

Juan de Fuca/Asia
DIVE LOG
JULY 2011

COMPUTATION NOTEBOOK

National® Brand

Department _____

Subject _____

Name _____

Address _____

43-648

75 Sheets, 4 x 4 Quad, 11 3/4" x 9 1/4"


0 73333 43648 8

Rediform Inc. • Coppell, TX 75019

Made in Mexico

Juan de Fuca / ASHES D-358 Expedition
 July 14, 2011

on station @ 1919 UTC
 TIME IN GMT

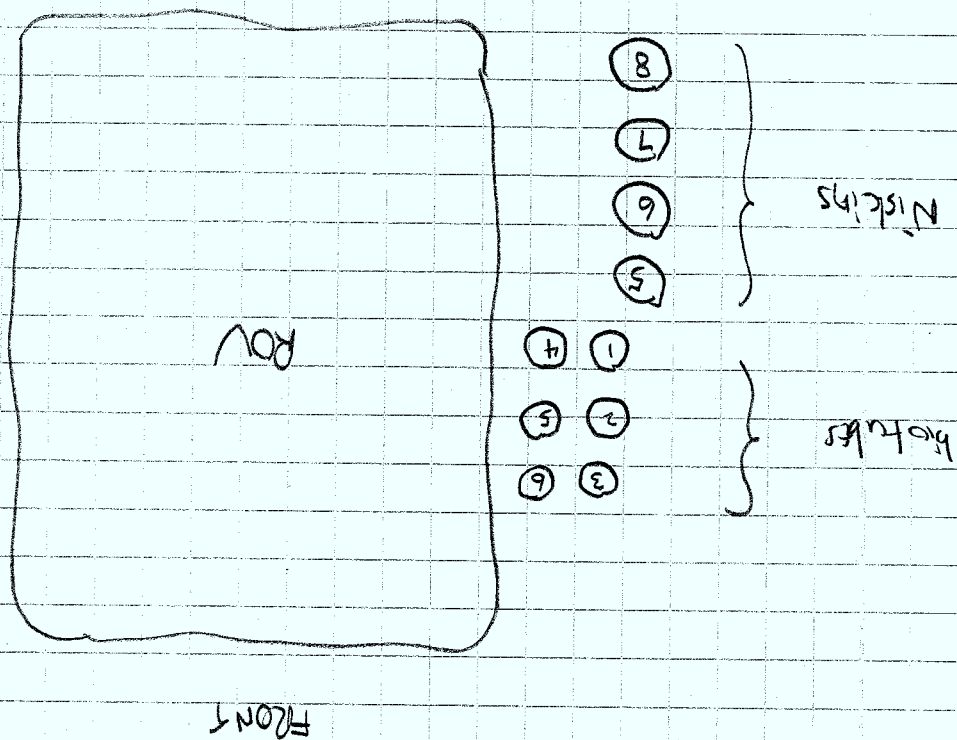
Home # 63 on
 salmon ball

D-358 launched @ 1953
 Home # 52

biotubes - filled completely

- 1 - water
- 2 - Na₂S
- 3 - Na₂S
- 4 - water
- 5 - water
- 6 - RNA later

on swing arm,
 Niskins on swing arm



July 14, 2011

Suction Sampler Cased

- ①
- ②
- ③
- ⑩
- ⑪
- ⑫

100 μ m Mesh

* Intake permanently fixed to RAV - port side, center of intake 35cm above base of tool sled

- ⑦
- ⑧

500 μ m Mesh

- ④
- ⑤
- ⑥
- ⑨

1mm mesh

not used

* procedure 2 min at 20% 2 min yields about 60-70 L if clogging reduce time, but record duration

* three heights ① RAV on seafloor ~ +35 cm

② 1 m above seafloor

③ 3 m above seafloor

Dive DR-252

Surface current 0.5 kt to NE

$t = 2022$ RAV in water { Lat 45 56.0404 Long 130 0.7968

2024 descending CTD pump on

2042 D-350 $d = 1566m$ Benthos Modem
+ temperature probe working on seafloor

2043 ROV tracking D-558 @ d = 1547m

Jul 14, 2011

TIME	DEPTH	EVENT	COMMENT
21:20	1410	Video started.	
21:24	1536	on bottom	
21:30	1537	@ 1411	
		Heading to 1410	

Marshmallows - tube worm collection here!!
lasers 29cm

21:40 - VARS needed reboot

21:51 - Marshmallow temp - base - 7-15°C
cool & sitting

Higher temp reading 28-35°C

Found 99°C - small float out base of Marshmallow
Heading 335, 1591m

22:02 At 1410

- ① Temp measurements 24°C max
- ② 10-24°C
- ③ Temp in 205 high 24°C - above tube worms.

22:24 Heading - unnamed tape # 2 in

75 SB 0.211 130 0.8018 Near Badframe 11-14°C 15-24°C

High temp flow - Above = 66°C Inside = 135°C/14L

22:38

Heading to 1411 - bearing 240, 79m
* stopped @ Monkey's fist - near still most experiment 17°C
* 45 St. 600m, 130.8189 1540.8m 13-33°C - good site

@ 1411

- measuring flow near marker 68 @ base of well 20°C max

July 14, 2011

DR 252 notes

23.19

going back to Marshmallow 940C flow

Temp probe 2nd time.

200 emitting from grey area only 11°C

Tap #3

Same where later

Not enough flow -

going to the warm - due south 32m

Temp measure next night 20C
Homer deployed = #63

Niskin bottles = (3) 8d 7 + 1 piped @ 23:54 66

#7 top did not seal

Moved #6 Niskin into position - 23:55-50

Bumped #7 to get seal.

23:59 - going to get ESP. (ESP has Homer #52)

00:10:36 found ESP 1537 45.56 66.4

136 0.8533

July 15, 2011

00:15 ESP grabbed

Moving to ESP hole to the

Arrived at the deployment site

looked for Homer

Changed tape to #4

Not finding the Homer. 33 found it.

back to the ESP

ESP grabbed for temporary site to moving

back to Homer 63 site

ESP placed

Turning around the ESP

Preparing to connect, shift Reuter and talk to USMS

but not starting of the way

Concurs about not within too close, but decided to do

1:02 Checking if ESP is not in hot water

Background will be 2 in over a small
diffuse glow as small charges that background
will be charged -> Decided OK

1:06 Gelled corner
1:07 Connected
1:08 Shared connection
1:09 Power ON
1:12 Not connections

Has direct connection

1:15
1:21 Contact
1:24 Connected to KWH

Turbo on

Reg A

1:28 Opening drawers

Tape #5

1:34 Placing dummy plug on ESP connection
1:37 Abandoning having to place the dummy plug
no plug in 12 drawer

1:38 Grabbing 15 sec 5 out of drawer

1:42 15 sec 12

1:45 11 3

1:46 11 6

1:46 11 7

1:48 11 8

1:48 damaged 2 comm. back cabinet

Waiting for ESP test to finish

1:52 Clean drawers

1:53 While waiting for ESP, preparing to take water sample

1:54 Starting suction at 20% ①

1:56 Stopped

1:57 Stopped

2:01 115 off

2:02 ESP mission started

2:03 Program to wiring

2:04 Relays up ready

2:05 ESP disconnected

2:06 ESP connected to battery pack

2:07 battery back of drawer
 09 " " deployed
 10 " " ON
 12 off ground
 02:13 END of DIVE 252

7-15-11

1351 in water at 0600 local (1351 UTC)

4 Gulpers buried in drawer
 • clean scoop

14:03 Taking right arm to problems. Same as yesterday
 and Gulpers require two arms

14:06 =D Stopped during
 14:16 Decided to buy the EOT back up to exchange arm

END of DIVE

DR-254 7/15/11

16:10 Shoring Dike
 16:58 ESP detected
 17:12 Bottom should Top #1
 14 looking for the ESP
 14 found ESP
 19 turning around the ESP
 20 preparing to clear the area for positioning the wand
 taking 15mins 2
 moving the wand to move all of them out of the way
 (no in front of tray and not on-chains)
 24 Mavis 15mins 7
 25 opening the drawer to get the scoop
 22 Problem getting the scoop can
 Great good seedings 15MS Pure on signal

17.27 We are too close moving ROW to be able to open trays. Turn tray around

1:30 Confusion FIVE ON on 15th
 Tray open or the inside of the is open
 Tenting to get the scoop, but seems higher.

36 grabbed the row scoop
 38 lost the scoop
 39 grabbed it back by the rope

40 tried grab scooping but not working
 so trying to get it on handle
 so try later with suction sampler

42 Scoop back into tray
 Preparing to poles is done

45 2 in drawer (1 already there)
 and as in the room to me

48 2 in drawer
 and as in the room to me

50 2 in drawer
 and as in the room to me

55 2 in drawer
 and as in the room to me

58 2 in drawer
 and as in the room to me

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18:07 ~~Prepares~~ to go to the diffuse flow site where the wand will be positioned and just cleaning it for the worms

18:13 Isma may be on the way to grab the wand looking at diffuse flow

5 Attempting to take out of the burger holding the wand doing it while hovering

20 The last burger moves a bit the ESP

21 Preparing to grab the wand

24 Trouble getting the last burger, Row sitting on something made Row moving a lot, trying to grab wand from central handle

25 Moving to diffuse flow

33 as keeping wand in left arm and with right arm clearing the area one hand full grab of worms

34 Preparing a measure and trying to place the cleared worm in the tray = take worm ①

38 Worm in tray, back left

38 taking T probe as I on the worms, moving to red worm

45 Placing the wand, while holding the T probe at the 27C spot

placed the wand, but possibly away from the T probe

49 wand down

- series of images of wand 01:45:43 to 01:48:22:29

19:16 ESP played in Live camera

- down loaded data - ran test w/ mass spec first over so swapped ESP batteries

20:05 battery on @ 20:13

20:18 ym tape started

CH₄, H₂S, CO₂ got spectral Δ to pump from wand

22:54 Trying getting what hovering from upper part of

mushy mallow, in between two snags

a landfall into bioturbator

abandoning fly to place it into bioturbator

→ too much lost → in bioturbator
→ taking up a path of worms that fill
while moving the area, also in bioturbator

23:04 Now: (1) trying to get scudflies, or bacterial (water mites)

(2) Mites or water mites, close to mites site.
(3) suchon sample

→ Suchon samples seafloor, 1m, 3m above diving

Nicklin 8 at base of Muslinallow

Seafloor samples covered 2 2min bottom seafloor

Suchon sample 3 at 20%

Suchon sample 1 suchon sample

Start bottle 12 covered suchon sample 1m above seafloor

Start bottle 11 covered suchon sample 3m

23:33 Dave taking over for rock sampling
Nicklin 6 at top of muslinallow

Tap #7

Moving SE

23:52 Moving margin to find dead flow for water mites

23:55 looking for small piece of pillow to collect
58 Margie difficult to distinguish, looking around

23:59 trying to collect with #2
00:02 D254-R1 broke here

04 trying to collect corals etc, breaking apart

06 main North

08 D254-R2 basaltic lava sample bed of the driver
10 going NE
14 more sediments, hydrothermal?

16 coming up
End of Dive

7/17/11 Dive 256

13:52 going down

14:25 reached bottom, disoriented on the cap
turning around ESP for good or

14:30 landing a foot of bottom good to connect to ESP
Preparing to change ESP and download data

34 Turning off battery
36 Preparing to disconnect
ROV coding a bit

39 Moving bp
consider in the battery pack window as move bp & disconnect
to far = D first try to place the

40 Prop to disconnect
bp moving in position bp
trying again to disconnect

46 Grabbing connector by the yellow cord
47 unattached
48 connector grabbed by the left arm

49 Retaining to plug into ROV connector
51 ESP connected to ROV

#4.52 RFT shift

53 moving to connection out of the tray
55 connection on the 8th floor

55 Power to ESP ON

52 Power to ISMS ON

59 connected into igobox

15:00 Turbo ON

01 Stopped Tape recording
13 Stopped

15 stopped "

13:25 ISO 13:25

ISMS igobox line UTC 15:25

Local 8:25

15:30 changed igobox time to local

16:03 Start recording

diffuse fluid close to ESP

→ one leg of ESP with a narrow well
diffuse flow, close to background noise

16:10 Stopped Tape

19:45 Tape on for 30 minutes

20:14 END TAP #1

20:47 TING Closing exp.

2 voltage readings w/o external power
turn on + look @ readings

20:53:16 GMT 48 power off

21:02:43 GMT 48 power on

22) we had dropped to 46.3 - 46.5 w/o 48V
w/ 48V, we are up @ 47.2V

22:42 Tape #2 on

22:46 Turning off 48V. Preparing to disconnect

ROV

53

Connector on drawer ROV

54

Plugs into beam bp

57

ESP connected to new bp, still at day

58

Moved old bp to the side to have space to place

58

Grabbing new bp from tray

23:00

ROV Drifting away due to decrease in weight

01:20

bp hauled on

(bp off the tray)

⇒ moving the connector out of bp window

03

connect to off the bp

⇒ moving to recover old bp

05

Still to recover bp

08

bp on drawer

⇒ Preparing to recover ~~new~~ plate

(plate labeling)

ESP wand, not turned

⇒ Turning around the vent to reach the plate (Phoenix)

13

celling one of the plate in flashlight

flying back, waiting to clear

16

ROV landed, (starts opening the bio box)

17

Placing plate into bio box

⇒ Not filling! ⇒ recovery

pushed to what we have

20

Moving closer to ismors

21

Recovering ismors

22

Clearing bio box

Arrived at marshalling for ismors recovery

lot of prob on floor

32. Comparing to recreator
33. Opening bio box
lanes 3 and 12

33	Opening	15 sec 12	recovered
35	bio box		

(mat inside 2)

36 Requiring issue 3 → Deeply it hgt to see in lot of mesh and pain communication the funeral

80
15 Mac 3 in die Box
→ Klausur wieder

Summits to Drive for Safety

23.45 approx type change $\Rightarrow$ see Clague Log for details

08:05:31 PCSS NOT taken - too thin

045 tape 4 Begin

DSC-PC58 1051 3/4 from 1051 10/16/15 1051 10/16/15 1051

→ D250-PC77

DZ56-PC48 0.007

01/24 D256-246 no carbon top visible at 11/13/14

01.36 Lebate flow 2256-R2

$$+10/S \quad \leq \quad 20/L \quad 84,10$$

01:50 D256-PC51 0.000 mm offset

2011.55 D256-7259 0.005 mm (0.0001 in)

END of Doc

7/8/11 Dine 257

10:23

White balanced

25

bottom

Going to ESP

26

Shopping for a pack of tide wipers

1

Attempting to collect tide wiper from the spot

25

during crowd to land ROV

31

landed

32

Open Biobottle 2 (sulfide water)

TW#1

34

take water into

trials trying to collect more worms

38

Tube work #2 into diver's (3x grabbers)

43

back on control to ESP

43:38

AT ESP side

48

Grabs to recover loose plate, picking up a loose plate (could pull off after)

53

grabbing (SMAC #2)

recovered and ESP base

5:00

Tried to collect sample @ 1MAY 248 spot. No luck surface for rigid.

5:04

Hydrothermal vent nearby (think the only)

5:07

Sulfide sample w/ scoop - could not get good angle.

5:21

Putting into Biobottle #3 has material

5:28

Tape #2

5:31

Sampling more saphides

5:33

Getting sulfide piece located off chimney - put in scoop.

5:44

Finished sampling saphides. Bio Tube #6

older sulfide w/ modest dust flow

7/18/11
D2257

15:19 sat Niskin #7

Knocked off Amt #8 in sampling have to reposition
#7 1603 was closed.

1606 Repositioning 1 sample & over its previous
location

1608 Headed to Marsh Mallon

1, 2, 3 & 6 bottles are filled

1610 at Marsh Mallon

1628 → Sulfide chunks broken off back of
Marsh Mallon placed into bottle 5

Some diffuse flow coming out of
opening @ sampling location

Temperature measurement at sulfide
sampling location
302
2-9.80C

16:48 Sulfide sampling from Marshmallon vent
Bottle #9 closed bottle

17:05 Recovering 2 ISMATS Mushroom Bay

#2
#10 (17:07 GMT)

17:14 Niskin #8 - better sample
Niskin #5 - on outer edge of mat

17:20 Deploy ISMATS #4
- Did not deploy funnel cracked.

7/18/11
DE257

17:25 Sulfide sampling back @ Marshmellow chimney site
17:32 Adding to Bio tube #4
17:35 Tape #4 started
17:41 After temp measurement at Sulfider @ sample site (Sulphides)
2nd measurement 2-3C range.
17:41 Blue Microbial mat visible @ base of Marshmellow
17:48 Stowed scoop
17:50 Blue mat w/ scapiders
17:53 Heading to ESP to plug in for battery charge
17:57 @ 550 battery pack
8:01 battery off
8:03 battery unplugged.
8:08 ESP plugged into vehicle - power off.
8:12 48 volts on
8:14 Mass spec on
9:00 am mass spec turned off (local time)
9:07 v. of battery
Charles turning mass spec on
8:38 tape #4 FINISHED
10:07:18 TAFE #5 on for a bit
11:28 Light off
11:30 TAFE on
11:32 on wire
11:32 on tube's lower scan area
11:32 Charging finished

00:06 Moving all bp away to pretarls, for battery swap

10 Connection on ROV and secured

11 Disconnecting from ROV and plugging into new bp

12 Moving new bp to pt of tray

14 Temp probe caught on bp

15 bp on seafloor, turning on pump

16 Placing back Temp probe

17 Moving camera out of battery tray

18 Picking up old bp

19 Old bp on tray

20 Moving to take picture of the site

21 Giving power on camera because of a shift in power

22 End of Dive

7/19/11 Dive DR258

14:32

Reeled bottom

Reels towards ESP

Reeled ESP, looking for Gulper

Found Gulper

Recoiling Gulper

All four Gulper in bio box

Reeled Africanus for ISMIS recovery

Preparing to deploy ISMIS

#4 on the nice fluid

Recovering #9

Deploying ISMIS #1

Recovering ISMIS #5

Deploying ISMIS #11

Reeling all facing Muskegon

Tube worm grabs from Muskegon vent structure

@ ESP Deploy vent site

getting more tube worms - tube worms not impressive

going for sulphas instead

Acquired scoop

Collected sulphas from vent @ ESP site

guthy in bio box #2

TARE #2

15:42	Going for another round of sulfide collection	
47	collected from soil of milk smelter at base of mountain ^{phoenix}	
53	Trying to wait to break down into scorp	
	Grabbed a big chunk & flying away to land somewhere	
	to fill it into bottle #5	
	Abos chule in #5, not quite it to #6	
	Small piece in #3	
16:27	WAS crushed, resistant, place Tape #3 is to start from a fresh box	
	Labeling Nubus #8al with number at base of mountain ^{phoenix}	
	having trouble because of the current, ROV moving.	
34	trying to get into flow	
42	Nishi 8 fixed, seeing flow going out of the top	
	landing in fixed of isna 8 for recovery	
44	isna 8 recovered	
45	looking at mark left by isna. seems like limbs without	
48	Sort to grab some nerves	
55	landed close to ESP, sort of ESP	
57	big bunch of worms collected, into bio box	
	fine quality, moving ESP	
17:03	Preparing to fire a nubby when the background behavior in bit	
	of the ESP.	
	Plan: sitting below the night, waiting for animal to show	
	and while sitting to the right of and living	
17:11	going to try to ESP	
	Plan: landing & connector to battery leads	
	slowly, this ESP to ear	
17:15	bp off	
21	Stomach bp	

17:24 bp on way
 Disconnecting from bp → connecting to ROV
 26 68 V came on
 29 TAP 4 in, not

18:18 Stop 15m
 20:34 Stop 15m
 20:55 Preparing to purging
 21:00 ESP disconnected

21:00 Connecting on blowers
 Repairing to show ESP connector
 Moving ROV closer to ESP

→ checking deep well release
 as we could be in the way
 Moving camera to deep well
 13 to find so being it on the bottom
 17 Picked up sampling wand
 as lot of pollen + material
 + most of the
 stream
 but all some for sure

24 Moving southward a ESP
 26 sand into support
 32 " " second, moving around to show the
 45 left and middle buoys secured
 50 take secured

→ moving to fine ridges over the fluid
 that was sampled with the sand

21.59 N7 find just over fluid where scaly used as
 sampling worn around 12 fluid
 22.02 prepare to take section sample
 05 covered 182 OM
 07 in off
 10 2 off
 12 covered 3
 14 off
 15:43 " 12
 18:41 " 11
 21 " 10
 21.5 moving back to ESP for charging
 28 back to ESP for charging
 22:30 plugged to R/R
 31 covered off day
 0034 U&V ON
 Pure off, covered on driver 15. Jan it original
 location until during the next day
 ESP covered secured on elevator during day
 52 Pulling out the recovery line
 55 Working to see if connections with ESP use correct
 56 Picked up the Homer
 2 End of Day

