USGS DREDGE LOG

SHIP/LEG 91-AV-19/2

STATION # 3

DREDGE # 1

DATE JD 133 LOCAL 5/12/91

TIME GMT 0038 LOCAL 0544

m-off Bottom

DEPTH INTERVAL(m) 1809-1842

DEPTH(m)corrected 1800-1809

LATITUDE 16°39.663' TO 16°40.233'

LONGITUDE 168°19.760' TO 168°16.962

TOTAL WEIGHT: DREDGE 60 CRUST

PERCENTAGE OF ROCK COVERED BY CRUST 99

PERCENT BROKEN FROM: OUTCROP 20 TALUS 80

THICKNESS OF MN CRUST: MAXIMUM 80 MINIMUM 10 AVERAGE 40

DOMINANT SURFACE TEXTURE Botryoidal

SUBSTRATE LITHOLOGY hyaloclastite, phosphorite

NODULES PRESENT NONE

REMARKS:

Lev Took piece immediately

1 boulder-elongate, Talus, DI-1

most of other fragments of crusts broken from outcrop but probably from plate - inner mn's may be missing - some outer mn's also missing

USGS DREDGE LOG

Depth Interval _____ Julian Date 133

Cruise I.D. VZ-91-CP / 91-AV-19 Local Date (m/d/y) 5/12/91

Station No. #2 Chief Scientist Hein / Bychkov

Dredge No. #1 Tech on Watch Gunny Smith

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	133/0038	133/0241	133/0458	133/0544
LATITUDE	16° 39.511'	16° 39.663'	16° 40.233'	16° 40.936'
LONGITUDE	168° 20.451'	168° 19.760'	168° 16.962'	168° 16.909
WATER DEPTH	2200	1809 ↳ Hit at 1900m	1842	1810

Site Description and Target : Water depth of 2200 to 1900m

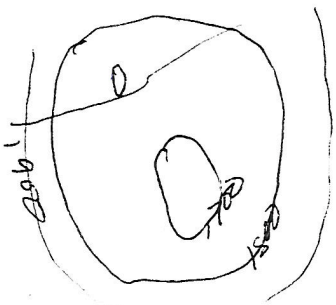
OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in H2O	0038	2200	—	—	—	With a big bang
Paying out wire	0100	~~2500~~ 300	1050(m)			Routine
Paying out wire	0117	~~3200~~ 3020	1600(m)			will payout 1900m
"	0120	3070	1830m			of wire + stop until
Stopped wench	0120	3060	1900m			ship is in correct
						location
Started wench	0210	1930	1900m			started + then stopped
↓						wire until 1910m
						of water, will payout 50
	0212	1910	1900m			Restarted wench
	0218	1890	2105m			Routine
	0232	1830	2200m			"
Dredge on Bottom	0241	1809	2465m			Dredge called on Bottom
Small Bite	0252	1810	2465m			
			~~2515~~			
Small to: No Bites	0302	1850	2515			~~Paying more 50m wire~~
Big Bite	0315	1840	"			Big Bite Broke off
~~Fell off~~			OOR			

*on/off bottom, bites, etc.

OTHER COMMENTS:

2000 × 1.2 = 4000 + 20000 = 24000 m wire out?

2200 × 1.2 = 4400 + 22000 = 2640.0 m



OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Big Bite	0320	1825	2515			
Bite	0322	1820	2515			none discrutive
Bite	0324	1815	2515			
Bite	0326	1806	2515			
"	0327	1805	"			
Bring in wire	0332	1804				Bringing wire in 1-2m/m
Routine	0345	1800	2450			Routine as above
Routine	0400	1780				
Routine	0412	1770	2245			Holding position and pulling in wire
			Wire out meter in doghouse is not correct more wire out possible			
Small Bite continue	0427	1750	2179			small bites by Ranson
Hung up	0444	1811	1843m			
Back off	0447	1820	2118			
Routine	0456	1840	2000			
Dredge off	0458	1842	1800			Dredge off bottom
Raying wire	0521		1400			
	0530	wire out unknown dredge broken				

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG 91-AV-191z

STATION # 5

DREDGE # 2

DEPTH INTERVAL(m) 4880-4710

DEPTH(m)corrected _____

DATE JD 134 LOCAL 5/13/91

TIME GMT 0533 LOCAL 0900

LATITUDE 16°32.844' TO 16°34.250'

LONGITUDE 168°29.055' TO 168°27.808'

TOTAL WEIGHT: DREDGE _____ CRUST _____

PERCENTAGE OF ROCK COVERED BY CRUST _____

PERCENT BROKEN FROM: OUTCROP _____ TALUS _____

THICKNESS OF MN CRUST: MAXIMUM _____ MINIMUM _____ AVERAGE _____

DOMINANT SURFACE TEXTURE _____

SUBSTRATE LITHOLOGY _____

NOTHING

NODULES PRESENT _____

REMARKS: _____

USGS DREDGE LOG

Depth Interval _____

Cruise I.D. 91-AV-19/2

Station No. 4

Dredge No. 2

Julian Date 134 (5/13/91)

Local Date (m/d/y) 5/13/91

Chief Scientist Hein/Bychkov

Tech on Watch Ginny Smith

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	134/0241	134/0533	134/0900	134/1109
LATITUDE	16° 31.290'	16° 32.844	16° 34.250'	16° 33.830
LONGITUDE	168° 28.826'	168° 29.055'	168° 27.808'	168° 29.182'
WATER DEPTH	5100 m	4880 m	4710	

Site Description and Target : Start at base of Ridge (5000m) and dredge upslope to 4600-4700m (Top of ridge)

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in H2O	0255	5100		—	—	Dredge in H2O
Routine	0315		517m			Paying out wire
Routine	0344		1880m			"
"	0400	5060	2550m			— "
"	0430	4940	3790			— "
"	0500	4920	?			— "
	0522	4880	over 5000			"
Dredge on Bottom						
stopped ship	00216	4525	(6100 m. (max)			Reeling in wire
Routine	0652	4470	5900m			"
"	0715	4570	57-5800m			"
stopping ship/holding	0720	4600	—			"
Bites	0734	4580	5500			"
Routine	0741	4600	5440			"
"	0800	4670	-			"
	0830	4690				"
Large bite	0842	4700	4940			"
off Bottom	0900	4710	4700			Off Bottom Reeling in

*on/off bottom, bites, etc.

OTHER COMMENTS:

1300 m 1/2 hour

5100
1.2
10200
5100
6120 m of wire out

4600 - 4500

OPERATION*	GMT	WATER DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Reeling-in			~~3200m~~			
	0930	4730	~~4730~~	3800 wire out		
	0950	?	3200 m			
	1006	4730 M	~~4730 M~~	2400 m	wire still out!	
almost in	1054			630 M		
Dredge on Deck						
	1109	4920	~~4920~~			

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG 91-AV-19/2

STATION # 6

~~DREDGE~~ # CAM 1

DEPTH INTERVAL(m) 4520 - 2300

DEPTH(m)corrected 4200-3600

DATE JD 134 LOCAL 5/13/91

TIME GMT 1230 LOCAL 1835

LATITUDE 16°34.061' TO 16° 36.211' N

LONGITUDE 168°25.664 TO 168°19.762'

TOTAL WEIGHT: DREDGE 10 CRUST <1

PERCENTAGE OF ROCK COVERED BY CRUST 100% that was exposed

PERCENT BROKEN FROM: OUTCROP 70 TALUS 30

THICKNESS OF MN CRUST: MAXIMUM 10 MINIMUM 2 AVERAGE 5

DOMINANT SURFACE TEXTURE Current smoothed - Lizard skin

SUBSTRATE LITHOLOGY 75% Breccia 2 - 25% basalt 12 cobb

NODULES PRESENT NONE

REMARKS: Rocks + gravel (disaggregated Breccia) from Camera Sled -

USGS DREDGE LOG

SHIP/~~LEG~~ 91-AV-191 2

STATION # 7

DREDGE # 3

DEPTH INTERVAL(m) 2460-2480

DEPTH(m)corrected 2600-2500

DATE JD 135 LOCAL 5/14/91

TIME GMT 0500- LOCAL 0846

LATITUDE 16°33.975 TO 16°35.544

LONGITUDE 168°21 TO 168°18.754

TOTAL WEIGHT: DREDGE 15 CRUST ≈ 10

PERCENTAGE OF ROCK COVERED BY CRUST 100

PERCENT BROKEN FROM: OUTCROP 100 TALUS 0

THICKNESS OF MN CRUST: MAXIMUM 60 MINIMUM 10 AVERAGE 30

DOMINANT SURFACE TEXTURE Botryoidal, granular

SUBSTRATE LITHOLOGY Breccia, basalt - Mn-Fe Nodule Breccia

NODULES PRESENT NONE

REMARKS: 2 Cobbles - 1 of side Crust
14 pebbles of Crust Fragments

Ridge

USGS DREDGE LOG

Depth Interval _____

Cruise I.D. 19-AV-19/2

Station No. 7

Dredge No. 3

Julian Date 135

Local Date (m/d/y) 5/14/91

Chief Scientist Hein / Bychkov

Tech on Watch Ginny Smith

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	135/0335	135/0500	135/0846	135/0947
LATITUDE	16°33.383'	16°33.975	16° 35.544'	16° 39.706'
LONGITUDE	168°21.523'	168° 21.	168° 18°754	168° 20.327'
WATER DEPTH	2700	2460	2480	3200

Site Description and Target : 2600-2500 m no shallower than 2100 - 2000

Corrected water depth 2600 - 2500 m

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
IN WATER	0335	2700	–			Paying wire out.
Routine	0404	2600	1050 m			"
"	0443	2680	2600m			"
Dredge bottom on	0500	2460	3185m			on "station" Paying out w
Steaming!	0506	2600	3400			all wire out holding
upslope						till we reach dep
	0528	2640	"			
Routine	0601	2420	"			
"	0627	2200	"			Dredging upslop
Paying wire in	0642	1960	"			"
"	0658	1960	2700 ?	wrong wire out		10.7 m/min wire in
"	0704	1960	3240			"
Bite!	0711	1960	3190			"
Small Bites	0717	1960	?			"
Large Bites	0723	1960	3130	High		Continuous Bite's
Broke tension	0730	1960	3070	low		
Med. Bites ?	0742	1955	3000	Mod		(reduced speed slightly
Reeling wire in	0749	1950	2950			Sediment Dredge

*on/off bottom, bites, etc.

OTHER COMMENTS:

2600
1.2
5200
26000
3120.0

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Small depth	0804	1920	2830			
Bite	0816	1980	2750			
Bite	0817	2000				
Hungup	0818	2200		High		Possibly hung up
Hungup	0822	2180	2720	"		
"	0825	2160	2700	"		
"	0828			Vry High		Maxed out Tension motor
"	0831	2280	2650	low		Backed down
	0834	2330	2600	low		Reeling in wire
	0839	2420	2550	low		"
	0845	2450	2500			"
off Bottom	0846	2480	2470	—		"
Reeling in wire	0935	3100	600			"
Dredge on Deck	0947	3300	—			

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG Vinogradov / 2

STATION # 10

DREDGE # 4

DEPTH INTERVAL(m) 3300-2900m

DEPTH(m)corrected 3300 - 2900m

DATE JD 136/137 LOCAL 5/16/91

TIME GMT 2219-0453 LOCAL 1219-1653 pm

LATITUDE 16°34.025' TO 16°36.671'

LONGITUDE 168°23.714' TO 168°22.001'

TOTAL WEIGHT: DREDGE 200 CRUST ?

PERCENTAGE OF ROCK COVERED BY CRUST 100% w/ Patina

PERCENT BROKEN FROM: OUTCROP 10 TALUS 90

THICKNESS OF MN CRUST: MAXIMUM 35 MINIMUM Patina AVERAGE 10

DOMINANT SURFACE TEXTURE Smooth, granular

SUBSTRATE LITHOLOGY 90% Basalt 10% Lms-phosphorite

NODULES PRESENT 20%

REMARKS: 1 huge basalt boulder w/ patina on one side
bucket full of cobbles - mostly basalt w/ patina
¼ bucket of nodules + thicker crust fragments

USGS DREDGE LOG

Depth Interval 3300 – 2880

Julian Date 136/137

Cruise I.D. V2-91-CP

Local Date (m/d/y) May 16, 1991

Station No. #10

Chief Scientist Hein / Bychkov

Dredge No. No. D4

Tech on Watch Ginny Smith

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	136/2119	136 2330	137/0340	137/0453
LATITUDE	16° 33.610'	16° 34.025'	16° 36.671'	16° 37.202'
LONGITUDE	168° 23.915'	168° 22.714'	168° 20.001'	168° 21.910'
WATER DEPTH	3400	3300	2880	3730

Site Description and Target : Intended Interval 3500 to 2500 m
16° 32.5' 168° 24'

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
on station	136/2119	3400				Deep H_2O
Dredge in H_2O	2127	3500				
Paying out	2245	3515	3000 m			
"	2300	3470	3470 m			
Dredge on Bttm	2330	3300	4500			
Dredge off bottom	137/0000	3350	"	None		
First Bite	0016	3220	"			
—	0049	3100	4600 m			Put out more wire
	0100	3020	4600			
	0118	2800	4600			ON Low H_2O station
Reeling	0125	2710	4600			
	0137	2730	4500			
	0149	2750	4400			
Small Bite	0153	2790	"			
More Bites	0154	2790	"			
Linear Bite	0155	2790	"			
Broke off	0205	2750	4300			
	0218	2730	4200			

*on/off bottom, bites, etc.

OTHER COMMENTS:

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
No Bite	0221		4100m			
Small Bite	0229					
Small Bite	0231	2760	4000 (0232)			
"	0239	2780	3940			
Broke off	0241					
Routine	0244		3900 (0242)			
"	0249	2680	3700			
"	0304	2660	3600			
"	0316	2860	3400 (0323)			
"	0333	2960	3300			
"	0335		3000			Full speed Peelingin
off Bottom	0340	2880				off Bottom
Routine	0400	2520	2300			
off station	0453	3730	—			Dredge on Board
Dredge on Board						

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG Vinogradov 19/2

STATION # 11

DREDGE # 5

DEPTH INTERVAL(m) 4360 – 3840

DEPTH(m)corrected 4300 - 3900

DATE JD 137 LOCAL May 16, 1991

TIME GMT 0836-1325 LOCAL 2036-1125

LATITUDE 16° 31.81' TO 16° 34.5'

LONGITUDE 168° 25.42' TO 168° 20.9

TOTAL WEIGHT: DREDGE 120 CRUST 80

PERCENTAGE OF ROCK COVERED BY CRUST 100%

PERCENT BROKEN FROM: OUTCROP 10 99 TALUS 90 1 with nodules or Talus without nodules

THICKNESS OF MN CRUST: MAXIMUM 35 mm MINIMUM Patchy AVERAGE 25 mm

DOMINANT SURFACE TEXTURE Smooth

SUBSTRATE LITHOLOGY Basalt

NODULES PRESENT 80% small nodules

REMARKS: 3 shark's teeth

1 pillow-basalt fragment (small boulder) few basalt cobbles rest small nodules

USGS DREDGE LOG

Depth Interval 4500 - 4000

Julian Date 137

Cruise I.D. V2-91 - CP

Local Date (m/d/y) May 16 1991

Station No. 11

Chief Scientist Hein / Bychkov

Dredge No. D5

Tech on Watch Yuei Maktynov

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	0633	0836	1325	1700
LATITUDE	16° 30.89'	16° 31.805'	at 1330 16° 34.5'	16° 36.6
LONGITUDE	168° 26.10'	168° 25.617'	168° 23.5'	168° 20.9'
WATER DEPTH	4810	4360	3840	2950

Site Description and Target : 4600 - 3900m taegeted depth
at 4600 meters wire out we will start to move up slope while laying down wire

Recovery from 4300 - 3900

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
ON BOTTOM	0836	4360	4480		91.5/0.9	Payout wire to 6000m
	0900	4110	5400			still paying out
	0937	3900	5733		58.4	Stopping payout of wire
	1000	4350	5713			Heading Back Up
	1021	4350	5705			Continuing Upslope
	1040	4180	5705			Continuing Upslope
Reeling in Wire	1045					
Small Bite	1050	4000	5660			
Continuing Small B.	1054		5639			
	1110	3940	5559			We will hold station again @ 390
Big Bite	1125	3940	5516			Broke off at 5500m wire
Bite	1138	3930	5455			
Bite	1140		5445			Broke at 1142, continuing small
Bite	1150	3950	5377			Broke at 1153
Large Bite	1155	3980	5349			
Bite	1202	4000				
Very large Bite	1204		5297			Broke Off 1205

*on/off bottom, bites, etc.

OTHER COMMENTS:

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Bite	1208	4000	5255			
Large Bite	1210					
Lots of Little Bites	1219	3950				
	1230	3850	~~4900~~ 5025			Slowing Down
Small Bite	1236	3820	4900			
Small Bites	1249					Continue to break off small bites
Medium Bite	1249	3850	4800			
	1254		4700			
Small Bites	1306	3770	4400			
	1317	3740	4100			
OFF Bottom	1325	3840	3650			Probably been flying off bottom Beautiful

*on/off bottom, bites, etc.

OTHER COMMENTS:

After getting above 3900 meters we had some problem communicating what needed to be done. We probably have been flying the dredge off bottom for a while. Wire angle is not very good

USGS DREDGE LOG

SHIP/LEG 91-AV-191-2

STATION # 160

DREDGE # 6

DEPTH INTERVAL(m) _____

DEPTH(m)corrected _____

DATE JD _____ LOCAL _____

TIME GMT _____ LOCAL _____

LATITUDE _____ TO _____

LONGITUDE _____ TO _____

TOTAL WEIGHT: DREDGE _____ CRUST _____

PERCENTAGE OF ROCK COVERED BY CRUST _____

PERCENT BROKEN FROM: OUTCROP _____ TALUS _____

THICKNESS OF MN CRUST: MAXIMUM _____ MINIMUM _____ AVERAGE _____

DOMINANT SURFACE TEXTURE _____

SUBSTRATE LITHOLOGY

NOTHING

NODULES PRESENT _____

REMARKS: _____

USGS DREDGE LOG

Depth Interval _____ Julian Date 138 / 139

Cruise I.D. 91-AV-19/2 Local Date (m/d/y) 5/18/91

Station No. 16 Chief Scientist Hein / Bychkov

Dredge No. 6 Tech on Watch Ginny / Jorie

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	138/ 2118	138/ 2212	139/ 0245	139/
LATITUDE	17°03.157'	17°02.879	17°06.805'	
LONGITUDE	168°19.750'	168°21.426'	168°29.309'	
WATER DEPTH	2050	1920 m	1500	

Site Description and Target : Start at 2000m to let dredge out. Dredge from 2000 to 1600m Top of Ridge

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in H_2O	2118	2050	–			ship stopped
Routine	2141	1960	950			
Dredge on Btm	2212	1920	2000m			
Routine	2233	1880	2600m			
	2236	1880	2700 m			stopped wire out
Routine	0002	1700	2700 m			Paying out 100m of wire
	0009	1465	2800 M			stopped wire
Dredging	0020	1620	2800m			Reeling in wire
"	0051	"	2734			"
"	0106	"	2600			
"	0118	"	2500	Mod		Sediment Dredging
"	0148	1520	2287			
Bites?	0200	1520	2200			small tugs.
	0213	1520	2100			
No bites	0217	"	2000			
"	0225	1510	1900			
"	0232	1500	1800			
0239 Change of		course	to 240°			– phone cable

*on/off bottom, bites, etc.

OTHER COMMENTS:

2000
13
6000
20000
2000.0

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
off Bottom	0245	1500	1630	–		Bag flying ?!?
	0300	1540	1378			
Bag on Board	0309		—			Empty

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG 91 - AV- 1 9/2

STATION # 18

DREDGE # 7

DATE JD 139 LOCAL 5/19/91

TIME GMT 1710 LOCAL 2034

DEPTH INTERVAL(m) 4870-3600

LATITUDE 17°14.0' TO 17°14.5'

DEPTH(m)corrected 4850 - 4000

LONGITUDE 168°13.2' TO 168°16.7'

TOTAL WEIGHT: DREDGE 20 CRUST <1

PERCENTAGE OF ROCK COVERED BY CRUST 070 - 100 % patina

PERCENT BROKEN FROM: OUTCROP 0 TALUS 100

THICKNESS OF MN CRUST: MAXIMUM 2 MINIMUM <1 AVERAGE <1

DOMINANT SURFACE TEXTURE smooth to granular

SUBSTRATE LITHOLOGY Basalt - 100%

NODULES PRESENT 2 ~~0~~%

REMARKS: 8 cobbles & many pebbles

USGS DREDGE LOG

Depth Interval _____

Julian Date 139

Cruise I.D. 91-AV-1912

Local Date (m/d/y) May 19, 1991

Station No. 18

Chief Scientist Hein / Byrkov

Dredge No. 7

Tech on Watch Pasha / Yuri

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	1348	1710	2042	~~3310~~ 21.30
LATITUDE	17° 13.8	17° 14.0	17° 14.5'	17° 14.9'
LONGITUDE	168° 12'4	168° 13.2'	168° 16.7'	168° 17.4'
WATER DEPTH	4950	4870	3600	3310

Site Description and Target : intended depth for dredge to be dropped 4900m - pay out wire (6300m) will Drift + Dredge for 0.7km + bring wire in

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in H_2O	1400	4950	-			
	~~1410~~					
	1608	4965	4760			Return to station Course 270°
	1617	4890	45000			stopped wire
	1631	4880	5000			still not at station
Dredge on Bottom	1707	4870	5987			
2nd Bite 1st Bite	1750	4870	6271			
1st Bite	1740	4870	6280			Payed 6280 m of wi
? Bite	1751	4790	6210			
"	1826	4500	6114			
"	1830	4300	6094			
	1836		6051			
Broke off	1847	4200	5990			
Large Bite	1853	4150	5946	90-100		Tension Almost off meter
Broke off	1856		5935			wench stopped working
Large Bite	1900		5911			
Broke off	1904	4000	5883			
	1911	4000	5774	50-60		Speed up wire

*on/off bottom, bites, etc.

OTHER COMMENTS:

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Bite	1917		5625	80		Big Bite
Routine	1920	4020	5579	"		still on
Brokeoff	1925		5496			
Bite?	1926		5490	60-80		Fluctuating meter
Brokeoff	1927		5450	"		"
Routine	1931	3950	5363	70-80		Continuous tension
Bite	1933		5343	80		
Brake	1936	-	5277	60-70		Speed the winch up
Small Bites	1945	3870	5072	"		
Bite	1955	3720	4728	80-90		
Routine	2000		4537	60-70		Bag flying?
Brokeoff	2011		4377	60		
Routine	2020	3610	3926	60		
dredgeoff	2027	3680	3341			
Bottom						

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS ~~DREDGE~~ LOG

Box core Dredge

SHIP/LEG 91-AV-19/2

STATION # 19

DREDGE # BC-1

DEPTH INTERVAL(m) 2170

DEPTH(m)corrected

DATE JD 140 LOCAL May 19, 1991

TIME GMT 0542 LOCAL 1942

LATITUDE 17°01.6 TO

LONGITUDE 165°18.2 TO

TOTAL WEIGHT: DREDGE 2 Kg CRUST <1

PERCENTAGE OF ROCK COVERED BY CRUST 100 %

PERCENT BROKEN FROM: OUTCROP 100% TALUS

THICKNESS OF MN CRUST: MAXIMUM 10mm MINIMUM 3mm AVERAGE 8mm

DOMINANT SURFACE TEXTURE Granular Botryoids

SUBSTRATE LITHOLOGY Basalt

NODULES PRESENT None

REMARKS: Box Core Plate at Bottom did not seal. All Sediment Lost.

Foram sediment on Plate Rose Bentoled 11mins after on Deck for P.Q.

ADC
4240 onto
3600 [illegible]
end of [illegible]
2980
Dredge on Board

USGS DREDGE LOG

SHIP/LEG _____

STATION # 19

DREDGE # D8

DEPTH INTERVAL(m) _____

DEPTH(m)corrected 4200-3700

DATE JD 140 LOCAL 5/20/91

TIME GMT 1044 LOCAL 0044

LATITUDE 17°14.2' TO 17°13.'6

LONGITUDE 168°13.3' TO 168°16.2'

TOTAL WEIGHT: DREDGE 75 CRUST ~25

PERCENTAGE OF ROCK COVERED BY CRUST 100

PERCENT BROKEN FROM: OUTCROP 100 TALUS 0

THICKNESS OF MN CRUST: MAXIMUM 25 MINIMUM 2 AVERAGE 15

DOMINANT SURFACE TEXTURE Current smoothed, subdued botryoidal, polished Lizard Skin

SUBSTRATE LITHOLOGY

(1) Mudstone 34% (2) Breccia 33% (3) basalt 33%

NODULES PRESENT NONE

REMARKS: 1/3 bucket Pebbles to small Cobbles & ~20 large to medium Cobbles

∴ 4 kg of pebbles discarded

No sheet
filled out
for D8

LOST BAG

USGS DREDGE LOG

Depth Interval 3000-2500

Julian Date 140

Cruise I.D. 91-AV

Local Date (m/d/y) May 20, 1991 - May 21

Station No. 20

Chief Scientist Hein / Bychkov

Dredge No. 9

Tech on Watch

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	2004	23.50	02.40	
LATITUDE	17°13'6	17°12.3	17°11'6	
LONGITUDE	168°15'7	168°19.0	168°21'1	
WATER DEPTH	3600	2800	1950	

Site Description and Target :

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in H_2O	2020	3600				
	2113	3100	1820			Return to station course 180
	2130	3020	2540			course 160°
	2142	2970	2980			Stopped wire
	2200	2760	2700			
	22.07	2730	2500			course 140
	22.29	2870	3000			
	22.30	2860	3000			
	22.41	2850	3000			course 120
	23.00	2830	3000			
	23.30	2940	3000			
	23.43	2900	3000			
Dredge on bottom	23.50	2800	3000			Course 240
	00.00	2740	3240			
	00.24	2400	3700			Payed out 3700 of wire
	30	2290	3700			Course 200°
	34	2220	3700			Course 160°
	45	2100	3660			

*on/off bottom, bites, etc.

OTHER COMMENTS:

Lost Bag

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
small 1st Bite	00.55	2020	3580			
	01.00	2010	3560			
	01.30	1990	3250			
	01.46	1950	3110			course 260°
	02.00	1940	2970			course 127
	.15	1960	2828			course 150°
dredge off Bottom	.40	1960	2080			

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG 91-AV-19/2

STATION # 24

DREDGE # 10

DEPTH INTERVAL(m) 3400-2960

DEPTH(m)corrected _____

DATE JD 142 LOCAL MAY 22, 1991

TIME GMT 1745 LOCAL 7:45

LATITUDE 17°11.2' TO 17°10.7'

LONGITUDE 168°15.8' TO 168°18.6'

TOTAL WEIGHT: DREDGE 300 CRUST 100

PERCENTAGE OF ROCK COVERED BY CRUST 100

PERCENT BROKEN FROM: OUTCROP 100 TALUS 0

THICKNESS OF MN CRUST: MAXIMUM 30 MINIMUM 5 AVERAGE 18

DOMINANT SURFACE TEXTURE Smooth, current polished granules between current smoothed botryoids

SUBSTRATE LITHOLOGY gs

Mudstone

NODULES PRESENT < 0.1 %

REMARKS: Monolithic substrate = mudstone w/ uniform Thin Crust - rare nodules

1½ buckets (≈ 75 kg) given to Neptune

Dredge in H_2O 141/ 1745

4400 m H_2O

17° 12.9 168° 15.4'

Dredge on Bottom (Wire 3800m)

141/ 1908 3400 m

17° 11.2 , 168° 15.8'

Dredge off bottom

141 / 2150 2960m

17° 10.7,

168° 18.6'

Dredge on Board

141 / 2310

2100m 17° 10.9'

168° 19.3'

USGS DREDGE LOG

Depth Interval _____

Cruise I.D. 91-AV-19/2

Station No. _____

Dredge No. 10

Julian Date 141

Local Date (m/d/y) M/22/91

Chief Scientist _____

Tech on Watch _____

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	17.45	19..28		
LATITUDE	17° 12.9	17° 11.2		
LONGITUDE	168° 15.5	168° 15.8		
WATER DEPTH	4400	3400		

Site Description and Target : _____

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in water	17.45	4400	—			
	18.00	4000				
	19.00	3500	2850			
	17	3480	3440			
Dredge on bottom	28	3400	3820			
	20.00	3180	4800			
1-st Bite	08	3100	4800			
	30	3000	4600			
Bites	50	3100	4430			
	21.23	3080	3978			
Bite	30	3040	3850			
Dredge off bottom	50	2960	3600			
	22.00	2860	3200			
	20	2830	2830			
	30	2700				
	23.00	2200				
Dredge on board	10	2100				

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

SHIP/LEG 91-AV-19/2

STATION # 1

DREDGE # 11

DATE JD 143 LOCAL 0220

TIME GMT May 22 LOCAL 10:20 AM

DEPTH INTERVAL(m) 3020-2450

LATITUDE 17° 12.5' TO 17° 11.2'

DEPTH(m)corrected

LONGITUDE 168° 18.6' TO 168° 18.6'

TOTAL WEIGHT: DREDGE 350 CRUST ~80 ?

PERCENTAGE OF ROCK COVERED BY CRUST 100

PERCENT BROKEN FROM: OUTCROP 100 TALUS 0

THICKNESS OF MN CRUST: MAXIMUM 25 MINIMUM 5 AVERAGE 20

DOMINANT SURFACE TEXTURE Subdued or modified botryoidal

SUBSTRATE LITHOLOGY Lizard-skin, granular, current smoothed

Breccia (1) yellow-green - 40%
(2) brown ← most loose basalt clasts come from this Breccia
(3) gravel layer 60%
<1%

NODULES PRESENT <0.5%

REMARKS: 2 large boulders, one of each main breccia type - 2½ buckets of cobbles + 1½ buckets of pebbles

½ dredge bag full

100 kg discarded

~350
40
14000

350
140
210

USGS DREDGE LOG

Depth Interval 3000-2500

Cruise I.D. 91-AV-19/2

Station No.

Dredge No. 10

Julian Date 143

Local Date (m/d/y) MAY/23/1991

Chief Scientist Hein / Bychkov

Tech on Watch Sascha

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	00.20	01.40	0340	0475
LATITUDE	17° 12.5	17° 12.5	17°11'2	17°11'5
LONGITUDE	168° 18.6	168° 18.6	168°18'6	168° 20'1
WATER DEPTH	3140 m	3000 m	2450	2000m

Site Description and Target : Slope of Ridge

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Dredge in water	00.20	3140	–			Ship stopped
Routine	00.30					
	01.00	3180	2519			
	.30	3050	3014			
Dredge on bottom	40	3000	3190			
	02.00	2950	3950			
bites	02.15	2750	3760			
bites	02.18	2720	3775			stopped wire
"	02.20	2700	3760			
"	0230	2650	3740			
	0250	2250	3400			
	0300	2350	3350	tens.		
	0330	2450	3030			
Dredge off Bottom	0340	2450	= 2456			
	0350	2200				
	0400	2080	900			
Dredge on Deck	0425	2000	–			

*on/off bottom, bites, etc.

OTHER COMMENTS:

iy

USGS DREDGE LOG

Empty

Depth Interval 1700 – 1800 ?

Julian Date 142 /143

Cruise I.D. _____

Local Date (m/d/y) 11/23/91

Station No. _____

Chief Scientist Hein / Bychkov

Dredge No. 12

Tech on Watch Sascha

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	19.16	20.30	23.30	00.50
LATITUDE	17° 09'8	17°08'7	17°08.1	17°07.2
LONGITUDE	168° 24'8	168° 24'5	168° 29.1	168° 30.1
WATER DEPTH	1700	1660	1535	1560

Site Description and Target : _____

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
	1916	1700				
Dredge in Water	1925	1670				
	1937	1680	1510			
	2000	1700	1720			
Dredge on Bottom	2030	1660	2250			
Small Bite	2101	1620	2310			
"	2130	1600	2370			
	22.00	1570	2400			
	30	1550	2417			
	40	1550	2400			
	23.00	1540	2280			
? Dredge off bottom	30	1535	2110			
	00.00	1550	21550			
Dredge on board	30	1550	—			Empty
off Station	01.00	1560	-			

*on/off bottom, bites, etc.

OTHER COMMENTS: