	11:58					
Interval Top (ft-in)	0	1.25	2.5	3.75					
Interval Bottom (ft-in)	1.25	2.5	3.75	5.0					
VOCs <sup>2</sup>	X	X	X	X					
VOC solids (if applicable)	X	X	X	X					
Ethylene Glycol	X	X	X	X					
TELead	X	X	X	X					
TCDD Dioxin	X	X	X	X					
Formaldehyde	X	X	X	X					
OrganoPhos Pesticides	X	X	X	X					
Combined Chemistry	X	X	X	X					
Grainsize	X	X	X	X					
Archive	X	X	X	X					
Archive VOCs	X	X	X	X					

<sup>1</sup>Decontamination per Section 6 of the SAP.

<sup>2</sup>Indicate the parameters collected at each interval with a check or "X"

Comments

A, B, C, D → composited to BBNPP CW 23-C

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		D1
Coring		
Date: 10/14/76	Time: 12:45	
GPS Northing:	Sheet: 1 of 1	
GPS Easting: See field notebook	Water Depth (ft): 5.5'	
Weather: rain so		
Logged By: Mr. Houser		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N Alconox Isopropanol		
Unpenetrated length (ft-in): A 2' 0" B 2' 0" C 2' 0"		Recovered length (ft-in): 1' 4" 2' 0" 2' 0"
Penetrated length (ft-in): 2' 4" 3' 0" 3' 0"		Recovery (ft-in): 1' 4" 2' 0" 2' 0"
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheet, staining on tube, catcher present/full etc)
		core A core B core C
1		0'-2' 4" - 0'-2' 0" - 0'-2' 0" -
		sandy grey silty sandy brown silt
		stained with 1/2" with gravel & organic
		of some gravel some gravel
2		and silty sandy clay
3		
4		
5		END
6		
7		
8		
9		
10		
Catcher:		
Comments: See field notebook - BBNPP-SE-1 for explanation of process. See field notebook - See field notebook - See field notebook		

P10

A &

Bell Bend Nuclear Power Plant Sediment Characterization Project		CORE ID
Project Number 60160208		
Coring		
Date: 10/14/10	Time: 12:20	
GPS Northing: see ver 10/10	GPS Easting: 10200	Sheet: 1 of 1
Weather: Rain 50		Water Depth (ft): 15' 3"
Logged By: M. Haver		
Sampling Equipment and Size (dia):		
Equipment Decontamination: Y / N, Alcopor		Isopropanol
Unpenetrated length (ft-in):	Recovered length (ft-in)	
Penetrated length (ft-in): 6'	Recovery (ft-in): 5' 6"	
Depth (feet)	SKETCH	DESCRIPTION (e.g., start/end time, sediment lithology, major and minor contacts, core condition, scoring sheen, staining on tube, catcher present/full etc)
1		0-6" - <sup>grey</sup> FINE SAND
2		6" - 9" - Silty grey clay
3		9" - 3' 6" - grey sandy silt
4		3' 6" - 5' 6" - grey fine sand
5		
6		
7		
8		END
9		
10		
Catcher:		
Comments: M5 / M50		

RND

## **Appendix D**

### **Sediment Core Photograph Log**



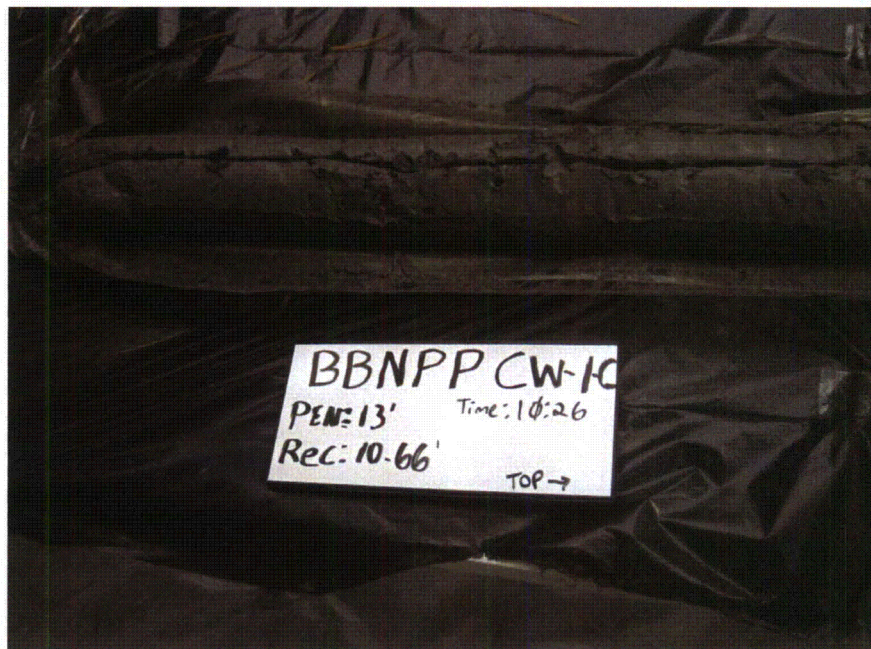


BBNPP-CW-1-C, Top Section



BBNPP-CW-1-C, Middle Section





BBNPP-CW-1-C, Bottom Section



BBNPP-CW-2-C, Top Section





BBNPP-CW-2-C, Middle Section



BBNPP-CW-2-C, Bottom Section





BBNPP-CW-3-C, Top Section



BBNPP-CW-3-C, Middle Section





BBNPP-CW-3-C, Bottom Section



BBNPP-CW-3-C, Second Core



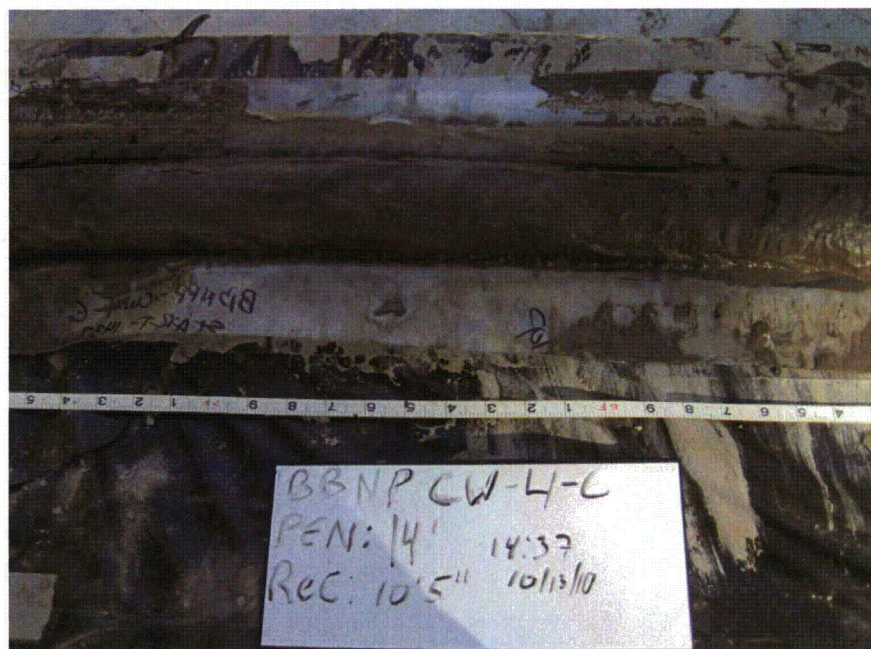


BBNPP-CW-4-C, Top Section



BBNPP-CW-4-C, Top Middle Section





BBNPP-CW-4-C, Bottom Middle Section



BBNPP-CW-4-C, Bottom Section





BBNPP-CW-5-C, Top Section



BBNPP-CW-5-C, Middle Section



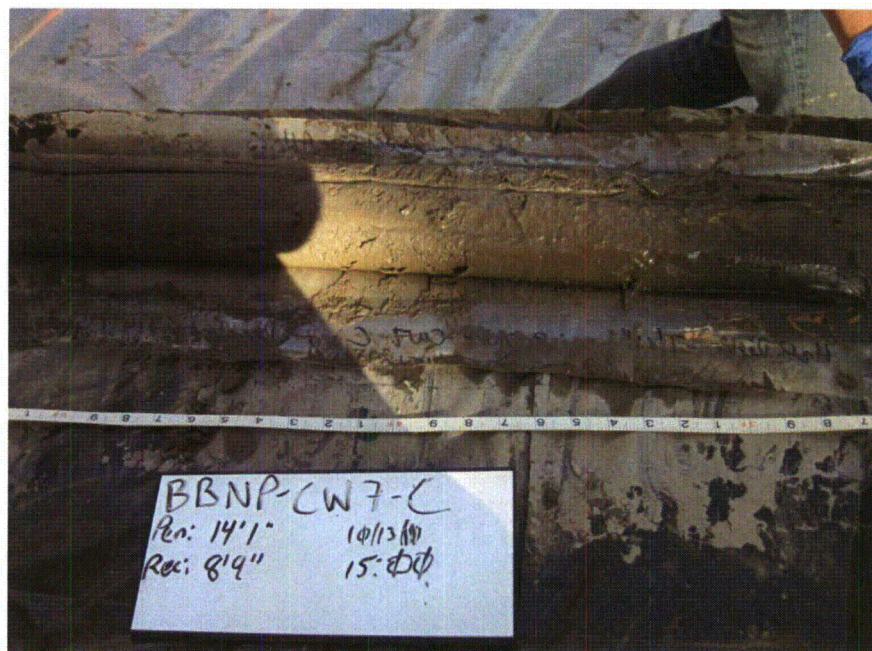


BBNPP-CW-5-C, Bottom Section

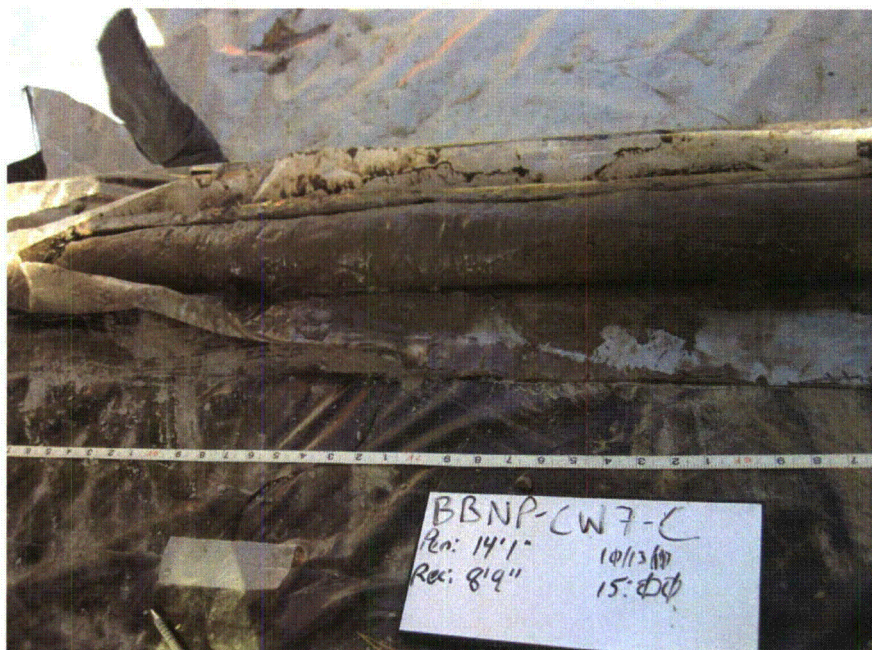


BBNPP-CW-7-C, Top Section



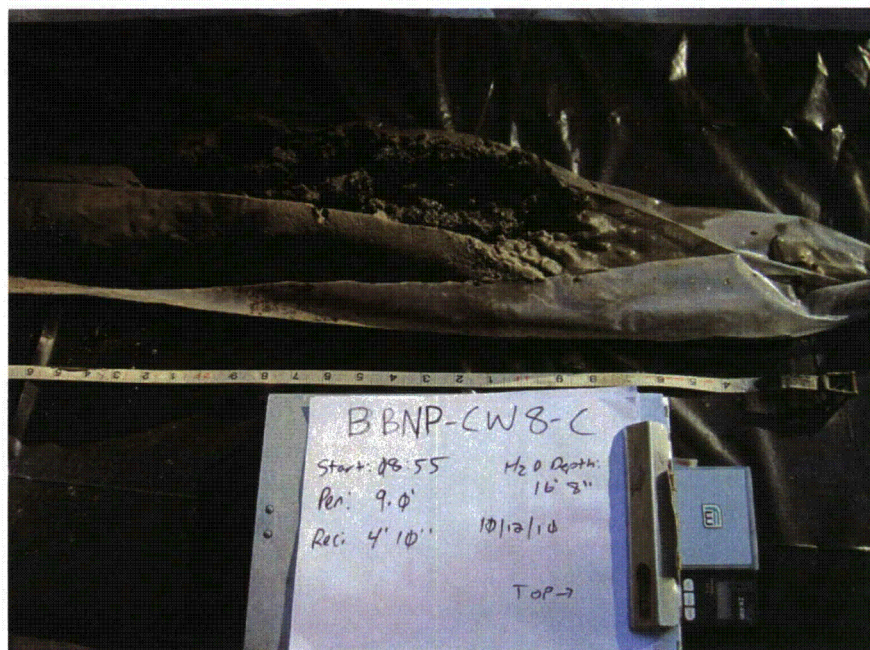


BBNPP-CW-7-C, Middle Section

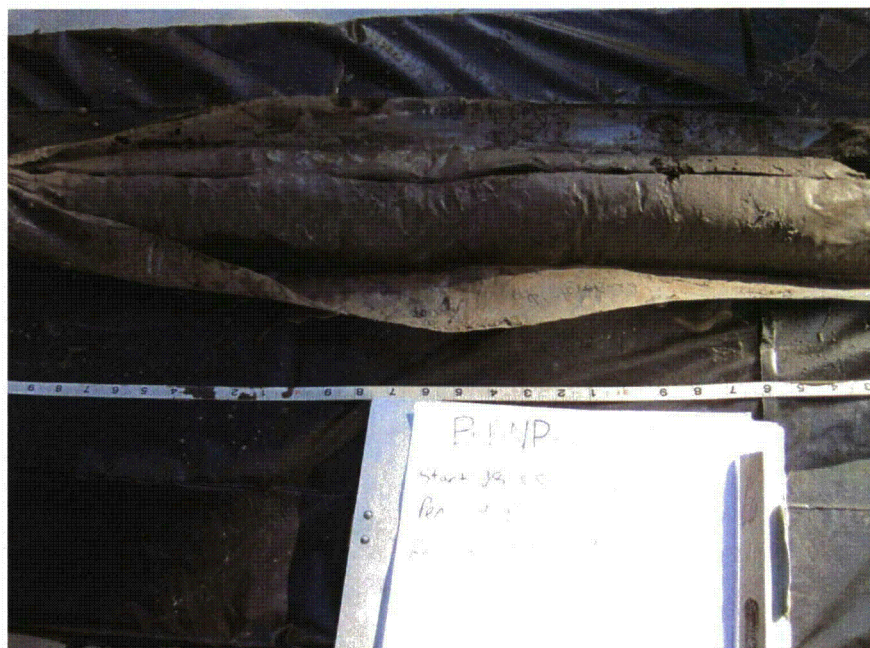


BBNPP-CW-7-C, Bottom Section





BBNPP-CW-8-C, Top Section



BBNPP-CW-8-C, Bottom Section





BBNPP-CW-9-C, Top Section



BBNPP-CW-9-C, Bottom Section





BBNPP-CW-9-C, Second Core, Top Section

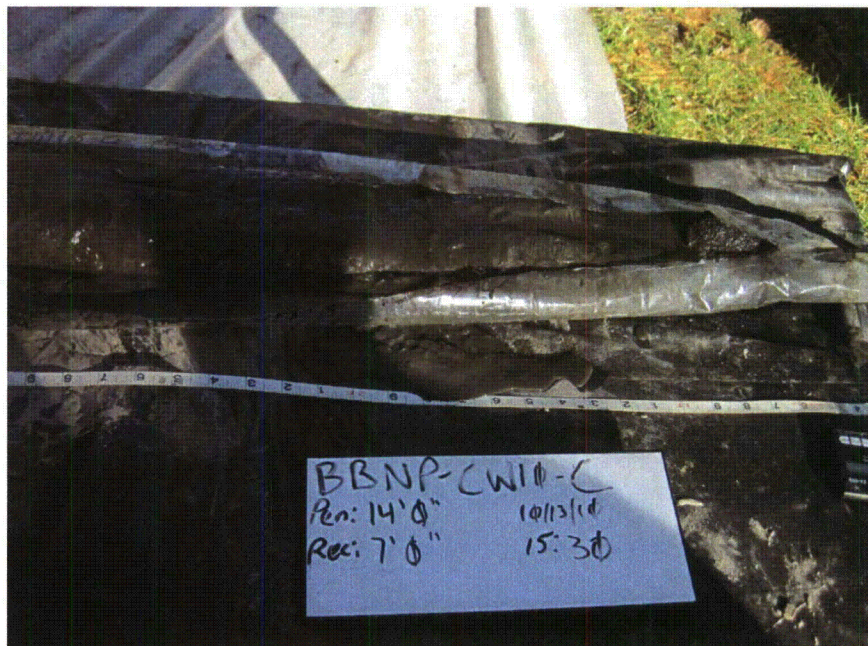


BBNPP-CW-9-C, Second Core, Middle Section





BBNPP-CW-9-C, Second Core, Bottom Section

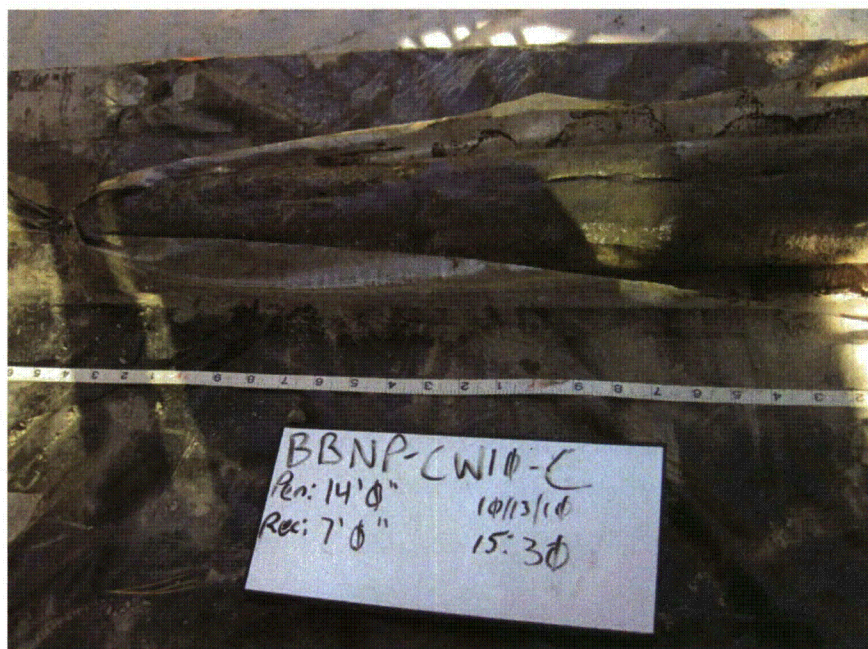


BBNPP-CW-10-C, Top Section



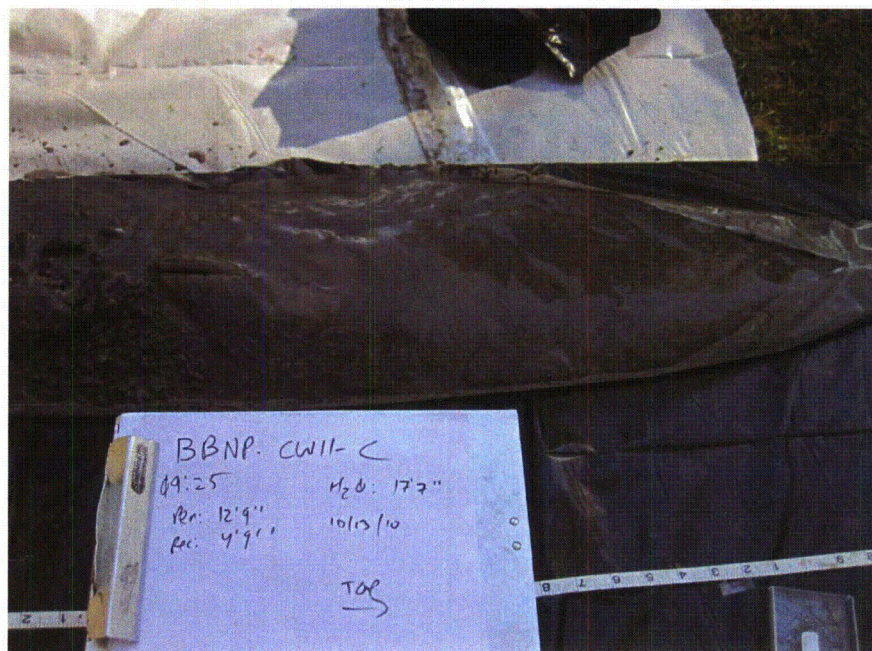


BBNPP-CW-10-C, Middle Section



BBNPP-CW-10-C, Bottom Section





BBNPP-CW-11-C, Top Section



BBNPP-CW-11-C, Bottom Section



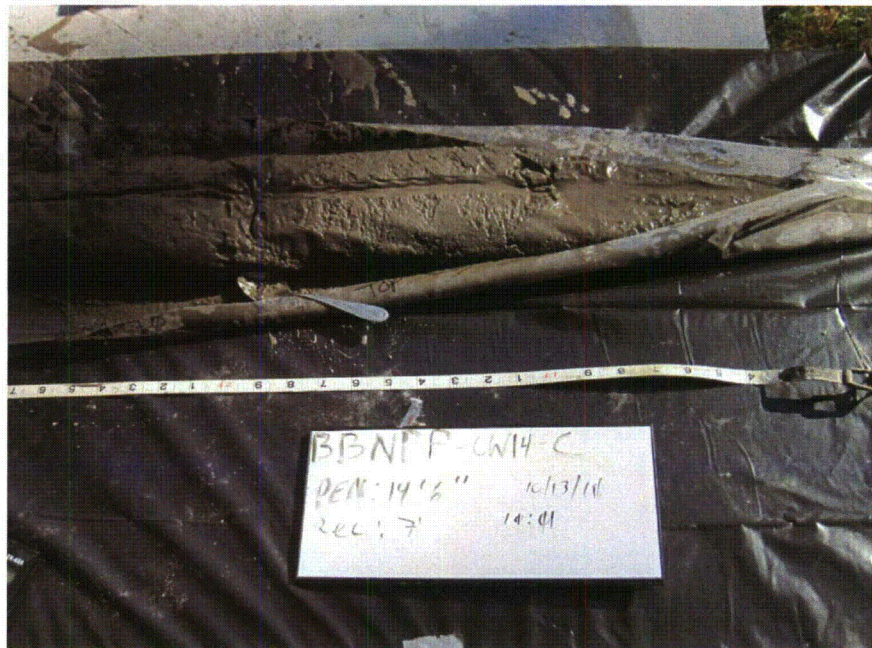


BBNPP-CW-13-C, Top Section

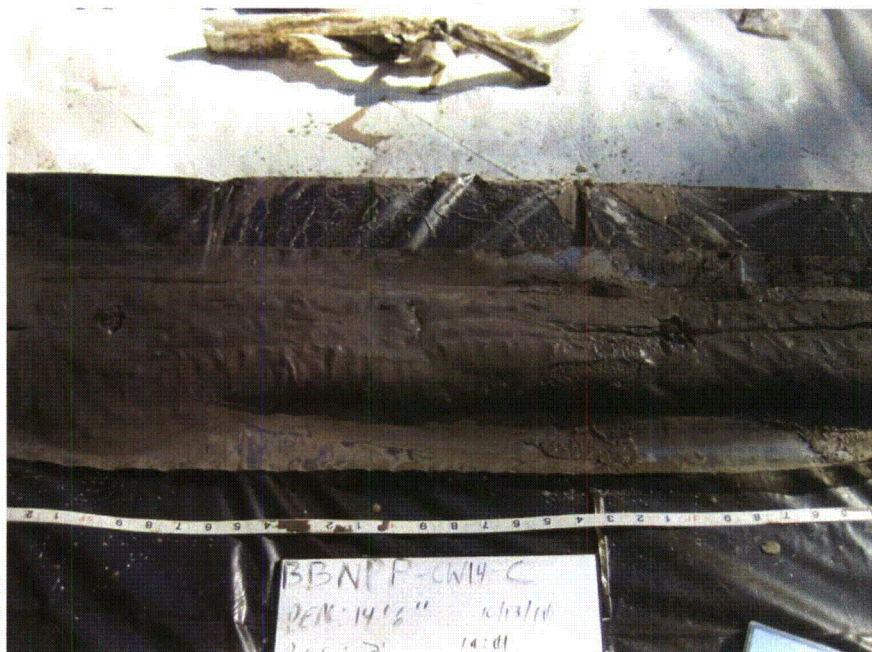


BBNPP-CW-13-C, Bottom Section



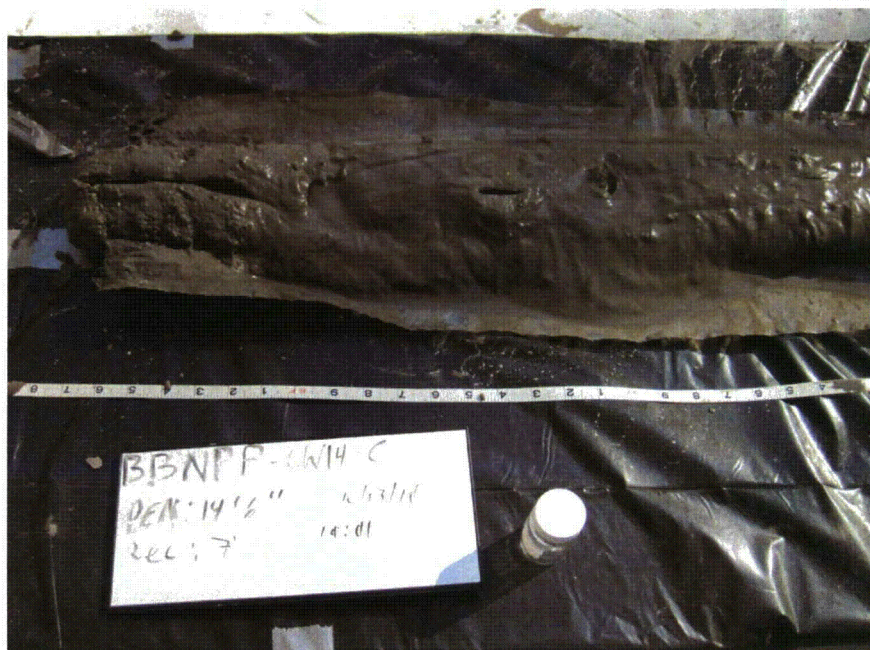


BBNPP-CW-14-C, Top Section



BBNPP-CW-14-C, Middle Section





BBNPP-CW-14-C, Bottom Section



BBNPP-CW-15-C, Top Section





BBNPP-CW-15-C, Middle Top Section



BBNPP-CW-15-C, Middle Bottom Section





BBNPP CW-15-C, Bottom Section



BBNPP-CW-16-C, Top Section





BBNPP-CW-16-C, Top Middle Section



BBNPP-CW-16-C, Middle Section



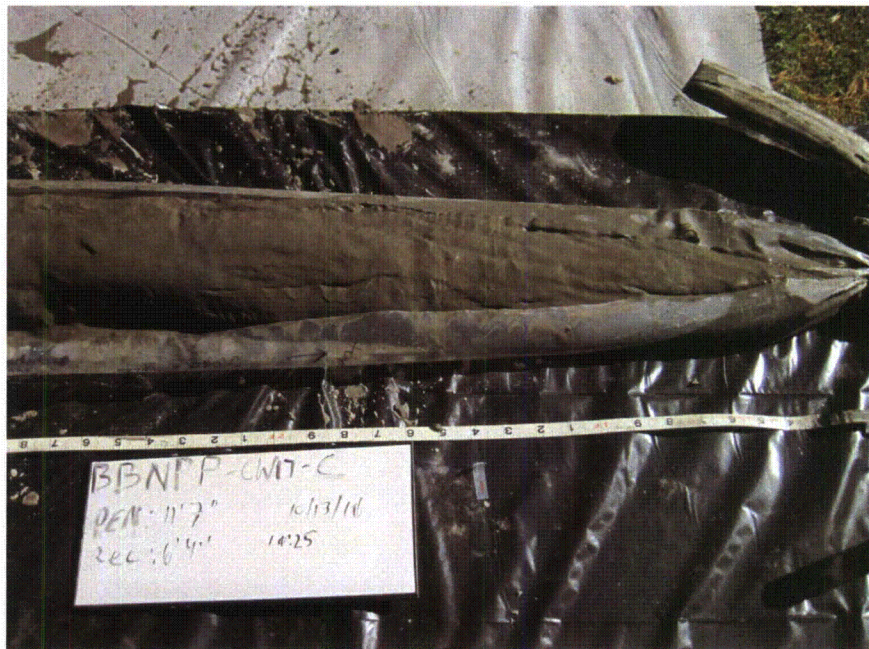


BBNPP-CW-16-C, Bottom Middle Section



BBNPP-CW-16-C, Bottom Section



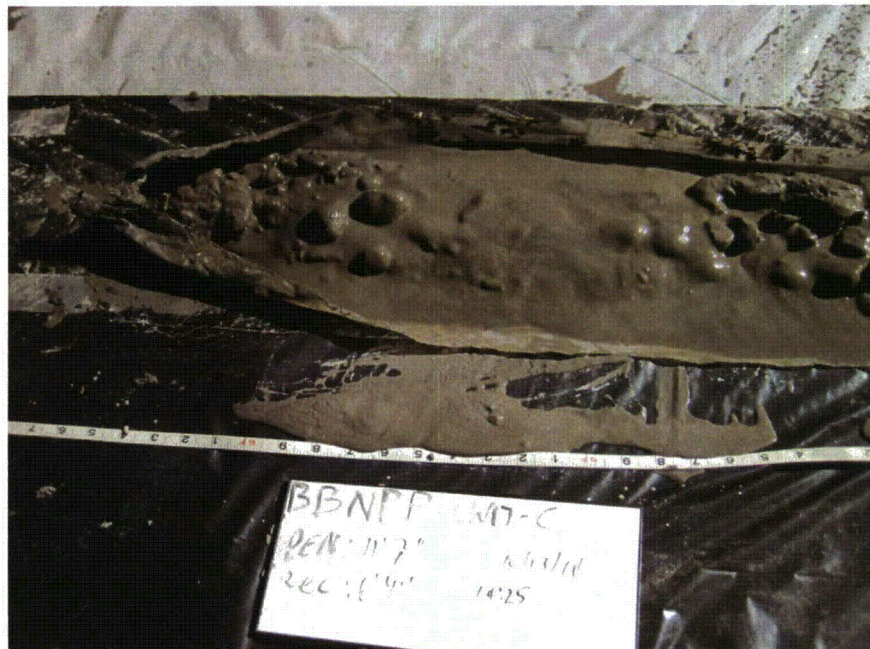


BBNPP-CW-17-C, Top Section



BBNPP-CW-17-C, Middle Section





BBNPP-CW-17-C, Bottom Section



BBNPP-CW-18-C, Top Section





BBNPP-CW-18-C, Middle Section



BBNPP-CW-18-C, Bottom Section





BBNPP-CW-19-C, Top Section

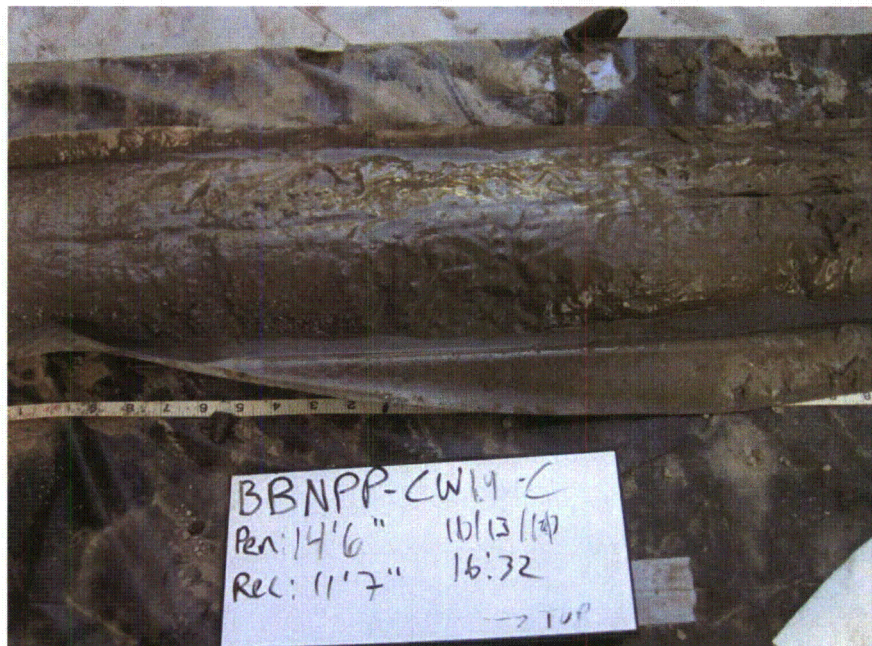


BBNPP-CW-19-C, Top Middle Section





BBNPP-CW-19-C, Middle Section

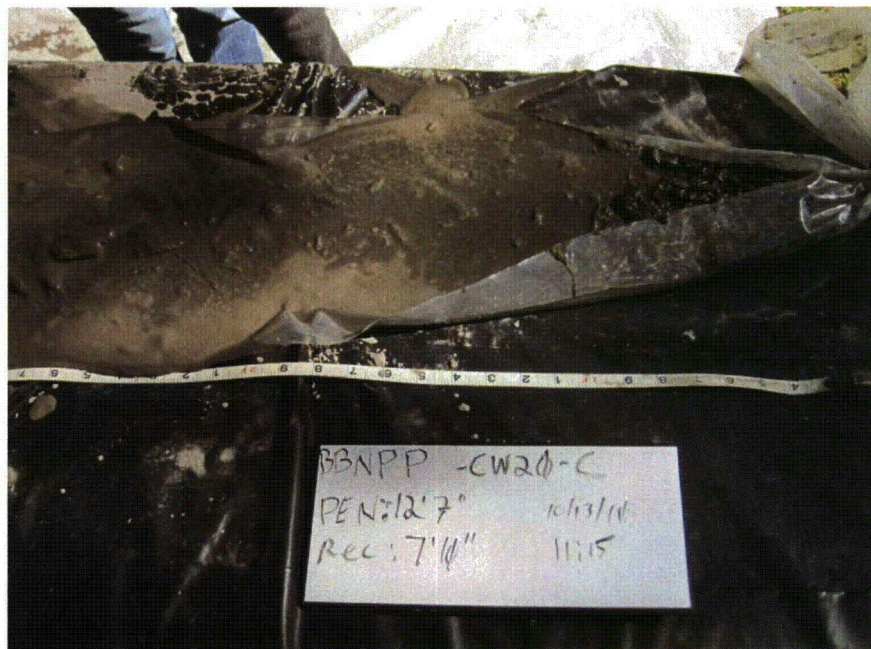


BBNPP-CW-19-C, Bottom Middle Section



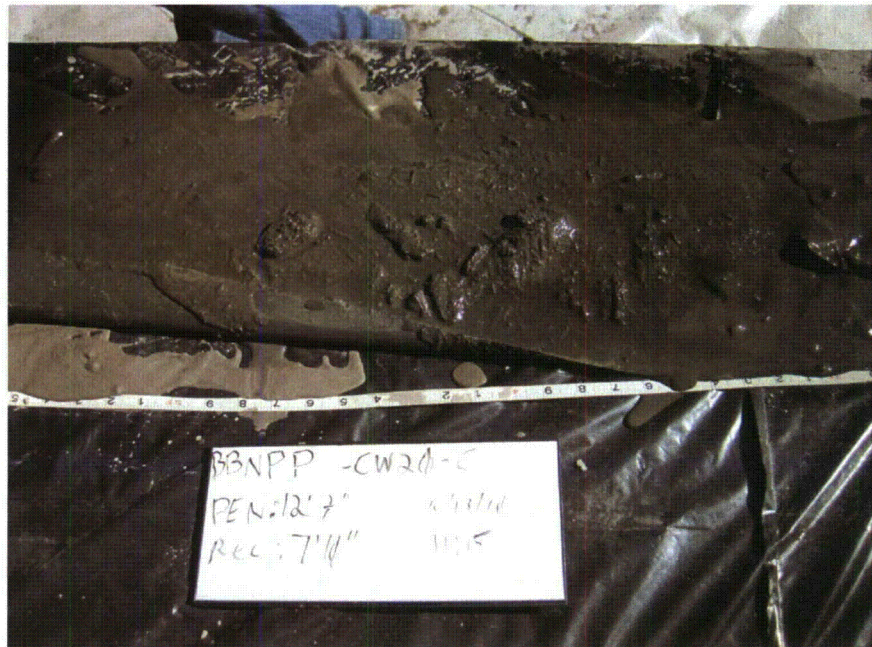


BBNPP-CW-19-C, Bottom Section



BBNPP-CW-20-C, Top Section





BBNPP-CW-20-C, Middle Section



BBNPP-CW-20-C, Bottom Section



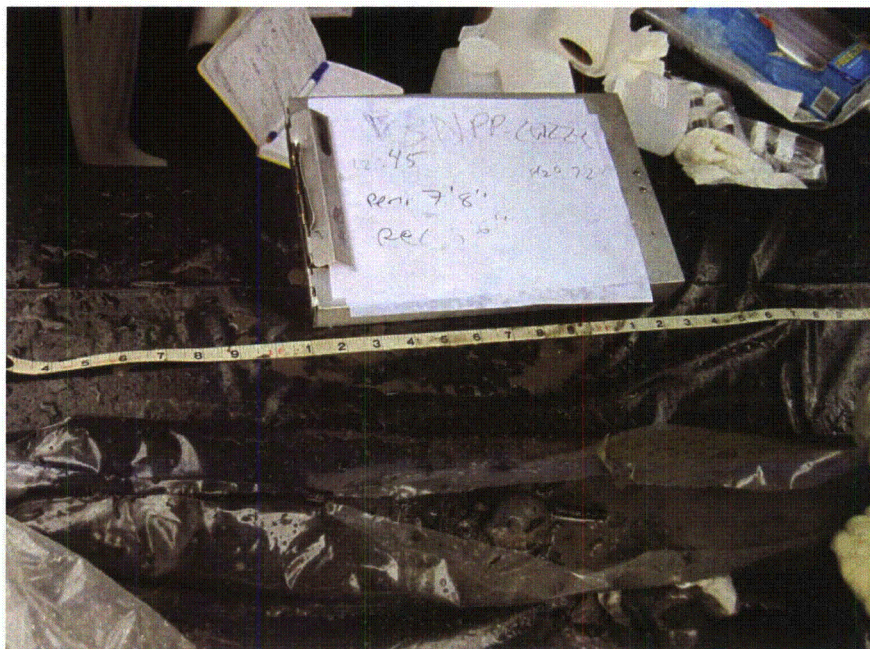


BBNPP-CW-21-C, Top Section



BBNPP-CW-21-C, Bottom Section



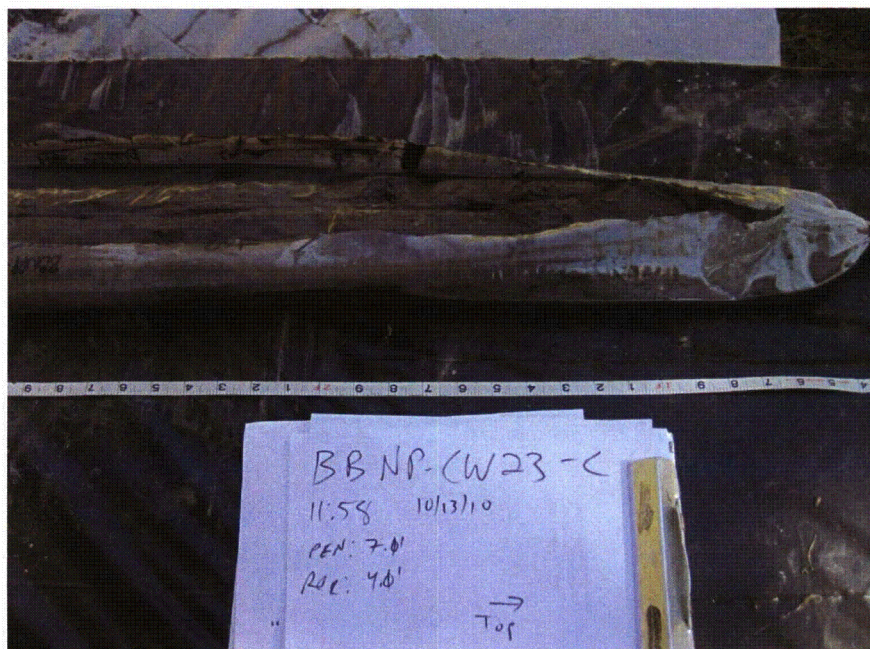


BBNPP-CW-22-C, Top Section

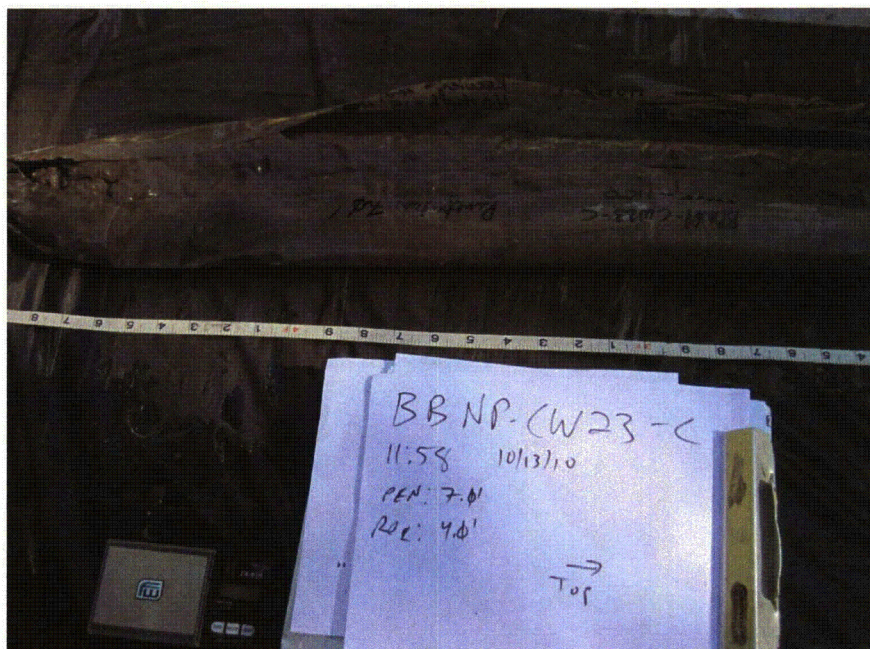


BBNPP-CW-22-C, Bottom Section





BBNPP-CW-23-C, Top Section

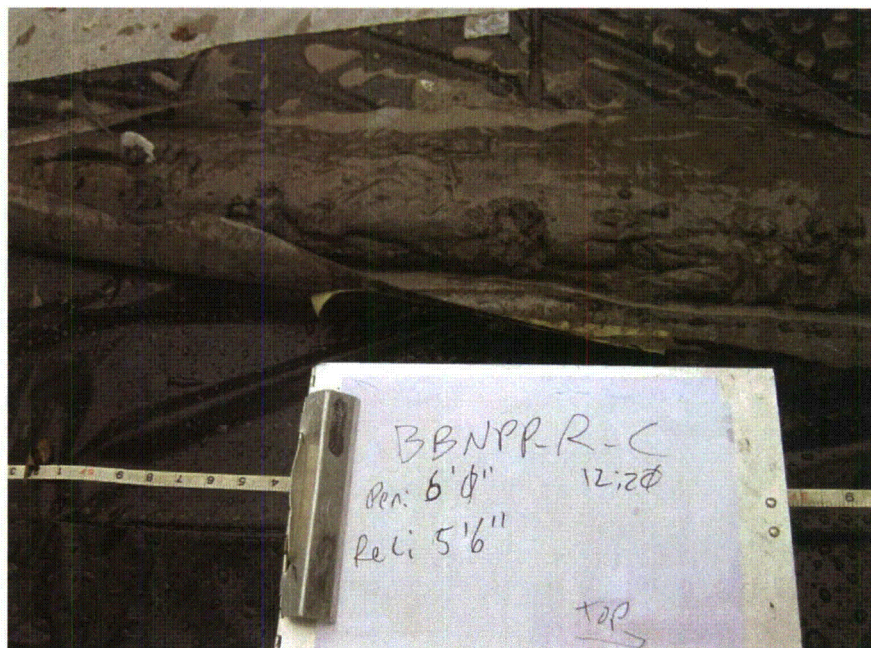


BBNPP-CW-23-C, Bottom Section





BBNPP-R-C, Top Section

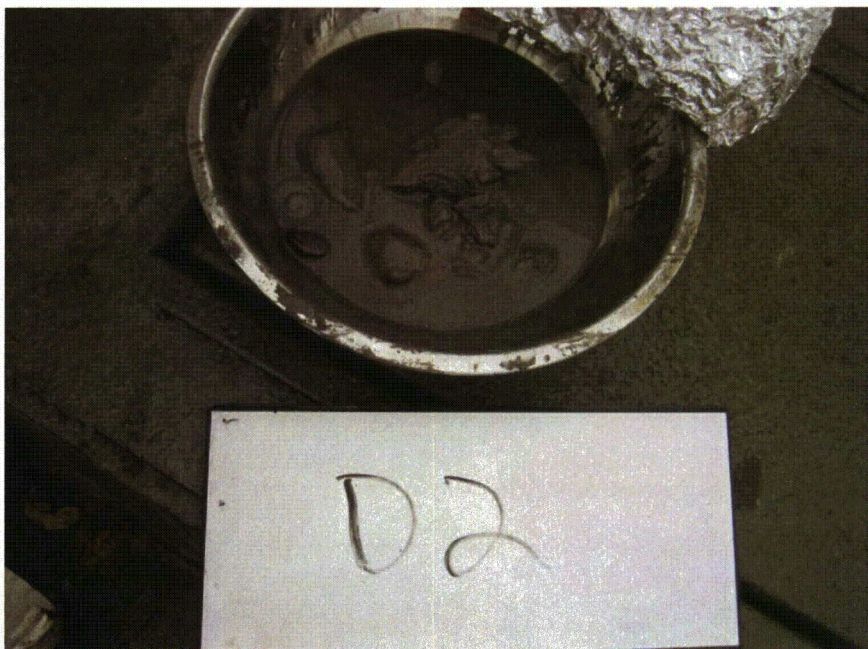


BBNPP-R-C, Bottom Section



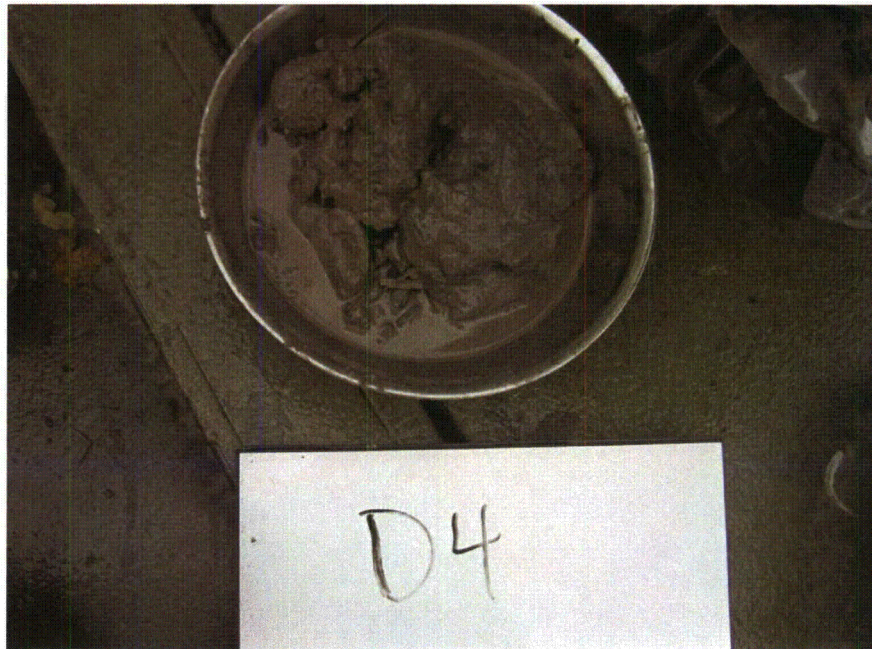


BBNPP-?

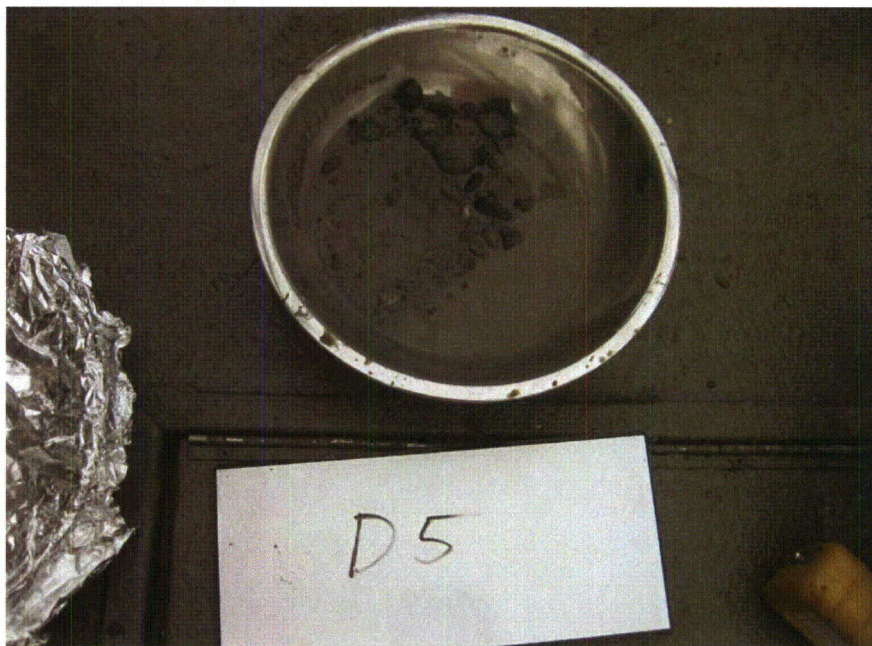


BBNPP-D2





BBNPP-D4



BBNPP-D5