MCG 1 5 9 5 0 1 1

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

NOVA EXPEDITION

May - November 1967

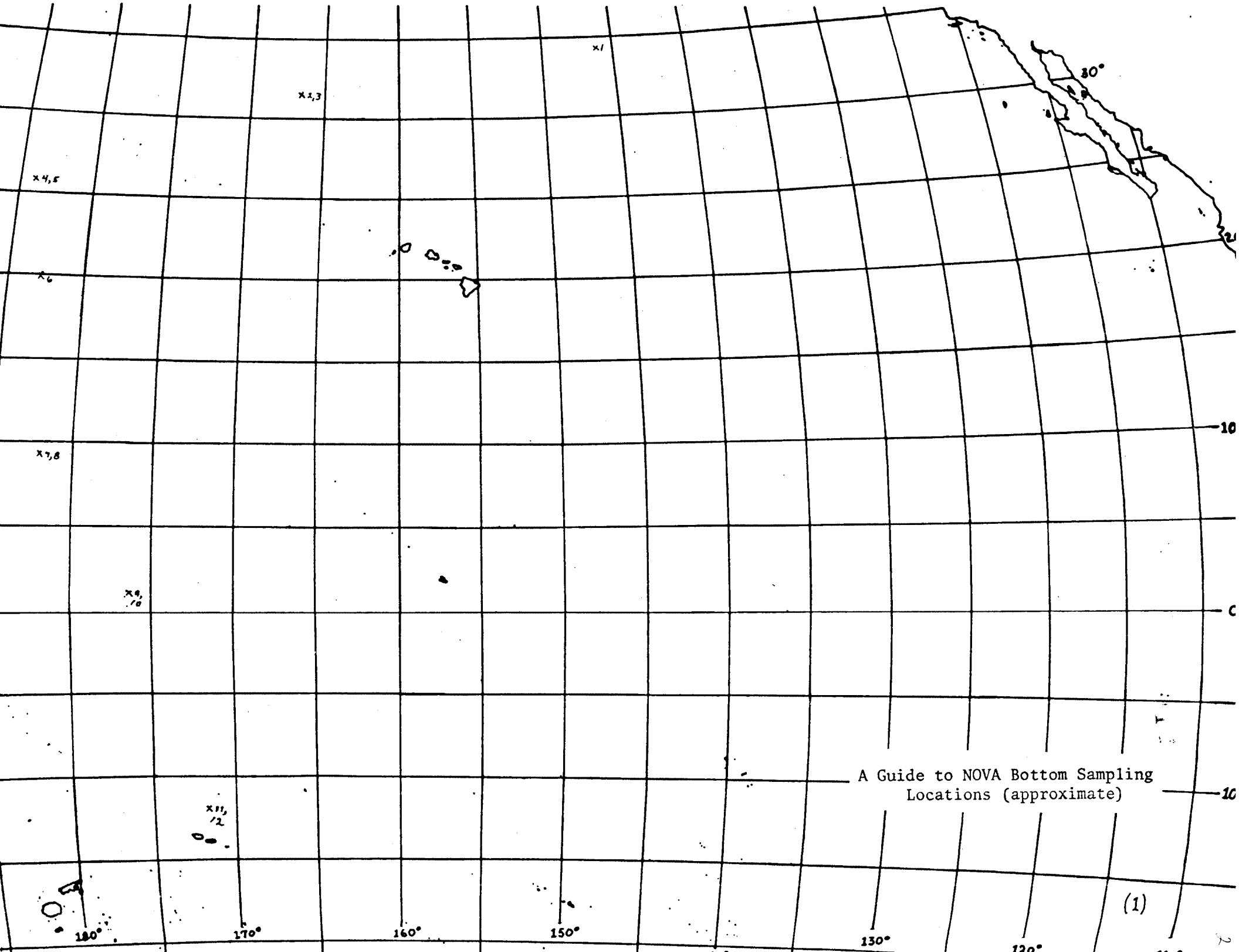
LIST OF CORES AND DREDGE HAULS

Copied from Shipboard Logs

Depths Corrected by Matthews' Tables

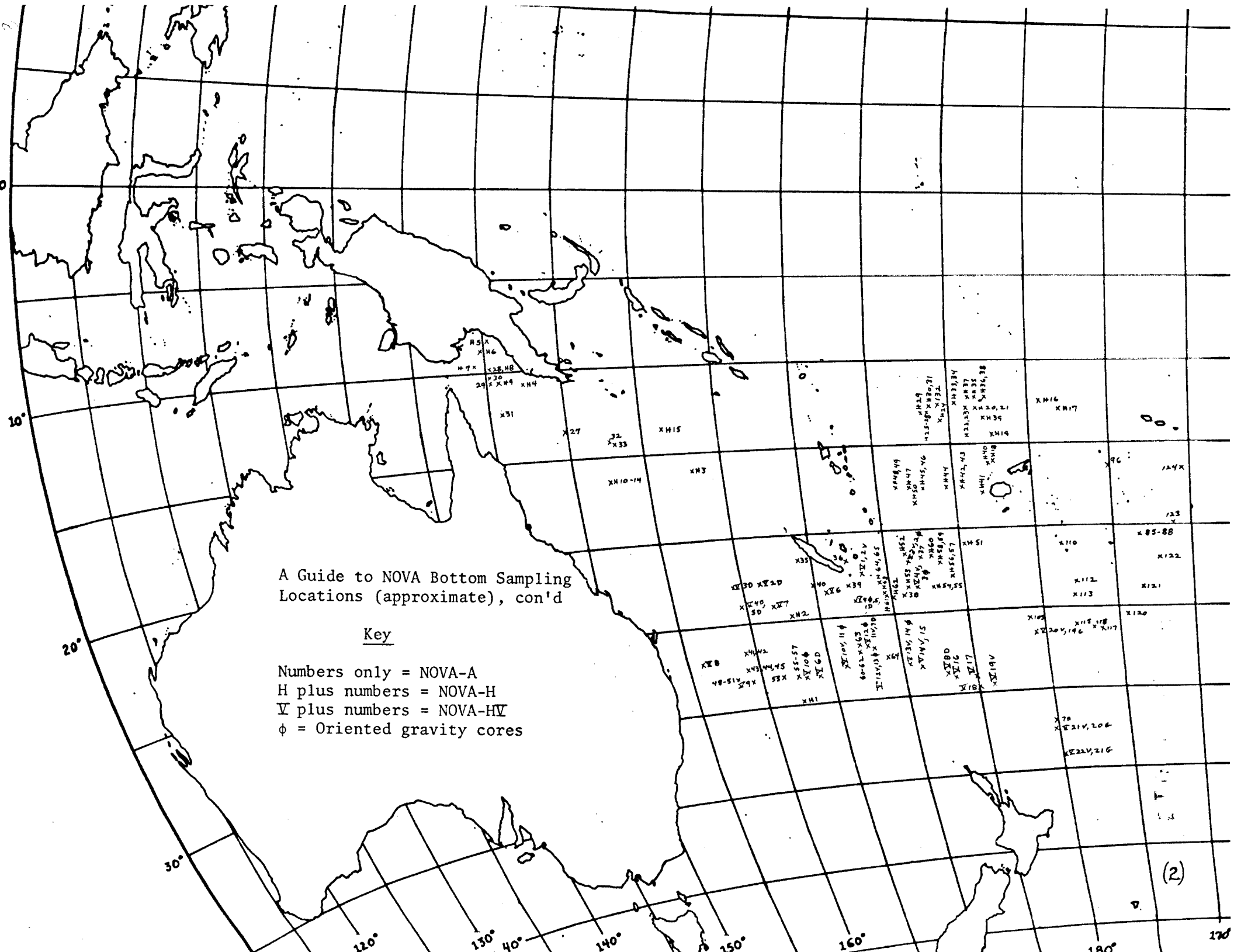
R/V ARGO - R/V HORIZON

Note: Data is the best available. R/V HORIZON, Leg V samples are listed separately according to sample type because of non-consecutive numbering.



A Guide to NOVA Bottom Sampling Locations (approximate)

(1)


A Guide to NOVA Bottom Sampling
Locations (approximate), con'd
Key
Numbers only = NOVA-A
H plus numbers = NOVA-H
V plus numbers = NOVA-HV
ϕ = Oriented gravity cores
10°
20°
30°
120°
130°
140°
150°
160°
180°
(2)

5011

R/V ARGO SAMPLES

NOVA-A 1G — 23 April 1967, 0922-1145 hrs; 34°23'N, 146°02'W; depth 5400 m; core length 93 cm. Dark tan clay above, increasingly reddish brown below. Abyssal hills (±40 fms); station on top of hill.

NOVA-A 2G — 28 April 1967, 0815-1015 hrs; 31°35'N, 166°34'W; depth 5740 m; core length 152 cm. Uniform dark tan clay, somewhat mottled. Abyssal hills (±40 fms) in deep after north Hawaiian seamount chain.

NOVA-A 3G — 28 April 1967, 1815-2015 hrs; 31°43'N, 166°36'W; depth 5773 m; core length 75 cm. Apparently penetration was approximately 168 cm, but about two-thirds slipped out from bottom due to poor catcher function. Uniform medium tan clay. Small abyssal hills.

NOVA-A 4G — 3 May 1967, 0933-1150 hrs; 25°45'N, 175°59'E; depth 5897 m; core length 50 cm. 0-33 cm uniform reddish tan clay; 33-50 cm buff-white, coarse calcareous mixture, increasing in gritty component with depth. Flat, deep abyssal plain, bordered on west by abyssal peaks.

NOVA-A 5G — 3 May 1967, 1634-1920 hrs; 25°45'N, 175°53'E; depth 5894 m; core length 104 cm. Uniform medium tan clay; a 3 x 2 x 1 cm Mn nodule at the top. Same abyssal basin as 1G - 4G.

~~NOVA-A 6G~~ — 5 May 1967, 2045-2115 hrs; 19°56'N, 177°13'E; depth 1540 m. No core in two attempts; only a small amount of coarse foraminiferal ooze. Dome-shaped cap of abyssal seamount.

NOVA-A 7G — 8 May 1967, 0846-1115 hrs; 9°19'N, 177°59'E; depth 5698 m; core length 171 cm; bottom 4 cm removed by T. M. Church. Uniform medium brown clay with one small Mn nodule at top. Extensive air bubbles along sides. High-dip valley in range of abyssal hills.

NOVA-A 8G — 8 May 1967, 1500-1705 hrs; 9°19'N, 177°57'E; depth 5619 m; core length 186 cm; bottom 9 cm removed by T. M. Church. Uniform medium brown clay with lighter buff mottles in upper 18 cm. Edge of high basin in range of abyssal mountains.

NOVA-A 9G — 11 May 1967, 0802-1010 hrs; 1°06'N, 176°21'W; depth 5409 m; core length 178 cm; upper 16 cm lost in subsampling. Flocculent uniform brown clay; a 5 cm buff zone @ 39 cm, and two slightly mottled zones @ 56 cm and 76 cm. High, rolling terrain with fluffy primary record of sediment.

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NOVA-A 10G 11 May 1967, 1540-1815 hrs; 1°08'N, 176°20'W; depth 5401 m; core length 161 cm. Pure foraminiferal layer 9-21 cm, becoming increasingly mottled with dark uniform brown clay 21-75 cm; 75-161 cm uniform dark brown of a large "curd" texture. High, rolling abyssal rises.

NOVA-A 11G 15 May 1967, 1345-1520 hrs; 12°59'S, 171°43'W; depth 4800 m; core length 82 cm. Medium brown fine clay, mottled 0-35 cm with coarser black sand, remainder uniform brown. High, rolling abyssal hills.

NOVA-A 12G 15 May 1967, 1530-1710 hrs; 13°01'S, 171°42'W; depth 4805 m; core length 78 cm. Generally fine, medium brown clay with black sand component as mottling in upper 38 cm. High, rolling abyssal hills.

NOVA-A 27PG 25 July 1967, 0949-1200 hrs; 13°35'S, 149°54'E; depth 4597 m; core length 171 cm. Black, sandy mud with wood and fiber fragments. Abyssal plain.

NOVA-A 27P Simultaneously with 27PG. Core length: Section I (bottom of core), 150 cm; Section II, 150 cm; Section III, 121 cm. Black, sandy mud with wood and fiber fragments. Preservation poor.

~~NOVA-A 28PG~~ 29 July 1967, 2002 hrs; 9°49'S, 145°23'E; depth 1774 m; core length 30 cm. Small basin.

~~NOVA-A 28P~~ Simultaneously with 28PG. Core length: Section I (bottom of core), 151 cm; Section II, 150 cm; Section III, 132 cm; Section IV, 21 cm; Section V, 15 cm.

NOVA-A 29PG 31 July 1967, 0054 hrs; 10°27'S, 145°25'E; depth 1013 m; core length 35 cm. Buff-brown foraminiferal and pteropod ooze. Plateau.

NOVA-A 29P Simultaneously with 29PG. Core length: Section I (bottom of core), 141 cm; Section II, 145 cm; Section III, 96 cm. 0-20 cm light brown foraminiferal ooze; 20 cm to bottom blue-green mud.

NOVA-A 30D 31 July 1967, 0306 hrs; 10°15'S, 145°25'E; depth 1209-1031 m. Unconsolidated brown pteropod-scaphopod-foraminiferal mud, green mud and more consolidated green fragments with concentrations of mollusk debris; some green fragments with brown-stained zones (fractures) in them. One bag of each of the three lithologies for SIO, the same each for J. Holden and C. E. Helsley. Washed concentrate of remainder of sample in plastic boxes.

NOVA-A 30G 31 July 1967, 0726-0746 hrs; 10°15'S, 145°30'E; depth 1161 m; core length 143 cm. Buff-brown foraminiferal and pteropod ooze. Slope of plateau.

5011

NOVA-A 31PG	1 August 1967, 1145-1338 hrs; 12°17'S, 145°50'E; depth 3558 m; core length 118 cm. 0-70 cm, brown foraminiferal ooze; 70-118 cm, green foraminiferal ooze.
NOVA-A 31P	Simultaneously with 31PG. Core length 12 cm. Buff-brown foraminiferal and pteropod ooze and mud.
NOVA-A 32G	3 August 1967, 1926-2050 hrs; 14°08'S, 152°55'E; depth 4582 m; core length 185 cm. Buff-brown foraminiferal ooze and mud. Top of small seamount in abyssal plain.
NOVA-A 33PG	3 August 1967, 2258-0120 hrs; 14°18'S, 153°05'E; depth 4644 m; core length 152 cm. 0-14 cm, brown mud; 14-39 cm, light brown to buff mud; 39-152 cm blue-green mud. Abyssal plain.
~~NOVA-A 3~~3P	Simultaneously with 33PG. Core length: Section I (bottom of core), 151 cm; Section II, 150 cm; Section III, 36 cm; Section IV, 37 cm.
NOVA-A 35G	7 August 1967, 1506-1604 hrs; 21°27'S, 164°07'E; depth 3566 m; core length 102 cm. Calcareous ooze at bottom, brown mud at top. Abyssal plain.
NOVA-A 36PG	12 August 1967, 1820-1935 hrs; 21°41'S, 167°23'E; depth 2148 m; core length 123 cm. Calcareous ooze. Abyssal plain.
~~NOVA-A 36~~P	Simultaneously with 36PG. Core length 61 cm. Preservation poor. Abyssal plain.
NOVA-A 37G	14 August 1967, 1400-1503 hrs; 21°41'S, 172°14'E; depth 3125 m; core length 127 cm. Brown foraminiferal clay. Abyssal hills.
~~NOVA-A 3~~8PG	15 August 1967, 2205 hrs; 23°55'S, 170°49'E; depth 4065 m. No core: Corer did not reach bottom. Abyssal basin.
~~NOVA-A 38~~P	Simultaneously with 38PG. No core.
NOVA-A 39G	17 August 1967, 1342-1409 hrs; 23°09'S, 167°15'E; depth 757 m. Small amount caught around catcher. Shell fragments, benthonic and planktonic foraminifera, and coral debris. Small hills.
NOVA-A 39Ga	17 August 1967, 1652-1710 hrs; 23°10'S, 167°15'E; depth 808 m. Foraminifera, shell and coral debris. Small hills.
NOVA-A 40PG	18 August 1967, 1522-1700 hrs; 23°00'S, 164°58'E; depth 3617 m; core length 19 cm. Calcareous ooze. Preservation poor. Flat basin.
NOVA-A 40P	Simultaneously with 40PG. Small amount in catcher. Hard calcareous ooze.

5011

NOVA-A 41D 21 August 1967, 0314-0505 hrs; 26°42'S, 159°17'E; depth 521-322 m. Approximately 20 lbs of cream to light brown phosphorite [?] rock coated with Mn and Fe, and shell and coral debris. Two burlap bags, one given to Colin Summerhays, and two small cloth bags. Seamount NT-5.

NOVA-A 42D 21 August 1967, 0917-1105 hrs; 26°40'S, 159°24'E; depth 294 m. Approximately 15 lbs of phosphatized foraminiferal limestone with incorporated pelecypod shells; 2 echinoids, 1 prawn, 1 hermit crab, a live sponge, and recent pelecypods, brachiopods and gastropods. One large burlap bag, one small and one large jar retained, one small burlap bag given to C. Summerhays. Top of Seamount NT-5.

NOVA-A 43D 26 August 1967, 1345-1545 hrs; 27°39'S, 159°09'E; depth 539-428 m. Approximately 5 lbs of small fragments of foraminiferal limestone, a few shell and coral fragments, and a few living organisms. Up over lip and along top of Guyot NT-1.

~~NOVA-A 44D~~ 26 August 1967, 1628-1855 hrs; 27°40'S, 159°07'E; depth 938-836 m. No sample. Lost dredge. Guyot NT-1.

NOVA-A 45D 26 August 1967, 1948-2100 hrs; 27°41'S, 159°05'E; depth 1013 m. Approximately 5 lbs of Mn-coated foraminiferal limestone. Guyot NT-1.

NOVA-A 48G 28 August 1967, 0656-0745 hrs; 28°12'S, 158°13'E; depth 2220 m; core length 161 cm. Tan foraminiferal ooze. West of foothills of Lord Howe Rise.

NOVA-A 49G 28 August 1967, 0813-0910 hrs; 28°10'S, 158°16'E; depth 2189 m; core length 50 cm. Tan foraminiferal ooze. West of foothills of Lord Howe Rise.

NOVA-A 50G 28 August 1967, 0936-1020 hrs; 28°08'S, 158°19'E; depth 2253 m; core length 101 cm. Light tan, clayey foraminiferal ooze. West of foothills of Lord Howe Rise.

NOVA-A 51G 28 August 1967, 1044-1126 hrs; 28°05'S, 158°23'E; depth 2335 m; core length 77 cm. Tan, clayey foraminiferal ooze. West of foothills of Lord Howe Rise.

NOVA-A 53PG 29 August 1967, 1825-1910 hrs; 28°16'S, 161°31'E; depth 1607 m. Small amount in catcher. Light tan foraminiferal ooze with one pebble of pumice.

NOVA-A 53 P Simultaneously with 53PG. Core length: Section I (bottom of core), 129 cm; Section II, 52 cm. White foraminiferal ooze, some Mn coating of individual foraminifera.

~~NOVA-A 55~~PG 30 August 1967, 1715-1750 hrs; 28°17'S, 162°36'E; depth 1393 m. Catcher sample only (?). Hard bottom.

~~NOVA-A 55P~~ Simultaneously with 55PG. Very small amount in catcher. Hard bottom.

NOVA-A 56PG&P 30 August 1967, 1855-1955 hrs; 28°17'S, 162°36'E; depth 1408 m. Small catcher samples only, combined into one. Consolidated and unconsolidated foraminiferal ooze. Clay-sized fraction from water from core settled out and given to G. Taylor, University of New South Wales, Sydney, Australia.

NOVA-A 57D 30 August 1967, 2011-2210 hrs; 28°18'S, 162°39'E; depth 1408 m. Approximately 50 lbs of consolidated and unconsolidated foraminiferal ooze, some pieces of the former with Mn and Fe coating. From same outcrop as 56PG&P.

~~NOVA-A 60D~~ 1 September 1967, 0800-0938 hrs; 27°14'S, 167°10'E; depth 603 m. No sample, dredge lost. Norfolk Ridge.

NOVA-A 61G 1 September 1967, 1350-1408 hrs; 27°10'S, 167°19'E; depth 744 m. Catcher sample only. Foraminiferal ooze.

NOVA-A 62G 1 September 1967, 1412-1430 hrs; 27°09'S, 167°19'E; depth 744 m. Catcher sample only. Foraminiferal ooze.

~~NOVA-A 63D~~ 1 September 1967, 2024-2300 hrs; 26°43'S, 167° 38'E; depth 965 m. No sample, dredge lost [?]. Outcropping on N.E. edge of Norfolk Ridge.

NOVA-A 64G 2 September 1967, 1306-1405 hrs; 27°37'S, 168°59'E; depth 3182 m; core length 33 cm. Light tan foraminiferal ooze. Clay fraction from core water to G. Taylor, U.N.S.W. Small hills.

NOVA-A 70G 8 September 1967, 1201-1258 hrs; 31°57'S, 179°56'E; depth 3149 m; core length 10 cm, stored in catcher box. Tan foraminiferal ooze. Large hills.

NOVA-A 85D 20 October 1967, 2236-0550 hrs; 20°32'S, 173°25'W; depth 7186 m. 10 - 20 small pebbles and rock fragments of medium- to coarse-grained, fresh looking basic rock; small amount of mud in pipe dredge. Carton of rock fragments hand-carried to SIO by R. L. Fisher.

~~NOVA-A 86D~~ 21 October 1967, 0840-0055 hrs; 20°30'S, 173°18'W; depth 9899-8910 m. No sample. Four shackles and three large chain links broken; sediment-catch bag ripped off; net inside chain bag gone.

NOVA-A 87D 21 October 1967, 0300 hrs; 20°40'S, 173°28'W; depth approximately 7000 m. Approximately 2 gals of pumice; pebbles plus sediment in pipe dredge and chain links. Small plastic bag with representative cobbles hand-carried to SIO by R. L. Fisher.

NOVA-A 88D	22 October 1967, 1320-0425 hrs; 20°25'S, 173°16'W; depth 9183-7972 m. Approximately 5 gals of basalt, coarse-grained basic rock, medium-grained porphyritic rock, andesitic rock, pumice; grayish-blue sediment in pipe dredge. Representative samples hand carried to SIO by R. L. Fisher.
~~NOVA-A 89D~~	22 October 1967, 0620 hrs; location and depth unknown. No sample.
~~NOVA-A 92D~~	24 October 1967, 0014 hrs; location and depth unknown. No sample, lost dredge and pinger. Tonga Trench bottom.
NOVA-A ~~93G~~	24 October 1967, 1815 hrs; location unknown; depth 5326 m. No core. Abyssal hills.
~~NOVA-A 95G~~	25 October 1967, 1445 hrs; location unknown; depth 5006 m. No core, hard bottom. Small hills.
NOVA-A 96G	31 October 1967, 0330 hrs; 16°22'S, 175°03'W; depth 2383 m; core length 95 cm. Red clay. Flat area between large hills.
NOVA-A 105G	7 November 1967, 0839-0932 hrs; 25°36'S, 179°04'E; depth 3350 m; core length 112 cm. Calcareous ooze. Abyssal hills S.E. of Suva, Fiji.
NOVA-A 110G	9 November 1967, 1517-1548 hrs; 21°07'S, 176°32'W; depth 2013 m; core length 120 cm. Green-brown mud with traces of volcanic ash in catcher.
NOVA-A 112G	10 November 1967, 0842-0940 hrs; 23°28'S, 177°41'W; depth 2554 m; core length 168 cm. Red clay.
NOVA-A 113G	10 November 1967, 1510-1535 hrs; 24°13'S, 177°51'W; depth 2013 m; core length 109 cm. Dark brown clay above, light brown below with ash layer between and Mn nodules at top. Flat bottom.
NOVA-A 115G	11 November 1967, 0715-0750 hrs; 26°04'S, 177°57'W; depth 2474 m; core length 129 cm. Light brown clay with many Mn nodules distributed throughout. Flat bottom.
NOVA-A 117G	11 November 1967, 2219-2315 hrs; 26°24'S, 176°07'W; depth 3820 m; core length 18 cm. Light greenish brown clay.
NOVA-A 118D	13 November 1967, 0246-0810 hrs; 26°19'S, 174°50'W; depth 3176-2988 m. Manganese encrusted basalt. Side of Seamount #1.
NOVA-A 119D	14 November 1967, 0352-0745 hrs; 25°33'S, 174°32'W; depth 2611-2425 m. Large amount of fresh basalt. Side of Seamount #2.

NOVA-A 120G	14 November 1967, 1545-1700 hrs; 25°33'S, 174°32'W; depth 4972 m; core length 22 cm. Dark brown clay. Side of Seamount #2.
NOVA-A 121G	15 November 1967, 0515-0645 hrs; 23°51'S, 173°22'W; depth 5657 m; core length 38 cm. Dark brown clay. Flat bottom.
NOVA-A 122 G	15 November 1967, 1905-2038 hrs; 22°00'S, 172°08'W; depth 5710 m; core length 110 cm. Upper 8 cm dark brown clay with Mn nodule at top, ash layer in middle, bottom light brown clay. Area of small hills.
NOVA-A 123G	16 November 1967, 1145-1320 hrs; 19°59'S, 171°05'W; depth 5478 m. Very small amount of volcanic sand around sock of corer. Abyssal hills.
NOVA-A 124G	17 November 1967, 1323-1440 hrs; 16°38'S, 170°31'W; depth 4778 m; core length 125 cm. Grey-brown mud. Abyssal hills.

R/V HORIZON Samples

NOVA-H 1G	18 May 1967, 1619-1635 hrs; 29°45'S, 162°34'E; depth 1181 m; core length 15 cm. All water above sample washed out through catcher, reducing core diameter. Foraminiferal sand.
NOVA-H 2G	22 May 1967, 1828-1843 hrs; 24°40'S, 162°03'E; depth 1143 m; core length approximately 20 cm; partially washed out. Foraminiferal sand and ooze. Top of Lord Howe Rise.
~~NOVA-H 3G~~	4 June 1967, 0100-0138 hrs; 16°02'S, 157°03'E; depth 2317 m. No core. Attempt to use Rosefelder sphincter core catcher; did not trip. Near crest of broad rise.
~~NOVA-H 4G~~a	9 June 1967, 1115-1155 hrs; 10°42'S, 147°27'E; depth 2792 m. No core: Reason as for 3G above. Bottom of a canyon.
NOVA-H 4Gb	9 June 1967, 1207-1243 hrs; 10°42'S, 147°28'E; depth 2788 m. Catcher sample only. Green, sandy mud. Bottom of a canyon. Entire sample to Jon Galehouse.
NOVA-H 5Gb	11 June 1967, 2235-2240 hrs; 8°17'S, 145°17'E; depth 110 m; core length 44 cm. Calcareous sand with green silt. J. Galehouse removed bottom 6 cm.
NOVA-H 6G	12 June 1967, 0955-0958 hrs; 8°53'S, 144°52'E; depth 113 m. Catcher sample only. Shell fragments, calcareous silt and sand. J. Galehouse has entire sample.
NOVA-H 7G	12 June 1967, 2114-2120 hrs; 9°34'S, 144°22'E; depth 95 m. Catcher sample only. Medium sand, shell fragments, but very rich in heavy minerals or black organic matter. Entire sample to J. Galehouse.

NOVA-H 8G	13 June 1967, 0911-0935 hrs; 9°59'S, 145°06'E; depth 1765 m; core length 92 cm plus 12 cm in catcher. 10 cm brown clay, 20 cm mottled brown and green mud and sand. Approximately 1 gm from catcher to J. Galehouse, remainder of catcher to John Holden, U.C.
NOVA-H 9G	13 June 1967, 2111-2135 hrs; 10°30'S, 145°52'E; depth 1419 m. Approximately 0.5 g of calcareous sand in catcher. Entire sample to J. Galehouse.
NOVA-H 10G	23 June 1967, 2310-2316 hrs; 11°19'S, 152°22'E; depth 320 m. Approximately 5 g of coarse calcareous sand in catcher. Entire sample to J. Galehouse. Off Duchateau Islands - Louisiade Arch.
NOVA-H 11G	23 June 1967, 2336-2346 hrs; 11°20'S, 152°21'E; depth 549 m. Approximately 2 g of green shelly calcareous sand and 2 pebbles trapped behind catcher. Entire sample to J. Galehouse.
NOVA-H 12G	24 June 1967, 0000-0014 hrs; 11°21'S, 152°22'E; depth 735 m; core length 49 cm. Calcareous sand. Sand from catcher to J. Galehouse.
NOVA-H 13G	24 June 1967, 0033-0052 hrs; 11°21'S, 152°21'E; depth 1031 m; core length 16 cm. Calcareous sand. Core washed out and was repoured into liner. Entire sample to J. Galehouse.
NOVA-H 14G	24 June 1967, 0121-0140 hrs; 11°23'S, 152°22'E; depth 1236 m; core length 142 cm. Light green mud. 10 g of catcher sample to J. Galehouse.
NOVA-H 15G	25 June 1967, 0512-0535 hrs; 13°35'S, 156°20'E; depth 1999 m; core length 147 cm. Foraminiferal ooze. Catcher sample to A. Carter. University of New South Wales.
NOVA-H 16D	6 July 1967, 1748-1950 hrs; 13°28'S, 179°14'E; depth 620-210 m. Chain dredge: 3-4 lbs of Fe-Mn coated rock, coral, rock and one crab with attached sponge, anemone, worms; pipe dredge: calcareous sand. Edge of bank.
NOVA-H 17D	7 July 1967, 0940-1206 hrs; 13°59'S, 178°04'E; depth 1448-1401 m. Chain dredge: rounded pumice fragments and buff mud; pipe dredge: whitish sand. Also a broken crinoid and other organic material.
NOVA-H 18G	14 July 1967, 1124-1230 hrs; 16°02'S, 177°38'E; depth 3582 m. Catcher sample only. Light brown calcareous clay. Small hills.
~~NOVA-H 1~~9V	15 July 1967, 0830-1130 hrs; 14°26'S, 177°21'E; depth 2783 m. Catcher sample only.

NOVA-H 20GO	16 July 1967, 1545-1700 hrs; 12°53'S, 176°39'E; depth 3063 m; core length 108 cm. Light brown calcareous ooze. Orientation incorrect since barrel was not properly aligned. Subdued hills.
~~NOVA-H 21V~~	16 July 1967, 1807-1930 hrs; 12°54'S, 176°37'E; depth 3054 m. Subdued hills.
NOVA-H 22D	16-17 July 1967, 2345-0230 hrs; 12°50'S, 176°05'E; depth 1492-1148 m. Approximately 500 lbs of Mn-coated volcanic rock, surfaces mostly rounded, a few freshly broken; vesicular. West flank of seamount.
~~NOVA-H 23D~~	17 July 1967, 0350-0557 hrs; 12°48'S, 176°06'E; depth 852 m. No sample. West flank of seamount.
~~NOVA-H 24V~~	17 July 1967, 1157-1915 hrs; 13°34'S, 174°25'E; depth 2658 m. Low hills on a broad ridge.
NOVA-H 25D	18 July 1967, 1108-1130 hrs; 13°07'S, 173°39'E; depth 53-55 m. Estimated 20 lbs of Halimeda, living and dead, delicate living coral, mollusks, echinoids, coralline algae; coral-algae rock and friable Halimeda-rich coquina. Taken from "lagoon" on central part of bank.
NOVA-H-26D	18 July 1967, 1208-1245 hrs; 13°07'S, 173°39'E; depth 104 m. Estimated 200 lbs of reef debris, including dead coral, < 10% coralline algae, non-reef forming living coral, gorgonians, mollusks, fish, crustaceans, crinoids, etc. Top of drowned atoll (?).
NOVA-H 27D	18 July 1967, 1431-1630 hrs; 13°17'S, 173°33'E; depth 1585-1307 m. Estimated 12 lbs of buff-brown, Mn-coated foraminiferal marl; brittle, slightly vesicular, black volcanic glass (ropy surface on largest fragment); a few living gorgonians (or antipitherians). Approximately 1 lb foraminiferal ooze in pipe dredge.
~~NOVA-H 28V~~	18 July 1967, 1823-1945 hrs; 13°08'S, 173°28'E; depth 3395 m. Smooth bottom.
NOVA-H 29GO	18 July 1967, 2005-2058 hrs; 13°16'S, 173°16'E; depth 3388 m; core length 130 cm. 0-23 cm, dark buff calcareous ooze; 23-30 cm, white ooze with black layers; 30-33 cm, dark, somewhat coarse layer; 33-38 cm, white ooze; 38 cm to bottom, light buff calcareous ooze. Very subdued abyssal hills at base of bank.
~~NOVA-H 30V~~	19 July 1967, 1010-1140 hrs; 12°39'S, 173°44'E; depth 3148 m. Abyssal plain.

NOVA-H 31D	19 July 1967, 1501-1805 hrs; 12°46'S, 173°58'E; depth 2013-1896 m. Estimated 30 lbs (in approximate order of abundance) of whitish, Mn-coated reef detritus, buff-light brown foraminiferal marl, slightly vesicular volcanic glass and/or basalt, whitish Mn-coated foraminiferal marl. N.W. flank of Hazel Holme Bank.
~~NOVA-H 32V~~	19 July 1967, 2100-2230 hrs; 12°41'S, 174°21'E; depth 3329 m. Smooth bottom.
~~NOVA-H 33V~~	20 July 1967, 0500-0615 hrs; 12°34'S, 175°19'E; depth 2593 m. No core. Undulating abyssal plain.
NOVA-H 34GO	20 July 1967, 0641-0735 hrs; 12°34'S, 175°19'E; depth 2629 m; core length 121 cm. Homogeneous light buff calcareous ooze. Abyssal plain.
~~NOVA-H 35V~~	20 July 1967, 1540-1653 hrs; 12°14'S, 176°44'E; depth 2845 m.
~~NOVA-H 36V~~	20 July 1967, 2000-2120 hrs; 12°14'S, 177°18'E; depth 3527 m. Fairly smooth sea floor north of Rotuma Island.
~~NOVA-H 37GO~~	20 July 1967, 2132 hrs; 12°14'S, 176°13'E; depth 3525 m. No core: corer did not reach bottom. Sea floor north of Rotuma Island.
~~NOVA-H 38V~~	20 July 1967, 2155 hrs; 12°14'S, 177°18'E; depth 3527 m. Fairly smooth sea floor north of Rotuma Island.
~~NOVA-H 39V~~	21 July 1967, 1649-1805 hrs; 13°29'S, 177°08'E; depth 2679 m.
~~NOVA-H 40V~~	22 July 1967, 1436-1600 hrs; 16°07'S, 177°14'E; depth 3396 m. Rough topography.
~~NOVA-H 41V~~	23 July 1967, 1646-1745 hrs; 17°53'S, 176°49'E; depth 3039 m. Corer apparently bounced.
NOVA-H 42V	24 July 1967, 0210-0325 hrs; 17°31'S, 175°32'E; dept 2432 m. Rough topography.
~~NOVA-H 43GO~~	24 July 1967, 0353-0450 hrs; 17°32'S, 175°31'E; depth 2458 m. No core. Abyssal hills.
~~NOVA-H 44V~~	24 July 1967, 1025-1150 hrs; 17°33'S, 174°32'E; depth 2904 m.
~~NOVA-H 45V~~	24 July 1967, 1944 hrs; 17°36'S, 173°01'E; depth 2668 m.
NOVA-H 46GO	24 July 1967, 2057-2155 hrs; 17°36'S, 173°01'E; depth 2629 m; core length 108 cm. Greenish brown clay with dark mottles; volcanic glass in catcher. Abyssal hills.
~~NOVA-H 47V~~	25 July 1967, 0320-0445 hrs; 17°32'S, 172°07'E; depth 3269 m. Flat bottom.

~~NOVA-H 48V~~	25 July 1967, 0950-1100 hrs; 17°31'S, 171°14'E; depth 3094 m.
NOVA-H 49GO	25 July 1967, 1111-1200 hrs; 17°31'S, 171°14'E; depth 3096 m. A few grains only of volcanic sediment and planktonic foraminifera around catcher. Small abyssal plain between hills.
NOVA-H 50V	25 July 1967, 2020 hrs; 18°25'S, 172°26'E; depth 2891 m. Small core. Calcareous and siliceous ooze with volcanic glass.
~~NOVA-H 51V~~	27 July 1967, 1810-1957 hrs; 20°54'S, 175°17'E; depth 3191 m. No core; no penetration.
~~NOVA-H 52V~~	30 July 1967, 1311-1440 hrs; 21°40'S, 171°17'E; depth 3134 m.
NOVA-H 53V	1 August 1967, 2113-2246 hrs; 23°24'S, 171°12'E; 4321 m. Small siliceous and calcareous core with volcanic glass. Flat bottom.
~~NOVA-H 54V~~	2 August 1967, 0913-1040 hrs; 23°23'S, 172°49'E; depth 4207 m. Rolling plain.
~~NOVA-H 55GO~~	2 August 1967, 1104-1214 hrs; 23°25'S, 172°51'E; depth 4096 m. No core: corer lost. Rolling abyssal plain.
~~NOVA-H 56V~~	2 August 1967, 2320-0050 hrs; 22°51'S, 174°16'E; depth 4226 m. No core: corer lost.
NOVA-H 57GO	3 August 1967, 0058-0205 hrs; 22°52'S, 174°21'E; depth 4275 m; core length 29 cm plus 6 cm catcher sample. A small pumice pebble and 2.5 cm of mudstone at the top; 0 - 10 cm, coarse (3 mm) grains of mudstone and volcanics; 10-29 cm, buff calcareous mudstone and ooze with volcanic grains (1 mm).
NOVA-H 58D	3 August 1967, 1025-1345 hrs; 22°04'S, 173°32'E; depth 2532-2242 m. Estimated 500 lbs: 95% vesicular olivene basalt, some showing ropy surfaces; and 5% pumice and calcareous debris in pipe dredge. Top of irregularly flat-topped ridge.
NOVA-H 59D	3 August 1967, 1447-1604 hrs; 22°10'S, 173°34'E; depth 1117-762 m. Estimated 50 lbs. Partly decomposed volcanic rock fragments (up to 20 cm across) completely covered by a firm coating of calcareous sediment. Top of same ridge as 58D.
NOVA-H 60V	3 August 1967, 1930-2040 hrs; 21°50'S, 172°59'E; depth 2945 m. Foraminiferal ooze.
NOVA-H 61D	5 August 1967, 1102-1250 hrs; 23°54'S, 169°42'E; depth 847-810 m. Estimated 15 lbs of 50% rounded, pelecypod (?)-bored pebbles and cobbles of algal-foraminiferal debris; 40% freshly broken fragments of buff, Mn-coated, hard limestone; and 10% rounded fragments of andesite porphyry; plus living shrimp, pelecypod and solitary coral. Guyot, upper slope and top.

NOVA-H 62D 5 August 1967, 1729-1934 hrs; 24°01'S, 170°03'E; depth 905-567 m. Estimated 20 lbs of approximately 45% whitish, rounded coralline-algal masses (8-15 cm diameter); 40% irregular, completely Mn-coated, buff-brown hard limestone; and 15% moderately soft foraminiferal-algal detritus. Also 5 lbs of living, massive, blue-gray sponge and 3 crinoids. Pipe dredge lost. Eastern upper slope of guyot.

NOVA-H 63D 6 August 1967, 0016-0228 hrs; 23°29'S, 169°36'E; depth 1125-1097 m. Estimated 80 lbs of firm, buff-gray calcareous sandstone with 5-15 mm Mn coating on exposed surfaces; buff-brown, friable shell debris with thin Mn coating; buff to white foraminiferal ostracode-bryozoan marl; and dense limestone. Some living organisms. West slope and summit of ridge.

NOVA-H 64D 6 August 1967, 1315-1553 hrs; 23°02'S, 169°23'E; depth 1143-987 m. Estimated 200 lbs of Mn-coated sedimentary rocks, including several types of marl from whitish foraminiferal marl to buff-brown coquina of shallow-water shell debris. Western upper slope of seamount.

NOVA-H 65D 6 August 1967, 1636-1848 hrs; 23°11'S, 169°11'E; depth 1728-1716 m. Approximately 1 pint of foraminiferal ooze in pipe dredge. Flat bottom.

NOVA-HORIZON - Leg V

GRAVITY CORES

NOVA-HV 1GO 12 August 1967, 1300-1335 hrs; 22°28'S, 168°15'E; depth 2092 m; core length 8 cm. Light buff calcareous ooze. Catcher did not work properly.

NOVA-HV 2GO 14 August 1967, 1006-1104 hrs; 21°51'S, 171°19'E; depth 2805 m; core length 167 cm. Buff foraminiferal sediment with abundant dark minerals and sand, grading in lower third to foraminiferal clay; mudstone at top. Small abyssal hills.

NOVA-HV 3GO 15 August 1967, 1542-1702 hrs; 23°32'S, 171°48'E; depth 4504 m; core length 56 cm. Compact brown clay with Mn nodule at top. Abyssal hills.

~~NOVA-HV 4GO~~ 17 August 1967, 0647-0705 hrs; 24°19'S, 167°31'E; depth 1028 m. No sample.

NOVA-HV 5GO 17 August 1967, 0850-0910 hrs; 24°19'S, 167°31'E; depth 1028 m. Only a few grains of coral debris, coral sand and sandstone, and half a dozen small gastropods and a pelecypod.

NOVA-HV 6GO 18 August 1967, 1200-1310 hrs; 23°31'S, 165°38'E; depth 3593 m; core length 10 cm. Light buff calcareous clay. Depression in abyssal plain.

NOVA-HV 7GO 19 August 1967, 1850-1912 hrs; 24°06'S, 161°53'E; depth 1033 m; core length 10 cm. Light buff, hard, sandy calcareous ooze; pteropods and dark mineral grains. Shallow plateau.

NOVA-HV 8GO 27 August 1967, 1130-1305 hrs; 27°10'S, 155°57'E; depth 4780 m; core length 44 cm. Upper 30 cm light buff-gray clay, bottom 14 cm gray clay. Smooth bottom, Tasman Basin.

NOVA-HV 9GO 29 August 1967, 0100-0220 hrs; 28°24'S, 159°15'E; depth 3403 m; core length 145 cm. White foraminiferal ooze, very liquid at top. Abyssal plain.

NOVA-HV 10GO 30 August 1967, 0249-0312 hrs; 28°25'S, 163°10'E; depth 1184 m; core length 8 cm. Coarse, white foraminiferal sand.

NOVA-HV 11GO 31 August 1967, 1522-1615 hrs; 27°57'S, 166°04'E; depth 3549 m; core length 16 cm. Soft, white clay with small mineral grains; one mudstone on surface. Plain with small humps.

~~NOVA-HV 12~~GO 1 September 1967, 1817-1842 hrs; 26°41'S, 167°38'E; depth 916 m. One small branch of black coral in catcher. Gently sloping bottom.

NOVA-HV 13GO 2 September 1967, 1105-1200 hrs; 26°58'S, 168°11'E; depth 3269 m; core length 10 cm. Medium buff clayey foraminiferal sand. Smooth plain.

NOVA-HV 14GO 3 September 1967, 0800-0848 hrs; 28°00'S, 170°26'E; depth 3018 m. Small amount of clayey foraminiferal sand. Abyssal plain.

NOVA-HV 15G 3 September 1967, 1700-1802 hrs; 28°10'S, 171°12'E; depth 3489 m; core length 57 cm. Light buff foraminiferal clay. Abyssal hills.

NOVA-HV 16G 4 September 1967, 1925-2015 hrs; 28°58'S, 173°29'E; depth 2891 m; core length 113 cm. Light buff calcareous ooze. Abyssal hills.

NOVA-HV 17G 5 September 1967, 0905-1026 hrs; 29°10'S, 175°00'E; depth 4286 m; core length 7 cm. 0-6 cm soft, slightly foraminiferal clay; 6-7 cm hardened clay or mudstone. Basin floor.

NOVA-HV 18G 5 September 1967, 1725-1835 hrs; 29°39'S, 175°02'E; depth 4260 m. Core length: Section I (top of core), 31 cm; Section II, 28 cm. Condition of core poor to very poor. Section I, white and brown clay; Section II, hard, lumpy brown clay mixed with somelighter colored lumps. Abyssal plain.

NOVA-HV 19G 7 September 1967, 1310-1340 hrs; 31°32'S, 179°22'E; depth 1688 m. Some volcanic material in catcher, plus some friable black rock which crumbles between fingers to dark brown smear. Top of Lau Ridge.

NOVA-HV 20G 8 September 1967, 1027-1125 hrs; 32°32'S, 179°46'E; depth 3220 m; core length 56 cm. Coarse, light buff foraminiferal ooze. On slope in trough between Lau and Kermadek ridges.

NOVA-HV 21G 9 September 1967, 1220-1330 hrs; 34°11'S, 179°53'W; depth 2573 m; core length 47 cm. Light buff, foraminiferal at top, grading downward to coarse, hard foraminiferal sand and small mineral grains.

DREDGE HAULS

NOVA-HV 1D 17 August 1967, approximately 1000-1310 hrs; 24°19'S, 167°31'E; depth 1040 m. Pipe dredge sample only: A few grains of oolitic and foraminiferal sand, some Mn nodules, pteropods, gastropods, large foraminifers, hydroids and a bryozoan. Flat bottom.

NOVA-HV 2D 20 August 1967, 1040-1300 hrs; 22°47'S, 161°16'E; depth 1280 m. A few well-rounded pumice pebbles, pteropods, echinoderm spines and gastropod shells. Rugged topography on slope of seamount.

NOVA-HV 3D 21 August 1967, 1005-1200 hrs; 22°49'S, 159°21'E; depth 826-678 m. Slabs up to 50 x 40 x 10 cm of hard, compact limestone with a 1 cm Mn coating, some brittle stars and crustaceans; yellow-brown foraminiferal sand in pipe dredge. East slope of guyot.

NOVA-HV 4D 22 August 1967, 0910-1015 hrs; 24°01'S, 159°39'E; depth 349 m. Pipe dredge only: foraminiferal sand and shell-sand concretions. 140 fm. terrace on Kelso Bank.

NOVA-HV 5D 22 August 1967, 1120-1200 hrs; 24°01'S, 159°32'E; depth 208 m. Coral limestone, holothurians, bryozoans, hydrozoans and gastropods. Pipe dredge: coarse coral sand. Eastern slope of seamount (30 fm) rising from 140 fm terrace.

~~NOVA-HV 6~~D 30 August 1967, 1745-2030 hrs; 28°19'S, 164°10'E; depth 3204 m. No sample. East edge of Lord Howe Rise.

NOVA-HV 7D 2 September 1967, 0100-0320 hrs; 26°49'S, 167°52'E; depth 1867 m. Chain dredge: Pumice pebbles; one each solitary coral, brittle star and glass sponge; some gray material. Pipe dredge: a few grams of foraminiferal sand. Eastern slope of Norfolk Ridge.

NOVA-HV 8D — 4 September 1967, 1010-1125 hrs; 28°38'S, 172°56'E; depth 865 m. Solid coral limestone; abundance of Gryphaeae ?, Ostreae ?, sea lilies, hermit, spider and other crabs, broken sea urchin, sea anemone, corals, sponges, sea stars (5 and 6 rayed), other shells, whole and broken, bryozoan and gorgonian. Eastern slope of Three Kings Rise near the top.

HEAT FLOW STATIONS

NOVA-HV 1V — 12 August 1967, 1145-1255 hrs; 22°28'S, 168°15'E; depth 2092 m.

NOVA-HV 2V — 12 August 1967, 1422-1520 hrs; 22°28'S, 168°14'E; depth 2092 m.

NOVA-HV 3V — 14 August 1967, 0840-0950? hrs; 21°51'S, 171°19'E; depth 2675 m.

NOVA-HV 4V — 15 August 1967, 1350-1530 hrs; 23°32'S, 171°49'E; depth 4551 m.

NOVA-HV 5V — 17 August 1967, 0735-0830 hrs; 24°19'S, 167°31'E; depth 1029 m.

NOVA-HV 6V — 18 August 1967, 1032-1155 hrs; 23°32'S, 165°38'E; depth 3588 m. Appears to be a gentle slope.

NOVA-HV 7V — 19 August 1967, 1934 hrs; 24°05'S, 161°53'E; depth 1033 m. Smooth, gentle upward slope.

NOVA-HV 8V — 27 August 1967, 0930-1125 hrs; 27°07'S, 155°55'E; depth 4780 m. Smooth, Tasman Basin.

NOVA-HV 9V — 28 August 1967, 2230-2400 hrs; 28°22'S, 159°16'E; depth 3420 m.

NOVA-HV 10V — 31 August 1967, 1335-1510 hrs; 27°58'S, 166°03'E; depth 3553 m.

NOVA-HV 11V — 1 September 1967, 1855-1930 hrs; 26°39'S, 167°38'E; depth 993 m. Smooth basin with small irregularities.

NOVA-HV 12V — 2 September 1967, 0942-1100 hrs; 26°58'S, 168°11'E; depth 3266 m. Smooth basin.

NOVA-HV 13V — 3 September 1967, 0640-0750 hrs; 28°00'S, 170°26'E; depth 3035 m. Smooth plain.

NOVA-HV 14V — 3 September 1967, 1520-1650 hrs; 28°11'S, 171°11'E; depth 3465 m. Poor bottom echo.

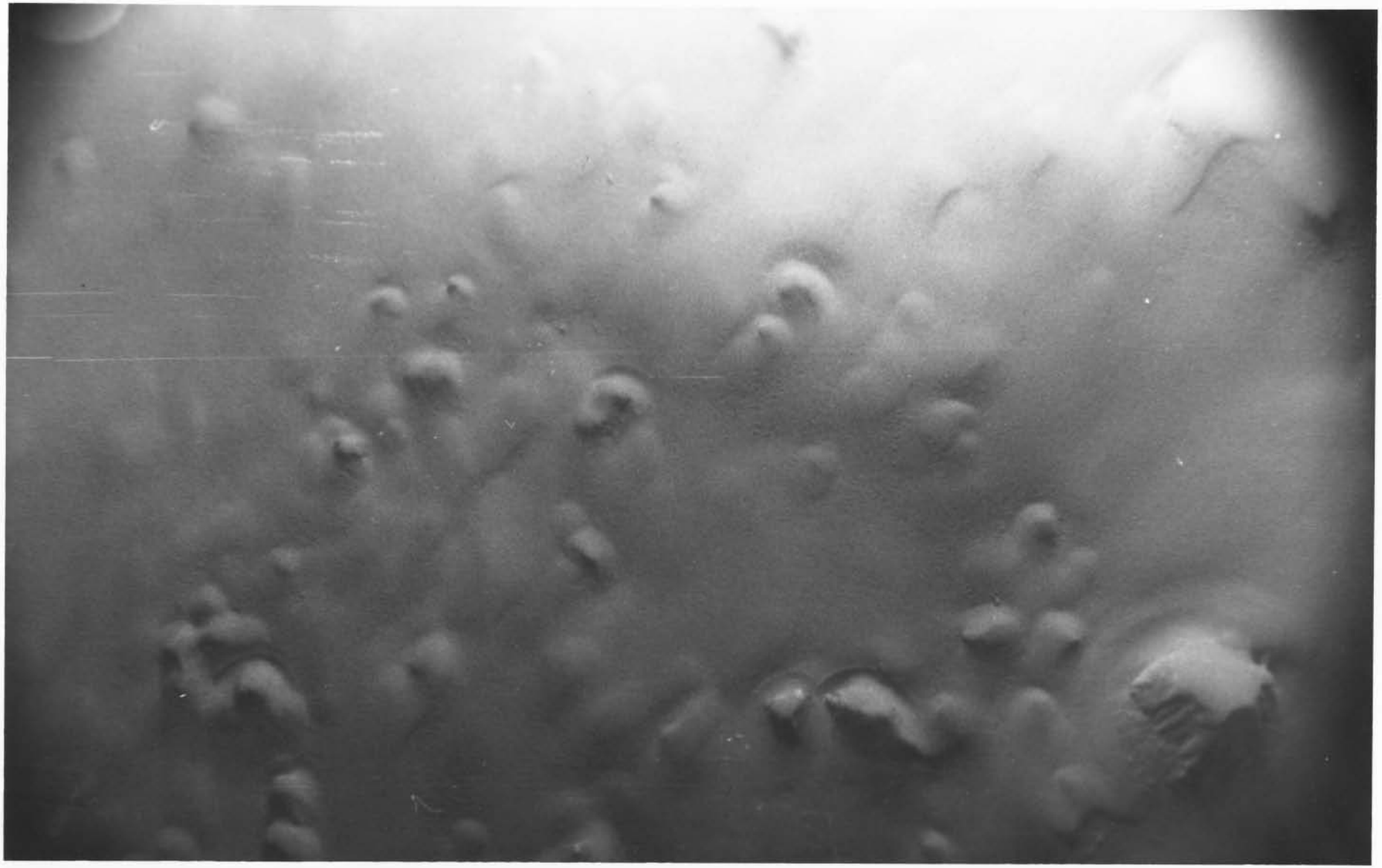
NOVA-HV 15V	3 September 1967, 1835-2010 hrs; 28°09'S, 171°13'E; depth 3502 m.
NOVA-HV 16V	4 September 1967, 1800-1925 hrs; 28°58'S, 173°29'E; depth 2968 m.
NOVA-HV 17V	5 September 1967, 0710 hrs; 29°11'S, 174°59'E; depth 4275 m.
NOVA-HV 18V	5 September 1967, 1520-1710 hrs; 29°40'S, 175°01'E; depth 4260 m.
NOVA-HV 19V	6 September 1967, 0440-0625 hrs; 29°30'S, 176°01'E; depth 4291 m.
NOVA-HV 20V	7 September 1967, 1145-1245 hrs; 31°32'S, 179°22'E; depth 1697 m. Volcanic pebbles in catcher.
NOVA-HV 21V	8 September 1967, 0840-1010 hrs; 32°32'S, 179°47'E; depth 3580 m.
NOVA-HV 22V	9 September 1967, 1045-1200 hrs; 34°11'S, 179°53'W; depth 2686 m.

Station 90c
Camera Station 14

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA VESSEL: ARGO
STATION: 90c ; CAM. STA. 14 DATE: 23 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 14.4'S LONG: 173° 33.4'W
NO 182 OF 183
DEPTH (CDR): 4950m CORR:
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← UP



Station 82c
Camera station 12

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA VESSEL: ARGO
STATION: 82c; CAM. STA. 12 DATE: 19 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 26.5'S LONG: 173° 17.0'W
NO 3 OF 20
DEPTH (PDR): 9435m CORR:
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← 5P

Station 81c
Camera Station 11

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA VESSEL: ARGO
STATION: 81 c ; CAM. STA. 11 DATE: 19 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 25.4' S LONG: 173° 26.2' W
NO 44 OF 111
DEPTH (EDR): 6220 m CORR:
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← UP

Station 79c

Camer Station 10

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA **VESSEL:** ARGO
STATION: 79 c; CAM. STA. 10 **DATE:** 18 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 19.6' S **LONG:** 173° 13.0' W
NO 34 **OF** 77
DEPTH (PDR): 9460 m **CORR:**
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← UP

Station 78c

Camera station 9

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA VESSEL: ARGO
STATION: 78c; CAM. STA. 9 DATE: 18 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 15.0' S LONG: 173° 13.6' W
NO 3 OF 15
DEPTH (PDR): 9100 m CORR:
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← UP

Station 74c
Camera Station 5

SCRIPPS INST. OF OCEANOGRAPHY, LA JOLLA, CALIFORNIA

EXPEDITION: NOVA VESSEL: ARGO
STATION: 74c; CAM. STA. 5 DATE: 14 OCT. 1967
LOCALE:
TIME (Corr.):
LAT.: 20° 27.3'S LONG: 172° 22.6'W
NO ..... OF .....
DEPTH (PDR): 5980 m CORR:
HEIGHT ABOVE BOTTOM:
SIZE OF FIELD:
CAMERA:
BY:

← S