R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 1 Heat Flow Penetration -0-

Date 7 MAR 1993 Time on Station (GMT) 1610Z Ship's heading _____

Latitude _____ Longitude _____

Sea State 10-15' Swells People's State _____

Time when probe turned on (GMT) 1625Z

Time probe lowered (GMT) 1650Z Water depth when probe lowered 3317 meters

Water depth when probe at surface 3317 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT)_____

Meters of wire out at stop above bottom _____ meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom _____ meters

Time when probe entered bottom (GMT) _____

Water depth when probe entered bottom _____ meters

Latitude(GPS)_____ **Longitude** (GPS)_____

Is the probe tilted? _____

Meter reading when wire stopped_____ meters

Time when heater pulse turned on (GMT)_____

Wire angle: aft _____ starboard _____ port _____

Have you put more wire out?_____

Meter reading on winch when started in _____ meters

Time when winch started in (GMT) _____

Meter reading on pullout _____ meters

Time on pullout (GMT) _____

Water depth on pullout _____ meters

Latitude (GPS)_____ Longitude (GPS)_____

Bottom relief _____

Ship's course to next station _____

Watchstanders _____

Comments _____

_____

_____

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station HF#2 Heat Flow Penetration 01

Date 10 MAR 1993 Time on Station (GMT) 0320Z Ship's heading 008°

Latitude _____ Longitude _____

Sea State 4 People's State OK

Time when probe turned on (GMT) 0335Z 4.5 kz TWT

Time probe lowered (GMT) 0345Z Water depth when probe lowered 3406 meters

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0451Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0° starboard _____ port _____

Distance probe off bottom 115 meters

Time when probe entered bottom (GMT) 0458Z

Water depth when probe entered bottom 3406 meters

Latitude(GPS) 62° 43.51'S **Longitude** (GPS) 50° 23.35'W

Is the probe tilted? No

Meter reading when wire stopped 3550 meters

Time when heater pulse turned on (GMT) 0504Z

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? Yes

Meter reading on winch when started in 3570 meters

Time when winch started in (GMT) 0512Z

Meter reading on pullout 3507 meters

Time on pullout (GMT) 0515

Water depth on pullout 3406 meters

Latitude (GPS) -62 43.497 Longitude (GPS) -50 23.480

Bottom relief Flat

Ship's course to next station 008°

Watchstanders Lawver, Najmulski, Wiedenpalm

Comments Unbelievable

Got underway at

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station HF #2 Heat Flow Penetration #02

Date 10 MAR 1992 Time on Station (GMT) 0320z Ship's heading 008°

Latitude 62° 42.825 Longitude 50° 23.34

Sea State 3 People's State OK

Time when probe turned on (GMT) 0330z

Time probe lowered (GMT) 0345 Water depth when probe lowered _____ meters

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface - 0 - meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0615z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 122 meters

Time when probe entered bottom (GMT) 0622z

Water depth when probe entered bottom _____ meters 4,54 m

Latitude(GPS) 62°42.81'S **Longitude** (GPS) 50° 23.45'W

Is the probe tilted? Yes, slightly

Meter reading when wire stopped 3560 meters

Time when heater pulse turned on (GMT) 0627z

Wire angle: aft _____ starboard _____ port _____

Have you put more wire out? Yes

Meter reading on winch when started in 3570 meters

Time when winch started in (GMT) 0636z

Meter reading on pullout 3521 meters

Time on pullout (GMT) 0638z

Water depth on pullout 4.54 meters

Latitude (GPS) 62° 42.79'S Longitude (GPS) 50° 23.32'W

Bottom relief Flat

Ship's course to next station 008°

Watchstanders _____

Comments U/W 0645z on 008°

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station HF #2 Heat Flow Penetration #03

Date 10 MAR 1992 Time on Station (GMT) 0 Ship's heading _____

Latitude _____ Longitude _____

Sea State 3 People's State Sleepy

Time when probe turned on (GMT) 0380Z

Time probe lowered (GMT) 0345Z Water depth when probe lowered 4.54 meters

Water depth when probe at surface 4.54 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0743 Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 115 meters

Time when probe entered bottom (GMT) 0750Z

Water depth when probe entered bottom 4.54 meters 3405 m

Latitude(GPS) 62° 42.10'S **Longitude** (GPS) 50°23.04'W

Is the probe tilted? ~5° ?

Meter reading when wire stopped 3560 meters

Time when heater pulse turned on (GMT) 0755Z

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? No

Meter reading on winch when started in 3560 meters

Time when winch started in (GMT) 0805Z

Meter reading on pullout 3528 meters

Time on pullout (GMT) 0825

Water depth on pullout 4.54 meters

Latitude (GPS) 62° 42.01'S Longitude (GPS) 50° 25.21'W

Bottom relief Flat

Ship's course to next station 016°

Watchstanders Lawver & Wiederspahn

Comments U/W 0810Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station HF # 2 Heat Flow Penetration -04

Date 10 MAR 1992 Time on Station (GMT) 0330Z Ship's heading 000°

Latitude _____ Longitude _____

Sea State 3 People's State Sleepier

Time when probe turned on (GMT) 0320Z

Time probe lowered (GMT)_____ Water depth when probe lowered _____ meters

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0900Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom 108 meters

Time when probe entered bottom (GMT) 0907Z

Water depth when probe entered bottom 4.54sec meters

Latitude(GPS) 62° 41.88'S **Longitude** (GPS) 50°23.09'W

Is the probe tilted? Yes ~12°

Meter reading when wire stopped 3560 meters

Time when heater pulse turned on (GMT) 0912Z

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 3560 meters

Time when winch started in (GMT) 0921Z

Meter reading on pullout 3512 meters

Time on pullout (GMT) 0925Z

Water depth on pullout 4.54 meters

Latitude (GPS) 62° 41.35'S Longitude (GPS) 50° 23.14'W

Bottom relief Flat

Ship's course to next station _____

Watchstanders Lauren & Wiedenbeck

Comments Look at Temp change above bottom.

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station #3 Heat Flow Penetration #1

Date 3/10 1993 Time on Station (GMT) 23:30 Ship's heading 002

Latitude -62.00787 Longitude -48.26391

Sea State 2 People's State GOOD / CLEAR

Time when probe turned on (GMT) 23:45

Time probe lowered (GMT) 00:03 Water depth when probe lowered 3188 meters

4.44

Water depth when probe at surface 3330 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 00:52

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom 70 meters

Time when probe entered bottom (GMT) 0058 3422m wire out

Water depth when probe entered bottom 3330 meters

Latitude (GPS) 62°00.02 **Longitude** (GPS) 48°16.05

Is the probe tilted? No!!!

Meter reading when wire stopped 3470 meters

Time when heater pulse turned on (GMT) 0105Z

Wire angle: aft _____ starboard _____ port _____

Have you put more wire out? NO

Meter reading on winch when started in _____ meters

Time when winch started in (GMT) 01:15Z

Meter reading on pullout 3422 meters

Time on pullout (GMT) 01:15

Water depth on pullout _____ meters 48°16.18

Latitude (GPS) -62.0351 Longitude (GPS) -48.26923

62° 00.10'S

Bottom relief _____ FLAT

Ship's course to next station 001

Watchstanders LAWVER, WIEDERSPAHN, KELLER, NAWROCKI

Comments 75 LPI ON RECORDER INSTEAD OF 200

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station #3 Heat Flow Penetration #2

Date 11 MARCH 1993 Time on Station (GMT) 01:49 Ship's heading 001.1

Latitude -61:59.6167 Longitude -48:16.127Ø

Sea State 3 People's State GOOD / CLEAR

Time when probe turned on (GMT) 23:45

Time probe lowered (GMT) 01:50 Water depth when probe lowered _____ meters

4.47

Water depth when probe at surface 3330 meters

Wire reading on winch when probe at surface _____ meters

Are all the data showing up on 12 kHz 12K PINGER IS IN AND OUT OTHER WISE YES

Time at stop above bottom (GMT) 02:11

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft 5° starboard Ø° port Ø°

Distance probe off bottom 82 meters

Time when probe entered bottom (GMT) 23:16:30

Water depth when probe entered bottom 4.47 3330 meters

Latitude (GPS) -61:59.4938 **Longitude** (GPS) -48:16.22Ø

Is the probe tilted? - NO -

Meter reading when wire stopped 3465 meters

Time when heater pulse turned on (GMT) 02:25

Wire angle: aft <5° starboard Ø port Ø

Have you put more wire out? - NO -

Meter reading on winch when started in 3465 meters

Time when winch started in (GMT) 02:36

Meter reading on pullout 3432 meters

Time on pullout (GMT) 02:38

Water depth on pullout 4.42 meters

Latitude (GPS) -61:59.5605 Longitude (GPS) -48:16.1033

Bottom relief FLAT

Ship's course to next station ØØ

Watchstanders LAWVER, WIEDERSPAHN, EMBRY, NAJMULSKI

Comments GOOD SUBBOTTOM ON 3.5+

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station #3 Heat Flow Penetration #3

Date 11 MARCH 1993 Time on Station (GMT) 03:02 Ship's heading 000.6

Latitude -61:58.9332 Longitude -48:16.2355

Sea State 3 People's State GOOD, FAIRLY CLEAR

Time when probe turned on (GMT) 23:45 4.41 SECS

Time probe lowered (GMT) 03:03 Water depth when probe lowered _____ meters

Water depth when probe at surface 4.41 SECS meters

Wire reading on winch when probe at surface — meters

Are all the data showing up on 12 kHz YES (PINGER SKIPPY)

Time at stop above bottom (GMT) 03:25

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft 0 starboard 0 port 0

Distance probe off bottom 75 m meters

Time when probe entered bottom (GMT) 03:31 WIRE 3418 meters

Water depth when probe entered bottom _____ meters

Latitude (GPS) -61:58.8584 **Longitude** (GPS) -48:16.2259

Is the probe tilted? ~ 5°

Meter reading when wire stopped 3465 meters

Time when heater pulse turned on (GMT) 03:38:28

Wire angle: aft 0 starboard 0 port 0

Have you put more wire out? - NO -

Meter reading on winch when started in _____ meters

Time when winch started in (GMT) 03:48:25

Meter reading on pullout 3422 meters

Time on pullout (GMT) 03:50:39

Water depth on pullout 4.41 SECS meters

Latitude (GPS) -61:58.8278 Longitude (GPS) -48:16.2886

Bottom relief FLAT

Ship's course to next station 359.4

Watchstanders LAWYER, EMERT, NAJMULSKI

Comments * WE LOST PINGER ON BOTTOM OF SEA AT 03:12Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station #3 Heat Flow Penetration #4

Date 11 MARCH 1993 Time on Station (GMT) 04:25 Ship's heading 017.7

Latitude -61:58.2584 Longitude -48:16.6901

Sea State 3 People's State GOOD/FAIRLY

Time when probe turned on (GMT) 23:45 4.405sec

Time probe lowered (GMT) 04:26 Water depth when probe lowered 1 meters 4.405sec

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface _____ meters

Are all the data showing up on 12 kHz NO, NO PINGER BOTTOM RETURN PINGER WAS LOST AT LAST PENETRATION

Time at stop above bottom (GMT) 04:47:33

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom 90 meters ⟹ 150m

* NOTE: CAME UP 60m 04:52:50 START 04:55:40 STOP

Time when probe entered bottom (GMT) 05:00:50

Water depth when probe entered bottom _____ meters 4,405 sec

Latitude (GPS) 61°58.2287' **Longitude** (GPS) 48° 16.8018'

Is the probe tilted? yes ~15°

Meter reading when wire stopped 3465 meters 3420m probe entered bottom

Time when heater pulse turned on (GMT) 05:07.50

Wire angle: aft _____ starboard _____ port _____

Have you put more wire out? NO

Meter reading on winch when started in _____ meters

Time when winch started in (GMT) 05:18

Meter reading on pullout 3405 meters

Time on pullout (GMT) 05:22

Water depth on pullout _____ meters

Latitude (GPS) -61:58.2438 Longitude (GPS) -48:16.6579

Bottom relief _____

Ship's course to next station * STAYING AT STATION FOR PEN. #5

Watchstanders LAWYER, EMRT, WIEDERSAHN, NASMULSKI

Comments * NOTE: HEATER TURNED ON BEFORE WE LOWERED PROBE ON DECENT AFTER ARRIVING ON STATION

33ϕϕ => ϕ5:26

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station #3 Heat Flow Penetration #5

Date 11 MARCH 1993 Time on Station (GMT) ϕ4:25 Ship's heading ϕ22.8

Latitude -61:58.2529 Longitude -48:16.6574

Sea State 3 People's State GOOD

Time when probe turned on (GMT) 23:45 4.4ϕ5 SEC

Time probe lowered (GMT)_____ Water depth when probe lowered _____ meters 4.4ϕ5 SEC

Water depth when probe at surface — meters

Wire reading on winch when probe at surface — meters

Are all the data showing up on 12 kHz ALL BUT PINGER

Time at stop above bottom (GMT) ϕ5.26

Meters of wire out at stop above bottom 33ϕϕ meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom 98 meters

Time when probe entered bottom (GMT) 0532:04 3407 M

Water depth when probe entered bottom 3330 meters

Latitude (GPS) 61°58.2929' **Longitude** (GPS) 48°16.7032'

Is the probe tilted? NO!!

Meter reading when wire stopped 3455 meters

Time when heater pulse turned on (GMT) ϕ5:39:ϕ4

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 3455 meters

Time when winch started in (GMT) 0548 Z

Meter reading on pullout 3405 meters

Time on pullout (GMT) 0551 4.4ϕ5 SEC.

Water depth on pullout _____ meters

Latitude (GPS) -61:58.32ϕ9 Longitude (GPS) -48:16.7236

Bottom relief FLAT

Ship's course to next station ϕϕ3

Watchstanders LAWVER, STRELIN, NAJMULSKI

Comments_____

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

JD 70

Heat Flow Station 4 Heat Flow Penetration 01

Date 11 MAR 1993 Time on Station (GMT) 2102Z Ship's heading 310.9

Latitude -62:02.4338 Longitude -50:10.5169

Sea State 2 People's State VERY GOOD

Time when probe turned on (GMT) 2030Z 4.53 SEC

Time probe lowered (GMT) 2107Z Water depth when probe lowered 3398 meters

Water depth when probe at surface 3398 meters

Wire reading on winch when probe at surface 0 meters

Are all the data showing up on 12 kHz ~~ALL BUT PINGER~~ YES

Time at stop above bottom (GMT) 2158Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 100 meters

Time when probe entered bottom (GMT) 22:04:30 Hit bottom at 3512m

Water depth when probe entered bottom 3398 meters

Latitude (GPS) -62:02.5730 **Longitude** (GPS) -50:10.2102

Is the probe tilted? Yes 6-8°

Meter reading when wire stopped 3562 meters

Time when heater pulse turned on (GMT) 22:12:56

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? 35

Meter reading on winch when started in 3562 meters

Time when winch started in (GMT) 2221Z

Meter reading on pullout 3535 meters .05

Time on pullout (GMT) 2223Z

Water depth on pullout 3398 meters 4.53 sec

Latitude (GPS) 62° 02.62'S Longitude (GPS) 50° 10.06' W

Bottom relief Flat

Ship's course to next station 310°

Watchstanders LAWYER, KELLER, MAJMULSKI

Comments * NOTE HEATER PULSE DID NOT TURN ON UNTIL ~9 min after penetration. We had great steady depth to 20m we will set back to 10mm.

PINGER LOST ON STA. 3 - NOT USING PINGER

U/W 2227Z O/C 310°

3498

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Last sta 62°02.6'S 50°10.13'W

Heat Flow Station 4 Heat Flow Penetration 02

Date JD 070/071 1993 Time on Station (GMT) 2257 Ship's heading 310°

Latitude -62° 02.1704'S Longitude -50° 10.6038'W

Sea State 2 People's State Excellent

Time when probe turned on (GMT) 2080 Z

Time probe lowered (GMT) 2107Z Water depth when probe lowered 3399m 4.532 sec TWT meters

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 2322Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft Ø starboard Ø port Ø

Distance probe off bottom 10Ø meters

Time when probe entered bottom (GMT) 23:28:ØZ 4.53 secs

Water depth when probe entered bottom _____ meters

Latitude (GPS) -62:Ø2.Ø197 **Longitude** (GPS) -5Ø:1Ø.46Ø1

Is the probe tilted? -NO-

Meter reading when wire stopped 3498 meters

Time when heater pulse turned on (GMT) 23:35:ØZ

Wire angle: aft Ø starboard Ø port Ø

Have you put more wire out? -NO-

Meter reading on winch when started in 3550 meters

Time when winch started in (GMT) 23:43

Meter reading on pullout 35Ø8 meters

Time on pullout (GMT) 23:45:33

Water depth on pullout 4.53 secs meters

Latitude (GPS) -62:Ø1.9547 Longitude (GPS) -5Ø:1Ø.2882

Bottom relief FLAT

Ship's course to next station 3Ø8.8

Watchstanders LAWVER, GHIDELLA, NAUMULSKI

Comments * NOTE: HEATER PULSE FIRED ON SCHEDULE. UNDERWAY 23:48 ON COURSE ~ 31Ø

04.2
62° 01.98'S
0° 10.39'W

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 4 Heat Flow Penetration ϕ3

Date JDϕ71 1993 Time on Station (GMT) 0018Z Ship's heading _____

Latitude 62:ϕϕ.1ϕ9 Longitude 5ϕ:ϕϕ.1ϕ64

Sea State 2 People's State EXCELLENT

Time when probe turned on (GMT) 2ϕ:3ϕZ

Time probe lowered (GMT) 21:ϕ7 Water depth when probe lowered _____ meters

Water depth when probe at surface _____ meters

Wire reading on winch when probe at surface –ϕ– meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) ϕϕ:23:23 ⇒ NOTE: CAME UP 6ϕ m BECAUSE OF BAD WIRE ANGLE. STOPPED ϕϕ:51

Meters of wire out at stop above bottom 34ϕϕ meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom 112 meters

Time when probe entered bottom (GMT) ϕϕ:56:58

Water depth when probe entered bottom _____ meters

Latitude (GPS) 62:ϕϕ.1ϕ1 **Longitude** (GPS) 5ϕ:ϕϕ.983

Is the probe tilted? YES, 8-1ϕ DEGREES

Meter reading when wire stopped 359ϕ meters 3535 PENETRATION

Time when heater pulse turned on (GMT) ϕ1:ϕ4:12

Wire angle: aft _____ starboard _____ port _____

Have you put more wire out? YES, 1ϕm

Meter reading on winch when started in 36ϕϕ meters

Time when winch started in (GMT) ϕ1:11

Meter reading on pullout 3574 meters

Time on pullout (GMT) ϕ1:12:23

4.53 SEC

Water depth on pullout _____ meters

Latitude (GPS) 62:ϕϕ.1ϕ5 Longitude (GPS) 5ϕ:ϕϕ.922

Bottom relief FLAT

Ship's course to next station _____

Watchstanders LAWER, EMBRY, NAJMULSKI

Comments ~~*~~ BAD WIRE ANGLE PROBABLY CAUSED BAD PENETRATION

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 5 Heat Flow Penetration 01

Date JD071 1993 Time on Station (GMT) 0445z Ship's heading 320°

Latitude 61°55.07'S Longitude 49°37.19'W

Sea State 2 People's State Good

Time when probe turned on (GMT) 0446z

Time probe lowered (GMT) 0505z Water depth when probe lowered 4.49 3368 m meters

Water depth when probe at surface 3368 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0601z

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft 0° starboard 5° port 0°

Distance probe off bottom 125 meters

Time when probe entered bottom (GMT) 06.08z

Water depth when probe entered bottom 3368 meters 3480 m

Latitude (GPS) 61°55.2790°S **Longitude** (GPS) 49°37.3195' W

Is the probe tilted? < 5°

Meter reading when wire stopped 3540 meters

Time when heater pulse turned on (GMT) 06:15:05z

Wire angle: aft 2° starboard 5° port 0°

Have you put more wire out? Yes

Meter reading on winch when started in 3550 meters

Time when winch started in (GMT) 0623

Meter reading on pullout 3506 meters

Time on pullout (GMT) 06.26z

Water depth on pullout 3368 meters

Latitude (GPS) 61°55.35'S Longitude (GPS) 49°37.35'W

Bottom relief Flat

Ship's course to next station 316°

Watchstanders LAWYER / STRELIN

Comments O/W 0630z Bringing up to 2000M. U/W at 1.5 kts to next station.

61° 55.35' S
49° 37.35' W
IW 0630Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 5 Heat Flow Penetration 02

Date JD 071 1993 Time on Station (GMT) 0445Z Ship's heading 320°

Latitude -61° 54.9559 Longitude -49° 38.3095

Sea State 2 People's State Good

Time when probe turned on (GMT) 0445Z

Time probe lowered (GMT) 0655Z Water depth when probe lowered 3368M 4.49
meters

Water depth when probe at surface 3368 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz yes

Time at stop above bottom (GMT) 0717Z

Meters of wire out at stop above bottom 3350 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 184 meters

Time when probe entered bottom (GMT) 07.25,45

Water depth when probe entered bottom 3368 meters

Latitude (GPS) 61° 54.97' S **Longitude** (GPS) 49° 38.99' W

Is the probe tilted? No?

Meter reading when wire stopped 3640 meters

Time when heater pulse turned on (GMT) 07:32:45

Wire angle: aft 3° starboard 5° port

Have you put more wire out? NO

Meter reading on winch when started in 3640 meters

Time when winch started in (GMT) 0740Z

Meter reading on pullout 07.44 3580 meters

Time on pullout (GMT) 0744Z

Water depth on pullout 3368 meters

Latitude (GPS) 61° 54.98 S Longitude (GPS) 49° 39.28' W

Bottom relief Flat

Ship's course to next station 314°

Watchstanders LAWVER / STRELIN

Comments MAYBE HIGHER HF when before in PB.
O/W 0748Z

61°54.98'S
49°39.10'W
U/W 0748Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 5 Heat Flow Penetration 03

Date JD 071 1993 Time on Station (GMT) 0330Z Ship's heading 320°

Latitude 61° 54.72' S Longitude 49° 40.24' W

Sea State 2 People's State OK

Time when probe turned on (GMT) 0445Z

Time probe lowered (GMT) 0817Z Water depth when probe lowered 3375 meters

Water depth when probe at surface 3375 meters 4.500

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0840Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 2° starboard 10° port _____

Distance probe off bottom 165 meters

Time when probe entered bottom (GMT) 08.54.10Z

Water depth when probe entered bottom 3375 meters

Latitude (GPS) 61°54.77 **Longitude** (GPS) 49°40.55'

Is the probe tilted? No

Meter reading when wire stopped 3570 meters

Time when heater pulse turned on (GMT) 0901:14

Wire angle: aft 0° starboard 0° port 5°

Have you put more wire out? Yes

Meter reading on winch when started in 3580 meters

Time when winch started in (GMT) 0912Z

Meter reading on pullout 3542 meters

Time on pullout (GMT) 09.15.10Z

Water depth on pullout 4.500 FC 3375 meters

Latitude (GPS) 61°54.87' Longitude (GPS) 49° 39.57'

Bottom relief Flat

Ship's course to next station _____

Watchstanders LAWVER, STRELIN, WIEDERSPAHN

Comments Looks like higher HF but may be influenced by much lower TC.

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 6 Heat Flow Penetration 01

Date JD071 1993 Time on Station (GMT) 12:30 Ship's heading 306.5

Latitude 62:14.51 Longitude 49:9.87'

Sea State 4 People's State FAIR

Time when probe turned on (GMT) 12:45 4.52

Time probe lowered (GMT) 13:00 Water depth when probe lowered 3392

meters 4,52

Water depth when probe at surface 3392 meters

Wire reading on winch when probe at surface – 0 – meters

Are all the data showing up on 12 kHz YES

Time at stop above bottom (GMT) 1356

Meters of wire out at stop above bottom 3480 meters

Wire angle: aft 2° starboard 0° port 0°

Distance probe off bottom 75 meters

Time when probe entered bottom (GMT) 14:02:16

Water depth when probe entered bottom 3391 meters hit bottom @ 3492.

Latitude (GPS) 62:14.52 **Longitude** (GPS) 49:9.80

Is the probe tilted? Yes 7.5-8°

Meter reading when wire stopped 3545 meters

Time when heater pulse turned on (GMT) 14:09:37

Wire angle: aft 5° starboard 0° port 5°

Have you put more wire out? No

Meter reading on winch when started in 3545 meters

Time when winch started in (GMT) 14:20

Meter reading on pullout 3590 meters

Time on pullout (GMT) 1423Z

Water depth on pullout 3392 meters

Latitude (GPS) 62:14.53' Longitude (GPS) 49:09.42

Bottom relief Flat

Ship's course to next station 305.2

Watchstanders WILLIAMS, NAJMULSKI, WIEDERSPAHN

Comments * A BIT TOUCHY ON NAJMULSK'S FIRST RUN, HAD SOME SHIP STACCE PROBLEMS AS SEEN BY WIRE ANGLE.

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 06 Heat Flow Penetration 02

Date JD071 1993 Time on Station (GMT) 14:49 Ship's heading 309.5

Latitude 62:14.047 Longitude 49:10.44

Sea State 4 People's State GOOD

Time when probe turned on (GMT) 12:45

Time probe lowered (GMT) 13:00 Water depth when probe lowered 3390 4.52 meters

Water depth when probe at surface 3390 4.52 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz YES

Time at stop above bottom (GMT) 15:09:36

Meters of wire out at stop above bottom 3380 meters

Wire angle: aft -1° starboard 0° port 0°

Distance probe off bottom 110 meters

Time when probe entered bottom (GMT) 15:16:30

Water depth when probe entered bottom 3390 4.52 meters

Latitude (GPS) 62° 14.07' **Longitude** (GPS) 49° 10.39'

Is the probe tilted? Yes 10.5-11°

Meter reading when wire stopped 3545 meters 3500 when h.y.

Time when heater pulse turned on (GMT) 15:23:25

Wire angle: aft 1° starboard 2° port 0

Have you put more wire out? No

Meter reading on winch when started in 3545 meters

Time when winch started in (GMT) 15:36:45

Meter reading on pullout 3509 meters

Time on pullout (GMT) 15:38:00

Water depth on pullout 3390 (4.52) meters

Latitude (GPS) 62°14.17 Longitude (GPS) 49°10.81

Bottom relief FLAT

Ship's course to next station 314.1

Watchstanders WILLIAMS, NAJMULSKI, HOLAYER

Comments * NOTE: BIT BETTER ANGLE THIS TIME ON WIRE

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 6 Heat Flow Penetration ϕ3

Date JDϕ71 1993 Time on Station (GMT) 16:ϕ4 Ship's heading 311.4

Latitude 62:13.86 Longitude 49:11.45

Sea State 4 People's State Good

Time when probe turned on (GMT) 12:45

Time probe lowered (GMT) 13:ϕϕ Water depth when probe lowered 339ϕ meters 4.52

Water depth when probe at surface 3390 meters

Wire reading on winch when probe at surface 0 meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 16:24:26

Meters of wire out at stop above bottom 338ϕ meters

Wire angle: aft 2° starboard 1° port 0°

Distance probe off bottom 120 meters Barely see any bottom.

Time when probe entered bottom (GMT) 16:31:48

Water depth when probe entered bottom 4.52 3390 meters

Latitude (GPS) 62° 13.817 **Longitude** (GPS) 49° 11.852

Is the probe tilted? Yes 16-17° before penetration 6° tilt

Meter reading when wire stopped 3555 meters (3512 when hit bottom)

Time when heater pulse turned on (GMT) 16:38:16

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? Yes, 10M @ 16:43

Meter reading on winch when started in 3565 meters

Time when winch started in (GMT) 16:50 23

Meter reading on pullout 3520 meters

Time on pullout (GMT) 16 53:55

Water depth on pullout 4.52 3390 meters

Latitude (GPS) 62° 13.82 Longitude (GPS) 490 11.89

Bottom relief Flat

Ship's course to next station

Watchstanders Najmulski, Williams, Wolaver

Comments Tilt is questionable because before penetration showed 60, after penetration shows 16-17°

May have jiggled probe at about 16:42

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 7 Heat Flow Penetration 01

Date JD071 1993 Time on Station (GMT) 22:00 Ship's heading 316.9

Latitude 62: 06.97 Longitude 50: 28.77

Sea State 3 [WIND 15Z] People's State EXCELLENT

Time when probe turned on (GMT) 22: 30 4.59 SEC.

Time probe lowered (GMT) 22:58 Water depth when probe lowered 3442 meters

Water depth when probe at surface 3442 meters 4.59 SEC.

Wire reading on winch when probe at surface - 0 - meters

Are all the data showing up on 12 kHz YES

Time at stop above bottom (GMT) 23: 50

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0 starboard 2° port 0

Distance probe off bottom 150 m meters

Time when probe entered bottom (GMT) 23:55:00

Water depth when probe entered bottom 3442 meters

Latitude (GPS) 62: 06.92 **Longitude** (GPS) 50: 28.85

Is the probe tilted? 7°-8°

Meter reading when wire stopped 3610 meters 3562 PENETRATION

Time when heater pulse turned on (GMT) 00:02

Wire angle: aft 0 starboard 0 port 0

Have you put more wire out? -NO-

Meter reading on winch when started in 3610 meters

Time when winch started in (GMT) 00:11

Meter reading on pullout 3558 meters

Time on pullout (GMT) 00:13:52Z 4.59 SEC

Water depth on pullout 3442 meters

Latitude (GPS) 62: 06.97 Longitude (GPS) 50: 28.88

Bottom relief FLAT

Ship's course to next station 000

Watchstanders LAWVER, KELLER, NAJMULSKI

Comments * SHIP UNDERWAY AT 00:17

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 7 Heat Flow Penetration Ø2

Date JD Ø72 1993 Time on Station (GMT) 0047 Ship's heading 000

Latitude 62° 06.40' S Longitude 50° 28.82

Sea State 3 Wind 2 People's State EXCELLENT

Time when probe turned on (GMT) 22:3Ø

Time probe lowered (GMT) ØØ47 Water depth when probe lowered 4.59 3442 M meters

Water depth when probe at surface 3442 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz Yes

Time at stop above bottom (GMT) 0104Z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0 starboard 0 port 0

Distance probe off bottom 160 meters

Time when probe entered bottom (GMT) 01.10.30

Wire out ~~Water depth~~ when probe entered bottom 3561 meters

Latitude (GPS) 62° 06.44' **Longitude** (GPS) 50°28.61'W

Is the probe tilted? ~ 6°

Meter reading when wire stopped 3610 meters

Time when heater pulse turned on (GMT) 01:17:30

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 3610 meters

Time when winch started in (GMT) 01:28Z

Meter reading on pullout 3572 meters

Time on pullout (GMT) 01.31Z

Water depth on pullout 3442 meters

Latitude (GPS) 62°06.41'S Longitude (GPS) 50°28.29'W

Bottom relief Flat

Ship's course to next station 359°

Watchstanders LAWVER / STREZIN

Comments U/W 0134Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 7 Heat Flow Penetration ø3

Date JD ø72 1993 Time on Station (GMT) 0200z Ship's heading 000°

Latitude 62° 05.81'S Longitude 50° 27.64'W

Sea State 2 / 3 People's State Good

Time when probe turned on (GMT) 2230z

Time probe lowered (GMT) 0149z Water depth when probe lowered 3435 m 4.58 meters

Water depth when probe at surface 3442 meters

Wire reading on winch when probe at surface ~0~ meters

Are all the data showing up on 12 kHz Yes * see note

Time at stop above bottom (GMT) 0213z

Meters of wire out at stop above bottom 3400 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 165 meters

Time when probe entered bottom (GMT) 02:26:30

Water depth when probe entered bottom 3435 meters

Latitude (GPS) 62°05.78'S **Longitude** (GPS) 50°27.49' W

Is the probe tilted? Yes <5°

Meter reading when wire stopped 3615 meters

Time when heater pulse turned on (GMT) ?

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 3615 meters

Time when winch started in (GMT) 02.44 z

Meter reading on pullout ~3560 meters

Time on pullout (GMT) 02:50:00z

Water depth on pullout 3435 meters

Latitude (GPS) 62° 05.79'S Longitude (GPS) 50° 27.46' W

Bottom relief FLAT

Ship's course to next station 270° to BS for dredging

Watchstanders LANVER / STRELIN

Comments Pinger batteries may be dead

Thermistors not being transmitted separately, grouped together. Am having them come up slow to 3450 to get good water profile at bottom. Pinger batteries died at 025930z.

KGB

R/V PALMER (March 1993) ~~Powell~~ Basin
Heat Flow Station Data

Heat Flow Station 8 Heat Flow Penetration ϕ1

Date JOϕ74 1993 Time on Station (GMT) 13:2ϕ Ship's heading 243.7

Latitude 62:18.24 Longitude 57:55.16

Sea State 4 (FORCE 6 WIND) People's State VERY GOOD

Time when probe turned on (GMT) 13:3ϕ

Time probe lowered (GMT) 13:35 Water depth when probe lowered 1972 meters

Water depth when probe at surface 1972 meters

Wire reading on winch when probe at surface -ϕ- meters

Are all the data showing up on 12 kHz YES

Time at stop above bottom (GMT) 14:ϕ3

Meters of wire out at stop above bottom 185ϕ meters

Wire angle: aft ϕ starboard ϕ port ϕ

Distance probe off bottom 163 meters

Time when probe entered bottom (GMT) 14:ϕ9:13

Water depth when probe entered bottom 1972 meters

Latitude (GPS) 62:17.98 **Longitude** (GPS) 57:55.85

Is the probe tilted? YES, 8-9°

Meter reading when wire stopped 2ϕ6ϕ meters 2ϕ14

Time when heater pulse turned on (GMT) 14:16:37

Wire angle: aft ϕ starboard ϕ port ϕ

Have you put more wire out? NOϕ

Meter reading on winch when started in 2ϕ6ϕ meters

Time when winch started in (GMT) 14:26:12

Meter reading on pullout 2ϕ16 meters

Time on pullout (GMT) 14:28:43

Water depth on pullout 1972 meters

Latitude (GPS) 62;17.99 Longitude (GPS) 57:55.83

Bottom relief FLAT

Ship's course to next station 242.4

Watchstanders LAWVER, WALDUER, WIEDERSPAHN, NAJMULSKI

Comments * BEAUTIFUL RECORD AND DAY

U/W 1433Z

62°17.99
57055.83

KGB

R/V PALMER (March 1993) ~~Powell~~ Basin
Heat Flow Station Data

Heat Flow Station 8 Heat Flow Penetration ϕ2
Date JUϕ74 1993 Time on Station (GMT) 15:ϕ6:5/ Ship's heading 237.5
Latitude 62:18.29 Longitude 57:57.ϕ4
Sea State 4 (FORCE 6 WIND) People's State GOOD
Time when probe turned on (GMT) 13:30 2.63SEC
Time probe lowered (GMT) 13:35 Water depth when probe lowered 1972 meters

Water depth when probe at surface 1972 meters
Wire reading on winch when probe at surface ϕ meters
Are all the data showing up on 12 kHz YES
Time at stop above bottom (GMT) 15:11
Meters of wire out at stop above bottom 185ϕ meters
Wire angle: aft ϕ starboard ϕ port ϕ
Distance probe off bottom ~~217.6~~ meters 116.25
Time when probe entered bottom (GMT) 15:26:43
Water depth when probe entered bottom 1972 meters
Latitude (GPS) 62:18.19 **Longitude** (GPS) 57:57.ϕ4
Is the probe tilted? YES, 7.8
Meter reading when wire stopped 2ϕ6ϕ meters 2ϕ16
Time when heater pulse turned on (GMT) 15:34:34
Wire angle: aft ϕ starboard ϕ port ϕ
Have you put more wire out? NO
Meter reading on winch when started in 2ϕ meters
Time when winch started in (GMT) 15:45:2ϕ
Meter reading on pullout 2ϕ26 meters
Time on pullout (GMT) 15:47:23
Water depth on pullout 1972 meters
Latitude (GPS) 62:18.ϕ8 Longitude (GPS) 57:57.14
Bottom relief FLAT
Ship's course to next station 233.ϕ
Watchstanders LAWVER, WOLCAVER, NAJMULSKI
Comments
U/W 15:5ϕZ

62:18.08
57:57.14

KGB

R/V PALMER (March 1993) ~~Bransfield~~ Basin
Heat Flow Station Data

Heat Flow Station 8 Heat Flow Penetration 03

Date JD074 1993 Time on Station (GMT) 16:21 Ship's heading 236.8

Latitude 62:18.36 Longitude 57:58:00

Sea State 4 (FORCE 6 WIND) People's State GOOD

Time when probe turned on (GMT) 13:30 2.62 SEC

Time probe lowered (GMT) 13:35 Water depth when probe lowered 1965 meters

Water depth when probe at surface 1965 meters

Wire reading on winch when probe at surface 0 meters

Are all the data showing up on 12 kHz YES

Time at stop above bottom (GMT) 16:44Z

Meters of wire out at stop above bottom 1850 meters

Wire angle: aft 0 starboard 0 port 2°

Distance probe off bottom 165 meters

Time when probe entered bottom (GMT) 16:50:50 ←

Water depth when probe entered bottom 1965 meters

Latitude (GPS) 62:18.24 **Longitude** (GPS) 57:57.86

Is the probe tilted? YES, 4.0°

Meter reading when wire stopped 2060 meters 2013

Time when heater pulse turned on (GMT) 16:58:02

Wire angle: aft 0 starboard 0 port 2

Have you put more wire out? NO

Meter reading on winch when started in 2060 meters

Time when winch started in (GMT) 17:00:05 ←

Meter reading on pullout 2023 meters

Time on pullout (GMT) 17:12:25 ←

Water depth on pullout 1965 meters

Latitude (GPS) 62:18.30 Longitude (GPS) 57:58.04

Bottom relief FLAT

Ship's course to next station 234.7

Watchstanders WOLAVER, NAJMULSKI

Comments X NOTE: TILT WAS A BIT SPORADIC ONCE PENETRATED

U/W => 17:17Z

62:18.3Φ
57:58.Φ4

R/V PALMER (March 1993) ~~Penn~~ KGB Basin
Heat Flow Station Data

Heat Flow Station 8 Heat Flow Penetration Φ4
Date JOΦ74 1993 Time on Station (GMT) 17:4Φ:38 Ship's heading 239.5
Latitude 62:18.61 Longitude 57:59.Φ2
Sea State 4 (FORCE 6 WIND) People's State GOOD
Time when probe turned on (GMT) 13:3Φ
Time probe lowered (GMT) 13:35 Water depth when probe lowered 1965 meters
Water depth when probe at surface 1965 meters
Wire reading on winch when probe at surface Φ meters
Are all the data showing up on 12 kHz YES
Time at stop above bottom (GMT) 18:Φ7:45
Meters of wire out at stop above bottom 185Φ meters
Wire angle: aft 1° starboard Φ° port 1°
Distance probe off bottom 161.5 meters
Time when probe entered bottom (GMT) 18:14:45 ?
Water depth when probe entered bottom 1965 meters
Latitude (GPS) 62:18.56 **Longitude** (GPS) 57:58.98
Is the probe tilted? YES, 25° ?
Meter reading when wire stopped 2Φ6Φ meters 2ΦΦ8
Time when heater pulse turned on (GMT) 18:22:Φ2
Wire angle: aft 1° starboard Φ° port 3
Have you put more wire out? NO
Meter reading on winch when started in 2Φ6Φ meters
Time when winch started in (GMT) 1834:30
Meter reading on pullout 2Φ11 meters
Time on pullout (GMT) 1837:00
Water depth on pullout 1965 meters
Latitude (GPS) 62:18.49 Longitude (GPS) 57:59.Φ4
Bottom relief FLAT
Ship's course to next station
Watchstanders WOLAVER, NAJMULSKI, WILLIAMS
Comments * NOTE: TILT IS QUITE LARGE UNCLEAR NOW IF IT IS REAL. COULD BE THE READING LIMIT OF THE SONAR. Very close to low Magnetic high on lo Horn. Many have been hard to penetrate. Looks tilted but Some real value. CAL

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 9 Heat Flow Penetration #1

Date JD#74 1993 Time on Station (GMT) 2300Z Ship's heading 256°

Latitude 62°17.52' S Longitude 57°39.87'W

Sea State 4 People's State OK sort of - not much sleep

Time when probe turned on (GMT) 0010Z

Time probe lowered (GMT) 0020Z Water depth when probe lowered 1989 m

meters

Water depth when probe at surface 1989 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz No ACOUSTIC DATA

Time at stop above bottom (GMT) 0046Z

Meters of wire out at stop above bottom 1850 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom 168 meters

Time when probe entered bottom (GMT) 0053:47 2031 m

Water depth when probe entered bottom 1989 meters

Latitude (GPS) 62° 17.49'S **Longitude** (GPS) 57°40.04'W

Is the probe tilted? ?

Meter reading when wire stopped 2075 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? No

Meter reading on winch when started in 2075 meters

55897	56336	56160	54336
56285	56336	56308	56266
53790	54318	54377	52887
52745	52963	53124	53276

3540 3373 3184 2990

Time when winch started in (GMT) 0101:30

Meter reading on pullout 2031 meters

Time on pullout (GMT) 0103

Water depth on pullout 1989 meters

Latitude (GPS) 62° 17.49'S Longitude (GPS) 57°40.03'W

Bottom relief Flat

Ship's course to next station 250°

Watchstanders LAWVER / NAJMULSKI

Comments U/W 0107 Z

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 9 Heat Flow Penetration Ø2

Date JDØ75 1993 Time on Station (GMT) 0154 Ship's heading 250°

Latitude 62°18.0334 Longitude 57°41.0986

Sea State _____ People's State _____

Time when probe turned on (GMT) 0010Z

Time probe lowered (GMT) 0159Z Water depth when probe lowered 1989 m 2,653 meters

Water depth when probe at surface 1989 meters

Wire reading on winch when probe at surface _____ meters

Are all the data showing up on 12 kHz _____

Time at stop above bottom (GMT) 0154Z

Meters of wire out at stop above bottom 1850 meters

Wire angle: aft -10° starboard 0° port 0°

Distance probe off bottom ? meters

Time when probe entered bottom (GMT) 0202:30

Water depth when probe entered bottom 1989.75 meters 2042Z

Latitude (GPS) 62° 17.98' **Longitude** (GPS) 57° 40.78'

Is the probe tilted? N/A

Meter reading when wire stopped 2080 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft -10° starboard _____ port 5°

Have you put more wire out? NO

Meter reading on winch when started in 2080 meters

Time when winch started in (GMT) 0209:00

Meter reading on pullout 2051 meters ~~02:11:00~~

Time on pullout (GMT) 02:10:45

Water depth on pullout _____ meters

Latitude (GPS) 62° 17.91 Longitude (GPS) 57°40.98'

Bottom relief Flat

Ship's course to next station _____

Watchstanders _____

Comments _____

260° ships heading

56376 56415 56398 56867
53507 53681 53830 53957

2869 2734 2568 2410

~150

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 9 Heat Flow Penetration Ø3

Date JD Ø75 1993 Time on Station (GMT) 0226 Ship's heading 242°

Latitude -62° 18.0634 Longitude -57° 40.7864 02477

Sea State _____ People's State 80 - 80

Time when probe turned on (GMT) 0010Z

Time probe lowered (GMT) 0229Z Water depth when probe lowered _____ meters

Water depth when probe at surface 1989 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz No - PINGER NOT WORKING

Time at stop above bottom (GMT) 0255Z

Meters of wire out at stop above bottom 1850 meters

Wire angle: aft _____ starboard _____ port _____

Distance probe off bottom ? meters

Time when probe entered bottom (GMT) 03:01:55 2029 M

Water depth when probe entered bottom 1989 meters

Latitude (GPS) 62° 18.15'S **Longitude** (GPS) 57° 40.77'W

Is the probe tilted? N/A

Meter reading when wire stopped 2070 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 2070 meters

Time when winch started in (GMT) 03:09:00

Meter reading on pullout 2032 meters

Time on pullout (GMT) 0311

Water depth on pullout 1989 meters

Latitude (GPS) 62° 18.18'S Longitude (GPS) 57° 40.78'W

Bottom relief Flat

Ship's course to next station Drifting

Watchstanders LAWYER

Comments _____

56398 56429 56411 56381
53241 63423 53586 53736
3157 3006 2825 2645
151 131 180
?

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 9 Heat Flow Penetration Ø4

Date 11 Ø75 1993 Time on Station (GMT) 0326 Ship's heading 242°

Latitude -62° 18.0882 Longitude -57° 40.7680

Sea State _____ People's State _____

Time when probe turned on (GMT) 0010Z

-7000 lbs 6500 lbs Time probe lowered (GMT) 0328 Water depth when probe lowered 1989 m meters

Water depth when probe at surface _____ meters

4000 lbs Wire reading on winch when probe at surface _____ meters

Are all the data showing up on 12 kHz No - PINGER NOT WORKING

Time at stop above bottom (GMT) 0338 Z

6000 lbs Meters of wire out at stop above bottom 1850 meters

Wire angle: aft 0° starboard 0° port 0°

Distance probe off bottom N/A meters 0341Z down

Time when probe entered bottom (GMT) 034410

Water depth when probe entered bottom 1989 meters 2029

Latitude (GPS) 62° 18.10' **Longitude** (GPS) 57° 40.67'

Is the probe tilted? N/A ?

Meter reading when wire stopped 2065 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 2065 meters

Time when winch started in (GMT) 034940

Meter reading on pullout 2029 meters

Time on pullout (GMT) 035200

Water depth on pullout _____ meters

Latitude (GPS) 62° 18.04'S Longitude (GPS) 57° 40.66'W

56310 56339 56376 56365
52873 53086 53245 53399
3437 3253 3131 2966
184 122 165
?

Bottom relief Flat

Ship's course to next station Drifting

Watchstanders LAWYER

Comments _____

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

Heat Flow Station 9 Heat Flow Penetration Ø5

Date JDØ75 1993 Time on Station (GMT) 0355Z Ship's heading _____

Latitude 62°18.0184 Longitude 57°40.5600

Sea State _____ People's State Better

Time when probe turned on (GMT) 0010Z

Time probe lowered (GMT) 0405Z Water depth when probe lowered 1989 meters

Water depth when probe at surface 1989 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz NO - PINGER NOT WORKING

Time at stop above bottom (GMT) 0413

Meters of wire out at stop above bottom 1950 meters

Wire angle: aft 0° starboard 2° port 0°

Distance probe off bottom N/A meters 0417Z START DOWN

Time when probe entered bottom (GMT) 0420:20 2035M

Water depth when probe entered bottom 1989 meters

Latitude (GPS) 62°18.14' **Longitude** (GPS) 57°40.41

Is the probe tilted? ?

Meter reading when wire stopped 2070 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft 0° starboard 0° port 0°

Have you put more wire out? NO

Meter reading on winch when started in 2070 meters

Time when winch started in (GMT) 04:26:50

Meter reading on pullout 2042 meters

Time on pullout (GMT) 042835

Water depth on pullout 1989 meters

Latitude (GPS) 62°17.95' Longitude (GPS) 57°40.13

Bottom relief Flat

Ship's course to next station drifting

Watchstanders LARRY R

Comments Check processed navigation for HF locations varies fairly rapidly.

56419 56438 56423 56393
52467 52693 52897 53084
3952 3745 3526 3309
207 219 217
210

-.005 2 0.1°C

2.32K
500 counts / degree

R/V PALMER (March 1993) Powell Basin
Heat Flow Station Data

0.33°C/m

Heat Flow Station 9 Heat Flow Penetration Ø6

Date JD Ø75 1993 Time on Station (GMT) 04 Ship's heading 255°

Latitude 62° 17.925S Longitude 57° 40.1531

Sea State _____ People's State Good

Time when probe turned on (GMT) 0010Z

Time probe lowered (GMT) 0440Z Water depth when probe lowered 1989 meters

Water depth when probe at surface 1989 meters

Wire reading on winch when probe at surface -0- meters

Are all the data showing up on 12 kHz No - Pinger not working

Time at stop above bottom (GMT) 0447Z

Meters of wire out at stop above bottom 1850 meters

Wire angle: aft -6° starboard _____ port 5°

Distance probe off bottom N/A meters

0452 50 Z Start down

Time when probe entered bottom (GMT) 045540

Water depth when probe entered bottom 1989 meters 2037m

Latitude (GPS) 62° 17.84' **Longitude** (GPS) 57° 40.02'

Is the probe tilted? N/A ?

Meter reading when wire stopped 2066 meters

Time when heater pulse turned on (GMT) N/A

Wire angle: aft -6° starboard 0 port 5°

Have you put more wire out? No

Meter reading on winch when started in 2066 meters

Time when winch started in (GMT) 0502:00

Meter reading on pullout 2042 meters

Time on pullout (GMT) 0503:20

Water depth on pullout 1989 meters

Latitude (GPS) 62° 17.77' Longitude (GPS) 57° 40.04'

56412 56439 56472 56385
52241 52463 52681 52879
4181 3976 3741 3506
205 235 235

Bottom relief Flat

Ship's course to next station _____

Watchstanders _____

Comments Might want to analyze 12kHz record in record to these stations to see if any correlation between bottom reflectivity and heat flow.

STOPPED 2 minutes at 2025 m 02:04:15 Z
02:07:00 Z

SPEED UP AT 2000M 020830

31/28/59/16/25