

SPLASH '04
RECORD
ACOUSTICS

SONOBUOY LOG
07/11/04 - 09/09/04

MAC II

7530-00-222-3525
FEDERAL SUPPLY SERVICE
(GPO)

SPLASH '04

SONOBUOY LOG

MAC II

①

S#118.BP
7/11/04

S# 118 B. physalus

Lat/Long $58^{\circ} 48.92'N$ $140^{\circ} 1.50'W$

SB DAT 1, Ch 58, 90ft 53D

NO

VOCALS

($\frac{1}{2}$ times)

1623 Buoy deployed w/in of whale (Good Buoy)

1625 Begin Recording (BOT SB DAT 1

Whale up 3/10 ret 175R

Buoy is at 19 ret 180R

1628 sb@ 177L 8ret

[SBDAT 1628 = Whaltrak 1626]

1632 whale resight

we are at 1 mile - turning left to avoid glare

1638 1nm - slowing down to listen [1 bar, 2 bars] but sounds good

buoy resight 3.5 ret @ 249L

1640 Fin @ 4.5 ret @ 32L - estimated pretty close to sonobuoy (~0.1nm)

1643 Sonobuoy @ 5 ret at 0

1644 Whale and sonobuoy ~3/4 nm apart

1647 (90Hz Pulse?)

S#118BP
7/11/04

1650 SBR 20R, SMT
blow ~ 5R, 2-3 ret (about)

1652 Preparing to launch AR-1 to pinch
this whale.

1653 turning MAC to launch AR-1 - noisy
1654 - loud LF engine noise - dropping speed

1700 AR1 in water

1701 - change L channel to 10 ch
R channel to 58

1704 - Sm boat noise loud
Ch 10 is retrievable SB (still in AR1)
Ch 58 is S3D, deployed earlier

1705 - MAC 110L, and down to steerage
3 bars 58
1 bar 10

1710 biopsy of animal, tossing sonobuoy now

1712 AR-1 is 1nm from ship, they have
deployed the SB.

5 bars Ch 58 - good
1 bar ch 10 - no reception

1719 Retrievable SB now @ 6R, 0.6nm

SA 118
7/11/04

1732 FRT ER SBDAT 1 eot
1734 BR SBDAT 2 bot

1741 switching to the other antenna
- was down to 2 bars^{SB} on ch 58 SB
now @ 5-6 bars on VHF antenna
- SB is 1.3 nmi away.

1743 back to CS

1750 4 bars 1.46 nmi

1751 3 bars 1.59 nmi (VHF antenna)
(1 bar = SB antenna)

→ VHF connection seems bad because it
varies w/ the orientation of the
antenna cable.

1757 2-3 bars 2.39 nmi

1802 1-2 bars 3.18 nmi

1805 1 bar 3.86 nmi - still receiving signal

1808 FRT SBDAT 2 rw to beg.

NO VOCALS

00
S#126
7/13/04

②

S#126 O. ORCA

Lat / Long 59° 9.66' N 141° 15.55' W
SB DAT 2, ch 1, 90ft, 57

VOCALS

- 1108 SB in & working
BRSB DAT
hearing calls !! (one faint one
anyways)
- whales within a few hundred meters when SB dropped
- 1101 The whales are talking !! ;
whistles, clicks ! ;
- 1103 Great whistles !
- 1104 screams ?
- 1104 buzz followed by great whistles
- 1111 noisy, noisy ar 1
- 1112 great whists
- 1115 great buzz
- 1123 playing with antennas
- 1126 we're back in business
whists, buzzes ;
- 1130 whales are @ 30L 2.5 red, SB is
100m off our stbd
haven't heard the whales for a few
minutes
- 1132 faint whistles
- 1135 EC?
- 1138 whist EC
- 1142 loud hf tone - sub?
- 1145 " "
" - or SB dying?

00
SP126

7/13/04

1145 lots more static

1 bar on radio - only 0.9nm from buoy - did it sink early? is

1150 It's alive again - can hear or 1
- still some static though
- 1-2 bars on radio
- 1.21 nm

1151 dead again

1201 changed to VHF antenna (was on SB
~~1201~~ ~~VHF antenna~~ antenna) + got signal
again

- hearing clicks
- 2.14 nm from SB

1204 loud clicks

1206 ER SB DAT 2 ect

1207 BR SB DAT 3 bot

~~1208 DAT 3 bot~~

1210 lots of static, 1 bar on radio, 2.76 nm,
- still hearing clicks

1214 clicks + lots of static ~3.12 nm from SB

1220 er SB DAT 3 - static

- 3.51 nm from SB

CW SB DAT 3 to beginning - not
keeping RC on D/F/E

(3), (4)

7/14/04

SILVER BUOY #1
Lat/Long:

53°D Ch 56, 8 hrs, 90ft = right

BUOY #2
Lat/Long:

53°D Ch 60, 8 hrs, 90ft = left

Lat/Long:

S#148 Blue Whale

Lat/Long

Ch 56, 60 SBDAT 3, 4

A/so, S# 146

Humpback

S# 147

Sperm Whale

S# 145

Fin Whales

No Vocals

(1)

1939 Begin Recording CBT DATS BOT

1943 Black buoy in water - FD 20R, 13ret

1944 Black buoy reception

1945 Silver buoy is deployed now

1948 - Still nothing on silver buoy (back)
↳ works, but bad noise

1953 whale is somewhat stationary now, we are w/in
1/2 mile or so of the buoys & the whales &
everybody is stationary

1954 90R - ship is turning - before turn:
everything off beam 4/10

SB#1 2/10^{mm} @ 74°R

SB#2 3/10^{mm} @ 7R

Whale is down ~ 1/2 min ~ around the
buoys, should resurface past the buoys

1956 port side, 7/10 min - blue whale is up again

1957 100m off SBD beam

1958 half speed, 40L to more away from the buoys
20:01 - also, humpback off port bow

[There will be more resights
from FB - will get after everything done]

S#148
BM
7/14/04

2004 40L

2004 lowered recording input on R channel (ch 5b)
so it would not overload so much - Bad / Fnois

2006 BW - upat 22L, 400m

All Stop

MN 400m off port bow

SBs ~ SB#1 157L @ 0.5nm

SB#2 134L @ 0.6nm

our heading ~ 254 4.5 knots,
coming down to All Stop

2009 - Ch 60 all bars

Ch 5b 1bar

2011 nights: SB1 190 8.2 net
SB2 214 7 net

2014 Blue Whale: 126L 0.4 nm

2016 Blue whale just here - fluked up

2025 R+Ch (5b) is dead → switch to Ch 60

2026 BW → 127L, 0.3 nm (whale is not moving much now)
Bwops → 158L, 1 nm SB1
143L, 1 nm SB2

137L, 1.3 nm - humpback

Not from this initial

2027 - Sometimes I think I see very faint pulsing @ 84 Hz - reminiscent of A "calls"? or ship noise??

SA148
BM
7/14/04

2033 Blue Whales ns^{ttt} 171R, 0.4nm
- he is now between us & the sonobuoy

2034 Up to Slow Speed & 90L

2035 Will maneuver to bring AR-1 on board

2038 - no monitor for a few

2040 - back

2042 BW @ 135L, 0.6nm

2043 Bringing in AR-1 at this time - maybe noisy for winches, etc

2048 ERT DAT 3 EDT
BR DAT 4 PDT

2050 Resight BW → 166L 0.7NM

2051 - putting AR1 - in the cradle

2058 whale ~1nm ahead

buoy ~2nm off stbd (?)

2101 → SBI resight: 90R quiet

All Stop Here for CTD

Heading 340 9 ↳ 7 → 6 knots

2105 - 5knots, still slowing

2106 - now whale down port side, 112L, 0.3nm

2107 - possible nukle whale w/in a few hundred meters of the SB

2112 Resight - BW 120L, 0.4nm
- sonobuoy - s 126R, 3nd

SA 148
BM
7/14/04

- 2115 - GPS has us at 1.5 knots over ground
- Positive ID - Minke Whale - it is REALLY close to the sonobuoy - 200-400m from SB1
2118 Observers are done for the nite
2144 4 bars reception no sounds

2156 ERDAT 4
BRDAT 5

- 2219 4-5 bars reception
Ship is finishing CTD - drifting @ heading
333°, 1.3 knots. whale is still
around us, sonobuys are probably ~2mi
away??

2306 ERDAT 5 eot
BRDAT 6 bot

NOT monitoring now, still in sonar's
but I will keep recording for another
hour

0003 2-3 bars reception

0012 ERDAT 6 eot
- Absolutely NOTHING seen/heard
except for sperm whales

S#148 BlueWhale (77) SPLASH '04 Time is wincruz
1943 black SB 2022R 13 ret (S1) time

1945 silver SB 6L 10ret (S2)

1948 15 blow 31R 13ret

48.29 B

48.53 B

49.01 B

49.19 B

49.37 B

49.59 B

50.14 B

50.22 flukes → entered into wincruz as
a comment (all blows will
be comments from now
on)

57.59 Blow 8ret 33L (whale)

58.50 Blow

20:00 Blow

05 18 Blow 14ret 47L (whale)

6:37 B 72L 73 ret

6:58 B

7:15 B

7:56 B

8:20 SB1 - 165 11ret
08:26 Blow

8:57 - 145 SB2

9:27 BW has turned & is travelling parallel
mn is ~~1~~ mi 60L

10:08 14:00 15 ret 126 L B (mn ~ 8 ret
107 L)

14:17 B

14:33 B

14:52 B heading towards our
stern

15:08 B

15:27 B

15:48 B towards stern

16:04

:12 fluke 1b ret 142 L heading 060
1st ship
(our course is 064)

20:20 4.5ret - 152 SB2

SB1 is behind the stack

23:49 Blow 22 ret - 133

24:16 Blow

4ret (2/7)

turned & is travelling
to us (course = 266)

~~1~~ mi 60L

D

B

20 24 24 B

20 24 41 B

24 58 B

25 11 B

25 33 B

25 50 B

26 12 B

26 21 B + high arch turned
towards our stern

27 18 mn ~ 1 mi - 136 3.5 ret

20 29:30 - 136 0.4 ret 3 fin whales
3257 B 15 ret 170 E R

33 14 B

33 42 B

33 57 B

34 13 B

34 27 B high arch
were moving 90L + picking up a lot

20:41:40 B blow

42 07 B heading away from us

8.6 ret B 4 L

42:32 B

43:38 B

20:49:26 B

40 B

56 B

50:09B -167 7ret

50:31B

50:44B

58:00 B

58:18 B

29 B 1 mi ahead of us heading

44 B

58 B -10 6ret
across the bow to
the left
(our course is
341)

59:13 B

31 B

21:00:00 SB1 82 R 4ret

21 CS 39 B 16 ret -105

05:58 B

06:03 B

06:18 B

6:32 B

6:50 B

8:16 B

8:34 B

4/7

20:12:18 B

12:41 B

12:56 B

13:10 B 11ret 120 L

13:29 B

14:06 126 R 3ret SB1

15:48 minke whale 200-400 m from
SB1

18:34 B

18:49 B

19:04 B

19:17 B

19:31 B 120 L 16 ret

24:09 B

24:24 B 145 L 16 ret

24:51 B

25:03 B

25:16 B

25:30 B

25:44 B high arch

30:43 B 120 L 17 ret

30:59 B -135 SB1 225 ret

5/7

#148 BlueWhale (1/7) SPLASH D1 Time is ~~windup~~
1943 black SB 300 22R 13 ret (51)

1945 silver SB 6L 10 ret (52)

1948:15 blow 31R 13 ret

48:29 B

48:53 B

49:01 B

49:19 B

49:37 B

49:51 B

50:14 B

50:22 flukes → entered into winCruz or
a comment (all blows will
be comments from how
on)

57:59 blow 8ret 33L (whale)

58:50 Blow

20:00 Blow

05:18 Blow 14ret 47L (whale)

6:37 B 72L 73 ret

6:58 B

7:15 B

7:56 B

8:20 SB1 - 165 11ret

08:26 31w

2203 22 B

03 37 B

(7/7)

SB2
857 -145
9.27 BW has turned + is travelling
parallel to us (course = 060)
Mn is 1/4 mi 60L

6 ret (47)

13/8/14:00 15 ret 126 L B (Mn a 8 ret
10 FL)

14:17 B

14:33 B

14:52 B heading towards our
starboard

15:08 B

15:27 B

15:48 B towards starb
16:04

:12 fluke 16 ret 142 L heading 060
four course is 064 ft ship

20:20 4.5 ret -152 SB2

SB1 is behind the stack

23:49 Blow 22 ret -133

24:16 Blow

ST 567 RW Mother/Calf
2011 Dead area, 200m

2014 50ft, 500m animals up
moving fast 2 animals

2016 (8e, 500m) up again

2020 Now turning towards

Acoustics detections 400m

away - last chance for

exit

2022 90ft 100m

2033 single PW 120ft 5R

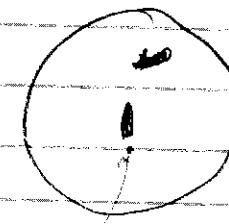
(5)

7/15/04

S# 169 Blue Whale

Lat/Long $58^{\circ} 40.15' N$, $144^{\circ} 23.86' W$

SBCH/DAT Ch S2 90ft 8hrs



buoy - behind ship
ship heading $095^{\circ}/114^{\circ}$
ship speed = 5.4 knots (drift)

Whale ~ 34R, 11ret

bnn

AR1 near whale

1430 buoy deployed, start recording
BROAD 7 bot

1430 19R, 9 ret, its

1433 whale up 34R, 11 ret

Ship heading (Magnetic heading = $095^{\circ}/114^{\circ}$)

1437 300m, 40R - whale up

1439 Buoy - stbd qrt 600m

1441 Small Boat noise

1441 whale reight = 101R, 17 ret

1444 - Small boat is about ~0.5 km from sonobuoy
~ need to check, maybe little interference
with LF buoys

1452 whale now at 170R, 700m > close!!

1454 buoy at 158R, 400m

1457 whale, AR1 @ 95L, 12 ret

1500 buoy reight 166R, 20 ret

Ship has been slow turning to the left -
buoy should be off port qrt now1503 - AR-1 got their biopsy & photos - They will
go work on some humpbacks now, we will
sit a this blue for a while and see
if we get lucky

No
Vocal

#169
BM

7/15/04

(2)

- 1510 AR1 a wee bit noisy, but not affecting LF much
1511 Flying bridge hasn't seen the whale in a while
(ship full reception a buoy - it is probably ~1/2 nm from the ship)
1520 - still no vocals, still no resights of the whale (maybe no resights since the biopsy?)
1530 - Still Nothing - It's been an hour, so we'll head out now
- Other large Whales - 8, 5, 2 nm
unid by Whales so far
- buoy is 140 R, 2 fm. (full bars, of course!)

1530 CS

1532 ship noise 1 for turning, acceleration

1535 ship heading is 221, 10 knots
(ship is very loud now)

1538 EROAT 7 eot
BROAT 8 bot

(1539-1541 - NO MONITOR ZOK A FEW)

1545 Ship heading ~ 216, speed 10.5 knots
buoy ~ 1.5 nm behind us, 5-6 bars reception
1548 buoy ~ 2 nm behind us, 4-5 bars reception
1551 Buoy ~ 2.5 nm behind us, now getting LF noise (the pulsed-looking kind)
3-5 bars reception

S#169

BM

7/15/04

*sonobuoy antenna

1552 Fin Whales off stbd beam (~7mi) - AR-1 on them
Radio interference - communication w/ AR-1 on 82A

1553 - buoy @ 3nm, 3+ bars reception

1559 - buoy at 4nm, 2-3 bars reception (SB antenna)

1600 Radio interference

1600 ships heading 213°, 10.9 knots

1604 radio interference - signal getting weaker
ship 5nm from buoy, 2-3 bars reception

1606 hear AR-1 a little bit (they are coming towards us to work on a humpback)

1610 buoy is ~6nm away 1-2 bars reception
can't hear DIFAR anymore (too faint?)
but, I can hear AR-1 whining away
bad radio interference on 82A

1616 SB @ ~7nm, ~~SB~~ reception 1-2 bars
now, noise is bad, radio interference is bad

1622 - Buoy is pretty much toast now
(6-7nm)

→ Good enough for me!
I will keep recording to EOT (DAT-B) - max

S# 174

BM

7/15/04

(6)

S# 174 Blue Whale

Lat/Long $58^{\circ} 33.49' N$ $144^{\circ} 33.9' E$

SBCh/DAT SBCh 62, SBDAT 9

1648 SB deployed; Ch62 $\rightarrow 0.3^{\circ}$

Whale @ 20R, 14ret

1649 BRDAT 9 bot - good buoy, full locs

1650 15R, 250m - whale resurface

1651 we are drifting $\approx 108^{\circ}, 1.4$ knots (heading by GPS, maybe no)

1652 whale still up 75R, 200m

no vocals yet

1653 whale moving now, sped up a little

sped up 35R, 300m

1705 whale up @ 45R, 300m

1712 whale up @ 65R, 500m

1713 buoy is @ 165R, 300m

1719 higher frequency "scream"? - something strange,
was looking at it - it sounded kind of
biological, though1722 BW now @ 124R, 7ret
(hearing ARI approaching it)

(J)

#174
PM

7/15/04

1727 Bu@ 144R, 6ret - it fluked

1731 Buoy @ Port Qtz, 300m - fuel bars, great
(20L?) reception

1739 I hear AR-1? Maybe not?

Full reception

1743 Downsweep

1744 Inn from whale, buoy ~ 1/10 nmi

1746 - 120R, up in speed

1747 Whale up now, we are turning
(140, 3 ret) ~ about, but we are
turning

we will move ~ 1/2 nmi from whale
we are now (somewhat closer to whale
& further from buoy)

*There have not been any other sightings

1750 heading 208 @ 5.4 knots (to 6.8 knots)
but heading is 200

1754 weight of whale = 51 R, 3.5 ret

1756 all stop (slowing now) @ 4 nmi from last
spot - we'll now port towards AR-1

#174
BM
7/15/04

I think the ~~old~~
is the ~~new~~
not ~~new~~
but ~~new~~

A. sufficient?

*way-direction?

No for
none

1756 - buoy @ 160R, ~~ret~~ a ret
1757 - whale @ 15R ~~Stimmi~~
1757 - ERDAT 7 cd
ERDAT 10 lot
Low rate stopping here
1759 - whale @ 80L, ~~ret~~

1800 - hearing some strange noises ($>100\text{ Hz}$)
re-check near beginning of DAT 10

1801 - buoy maybe broken been noisy we
are done hearing

1802 - full reception still

1810 BAWW @ 25R, 20ret
1812 SB now @ 130R, 8ret

1817 no monitor for a bat. recheck ~~ear~~ ~~now~~



1817 BWA @ 13R, 1fret - resight
1822 LF sound ($<20\text{ Hz}$) - check this out
→ noise (seismic?)
1824 - blows over horizon 8-10m away (red)
2nd magnetic of 20R

#174
BM
7/15/04

1827 odd rattling in mid-frequencies

& super faint LF down-sweeps (60 Hz → 20 Hz)

1828 - BW@20 R, visit resig

1832 - They have a biopsy, methinks

- Approach whale w/ MTC - make a pass astern & then go back to CS
→ up to 3 knots & heading to AR-1

1834 - No MONITOR

(loss of maneuvering of the ship)

1834-1905
no for
maneuver

1853 SOL, 3/4 nmi - whale up
we are going to CS
whale is 400 m from SB

1905 BRDAT II bot,
ERDAT 10 eot

Still Recording, no monitor
(buoy is maybe 3nm behind us)

1926 - 2-3 bars reception - fair bit of noise

- erDAT II eot, no more recording
it's all gone now

Simpler notes

7

S# 229 *Orcinus orca*Lat/Long $55^{\circ}38.67'$ $148^{\circ}10.60'$

SB Ch/SB DAT 12 Ch 9401

~20 animals

7/18/04

No vocal

1748 Buoy deployed by AR1 near orcas

Animals ~300m off stbd beam

Sonobuoy is ~

1754 SB is + staticky

1758 125° 8ret SB 150° first animals

no vocals yet

1759 static is a lot better now - but at 1 loud

1804 we're going to move off 15 min + lesser
for a bitjust changed to VHF antenna full
recognition area

1807 SB and now we were at 1-2 bars

1805 SB 300m off port bow

1809 stbd bow 70R 500m - main opp of killer
whales

- no vocals yet

1811 stbd beam 500-1000m - whales

SB is 1 mark behind us

- 5-6 bars or radio

no vocals yet

1814 radio interference - but after that,
SB sounds good.

7

1820 lots of static - still 4-5 bars on radio

1821 kws are 400 m off bow

1822 playing with antennas

1824 static better now (VHF antenna)

1825 1 wed - static still bad

1826 moving back towards the SB (its ~2 miles away)

1830 static gone again

~1 mi from SB

1834 SB is $\frac{1}{2}$ mi ahead of the ship

1837 were 200 m from the SB (stbd bow)
- it's really bad

1842 starting to move away - it's really bad now

1844 quieter now

1847 were stopped $\frac{1}{2}$ mile from SB

- don't know where the whales are
- no vocals

1857 ert 12^{ed} brt 13 bot

1858 faint downsweps

- don't know where the whales are

vocals! →

1859 the whales are talking!

1901 higher freq whots (very faint)

1906 faint call

1907 louder calls

1909 call

1912 6R 0.6 miles - SB resight

1920 coming back to CS
- no vocals lately

1921 SB is 35R 0.5 nmi

1925 faint calls 4kHz tonal

1926 " " "

1927 " " "

1928 2-3 kHz upswps (abit louder now)

1930 2-1 kHz ~

1931 " "

1932 louder upsweps

1934 still hearing calls

1939 haven't heard QRSes in a while

SB is 2.4 miles directly behind us
2-3 bars on radio 8

still sound good

1948 starting to get static now

approx 3/8 nmi from B

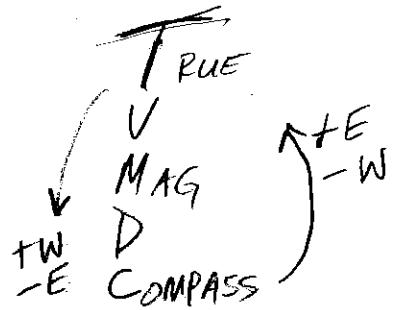
1953 lots of static ~5 nmi from SB

1 bar

2002 no more reception ~6 nmi from SB

2004 ext 13

Done



Virgins make dull
companions

THUMP TRAINS
ORCAS

SPERM WHALES
(sorry, no dives)

MAG → TRUE
Deviation, 14.5° W

14.5 W

⑧

8/8/04

EVENING SONOBUOY

Lat/Long

SB Ch/DAT Ch56, DAT 14, 15 (90ft, 8hrs)

*Evening sonobuoy deployed w/in NW
"blue whale box" *

2120 Buoy deployed

2123 Start Recording

2125 No signal yet maybe a bad buoy?

2129 2nd buoy (Ch64) deployed 56° 6.17, 165° 3.79

2130 2nd buoy is GOOD!

Ship's heading is 237 TRUE (marks to WHALTRAK)

2139 Buoy is ~3/4 nmi away

Hearing repetitions pulsing - THUMP TRAINS ??

2211 SWITCHED ANTENNAS (VHF)

now, good reception again

2231 END SBDAT 14

2232 Start SBDAT 15

2256 No Monitor, keep recording to EOT SBDAT 15

(9)

8/9/04

MORNING SONOBUDY

Lat / Long $51^{\circ}34.37'N$, $165^{\circ}47.23'N$

Sonobuoy type 53A, Ch 56 (90ft, 8 hrs), SBOAT 16, 17

Sperm whales

(1) no blues

- Buoy 1
0419 - Buoy deployed - brief signal for a minute, then cut out
0425 - Buoy still bad, will try another (Ch 60, 90ft, 8 hrs)
- Buoy 2
0427 - Buoy #2 Deployed - no signal yet
- Buoy 3
0435 - Buoy #3 Ch 60, 8 hrs, 90ft
0436 - Start Recording
will move $\frac{1}{2}$ nm away from buoy
whale talk true heading (Anaktuvik) = 223
Magnetic heading is (from mag) = 198°
- 0447 - now ship is at $51^{\circ}34.37'N$, $165^{\circ}47.23'N$, will sit here & monitor
for an hour or so - nothing yet, but buoys
good anyhow
- 0554 ERT SBOAT 16, ERT SBOAT 17
- 0605 Still no sounds
will maneuver ship to start point for effort
(might get a little noisy)
- some radio interference Buoy is far away
but reception looks good.
- 0631 No monitor - but still recording to end of SBOAT 17

~~NO~~

A.M. SONOBUOY

8/10/04

SB

Lat/Long

52 54.3 166 39.9

SB Ch/DAT

S

SB Dat 1B

SB#4 ch 54 SB DAT 1B start 00:00

0409 Buoy in - no signal yet

0413 will wait 2 more minutes

0419 SB#5 ch 64 52°55.1'N 166°39.95'W

0419 No signal yet

0423 Nada

0424 SB#6 ch 60 90' 8h

0430 AAARGH 52°56.1'N 166°40.1'W

0446 last chance SB#7 ch 62 90' 8h

0446 52°57.4S 166°40.0E (Took this one out of it as)

0449 nothing - Ad antennas

DJD I HATE SONOBUOYS, I give up, they win

DRD

BUDS

SB

NO
RECORDS

MORNING SONOBUDY ⑩

8/18/04

S#

Lat/Long $52^{\circ}45.52'N$ $172^{\circ}09.11'E$

SBCH/DAT

SB DAT 18, 19

*xx

* we are 15nm off Atu Island, Aleutians

0422 Sonobuoy ① deployed - Ch 64 - good buoy, bad reception

0423 Start Recording

0430 Sonobuoy ② deployed - Ch 56

0435 Sonobuoy ③ deployed - Ch 60

- * Δ Antenna, reception ok on SB 1 - head back to it, sit off it about $\frac{1}{2}$ - $\frac{3}{4}$ nm

Sperm Whales

Orcas

0443 OK, monitoring SB 1 (Ch 64) now, now we are $\frac{3}{4}$ nm away
buoy has 2-3 bars reception, good enough
water & ship noise, good
some radio interference (LF) - getting better
as we approach buoy.

0445 Sperm Whales

0451 we are 0.7nm from buoy, 4-5 bars reception
coasting in a little closer

lots o' Sperm Whales, and some faint orcas

0456 Tested PIPAR - No locks ... So, if I do hear
blues, I may be in trouble
I am monitoring below 120 Hz

0506 we are $\frac{1}{2}$ nm from buoy, 4-5 bars reception
still, NO LF - not even tested?

0533 end DAT 18, But DAT 19

0534 - possible faint 20 Hz?

01

8/18/04

0553 - we are now 0' from the buoy at 1400

recption. There's a little more LF noise.

No LF biologicals, lots of PM (of course)

0600 - lots of Radio interference, they are putting AR-1 at the rail

0630 - we are now 1nm from buoy 1, with 3-4 bars reception. Still no bands

Still hearing sperm whales

Will still monitor for 30min more

0640 ERT DAT 19

no more recording

only monitoring for a little bit longer

0700 Stop Monitoring

No LF biologicals

Naile M.

(11)

MORNING SONOBUOYS

8/19/04

Lat/Long 52 34.58 N 169 14.30 E

SBCH/DAT# SBDAT 20,21,22

(SBI) 0357 Sh 64 8h 90' "rusty" buoy Dropped off stern

0359 no signal yet - will wait 5 min -

0402 still nothing - crap

SPERM WHALES
ORCAS

NO LF (D)

Red bu 110m

H.D depth below 11-6 km

(SBI)

ch 56 8h 90' 52 33.78 N 169 13.93 E

0407 begin reverb - Dropped off port side

~~SBDAT 2 + SBDAT 20~~ Good signal !

0410 spermwhales, orcas ? yes

0420 lots of sperm, few orcas

0423 ship 150° - can hear quite well 10 nautical miles away

0442 PMS, DO + ship orcas v. chatty

0449 both have shifted their way - still

making noise, chases lots of orcas

0517 pilot tones

0502 picking up another ship + sperm + orcas

0515 switched antenna from 1 bar down to 3 bars on top radio, 100% 1/10 sec

0514 all silent - DAT rec stopped, still tape left - X

0523 Begin SBDAT 21, havent heard orcas in a while, still getting sperm

0530 getting closer to buoy - signal up to 3-4 bars now hearing a couple of ships - 1 contact 24 mi 110 R

* this could be a screwing up my part of tape was rewound itself may
didn't hear it stop + it didn't look like tape was moving when taped

8/19/04

11

- 0535 still getting PM, ship, no LF
- 0540 fewer PM - lots of ship noise, not as we're dead a KID potentially, w/ 0.5 nm of buoy, will move off 0.5 nm.
- 0543 getting Sporom again, getting more static bursts
- 0600 1-2 bars, still good visibility, ship in distance roughly 1 nm away, getting 4 shipping bands, FM beating of signal, AII
- 0606 will move closer to buoy - 1 bar on top radio, no bars on low radio; no sperm, no LF, lots of static + signal in/out
- 0617 getting PM again, faint areas
- 0620 stopping here, Signal 2 bars, better but still not great, MLF, faint areas, good PM
- 0638 end SRDAT 21
begin SRDAT 22
- 0635 Sperm, only LF is ship lines
- 0640 Signal getting weaker, very static - should be near buoy. Getting sperm burst only when there is static
- 0650 buoy sounds pretty bad, strong quiet times but lots of static, can only hear PM occasionally will try moving back to original loc of buoy to see if things improve. Couldnt get a lock on sperm because it didn't bring hearing back to 2-3 bars
- 0655 v. good signal here: $52^{\circ}34.8E$ $169^{\circ}14.2S$
lots of PM click but also some AM beating
- 0700 good signal PM
- 0706 killer whale getting loud whinnies

0710 lots of killer whales

0712 end monitoring, will let tape record bump
to end of Sbdt 22

0725 ert sbdt 22

SSB

20
1 18
18

(12)

S#444 Blue Whale

SB DAT 23, 24, 25, 26

8/19/04

SB DAT 23 1412 (S) 2035.3N 169°14.7E

ch 54 8h 90'

good signal bw 500 m from
but bad noise

S#444 whale 150 m away

Buoy starts arrival, deploying another

ch 64 8h 90')

(SB) 1422 52°35.3N 169°14.69E)

• Began recording
Both buoy wacky

(12)

1422 Began recording. SB DAT 23

1426 whale 5 ret, 20°R → 1424 faint bw call 20#2

1427 turning 90°R → 1425 faint bw call 20#2

1431 slowing to two knots

1433 Buoy #2 - 90°R, 8 ret

1434 whale - 20°R, 10 ret

1435 sending ARI in to collect biopsy-photo

1438 no locks on DIFAR AGAIN!

sperm whales detected

1439 whale up 30°R 0.4 mi. 1440

1441 Buoy #2 - 129°R 6.5 ret → faint bw call 20#2

1448 whale up - 60°R 8 ret.

1449 whale down

1450 Possible call (did not get any locks.)

1451 Buoy at 111°R, 6.5 ret. → MSI faint bw calls 20#2

1452 whale up - 90°R + 8.5 ret

(51)

(13)

S#444 → continued.

8/19/01

- 20 Hz
- North
- 1500 tried to get a lock → didn't work again
 1501 Another possible call ~ 20 Hz → 1500 faint bw call 20 Hz
 1503 Turning 90° R.
 1504 Buoy at -126° R, 4.5 ret
 1505 Possible fin whale call -> no lock! AR6H!
 1507 17L ret 9 whale - 1509 faint bw call 20 Hz
 1511 Possible blue whale call
 1512 Replacing buoy on channel 54 w/ a buoy on
 channel 160!
 New buoy channel 160 3 hrs, 90 ft Ch 1?
- 1514 Buoy #1 - 25° L, 0.7 ret.
 1515 Buoy #2 - 53° R, 7.3 ret.
 1515 #3 Buoy in the water → 52° 2.64 N 168° 56.04 E
 1520 DIFAR working, reported lock. → 1519 faint bw call 20 Hz
 1521 Brt SBDAT 24, Ext. SBDAT 23
 1521 Whale 70° R, 14 ret
 1522 Fin whale probable vocals. →
 ↳ No lock on DIFAR
 1525 Another Fin vocal.
 1525 4/10 nmi away from 3rd sonobuoy.
 1527 3rd sonobuoy, 112° R, 3.5
 1527 Fin whales at 123°, 108.5 True
 1529 3rd Buoy, - 110° R, 7.5 ret
 1533 whale up 115° R 7.0 ret. - 15 our GPS screen
 1536 Bridge had our 3rd buoy loc at 52° 02.6 N 168 56.0 E
 1537 3rd buoy - 111° R, 10 ret.
- 2

S# 444

SBDAT 23-25

SBDAT 25 best for b/w calls

	MA6	TRUE
from S Buoy:	223	208.5
Ship 2 whale:	220	205.5
DIFAR:	150	135.5

S# 444 → continued.

8/19/01

- 1540 - Signal 15-35 Hz, Fin Whales. $300^\circ \rightarrow$ True = 286.5 ^(low confidence for this beam)
- 1541 Whale up - 166°R 7.5 net.
- 1544 ERT SBDAT 24, BRT SBDAT 25
- 1545 Possible blue call.
- 1550 Whale - 99°R 5 net $\rightarrow 187^\circ$ magnetic
- 1551 25°R, 4 knots
- 1554 Possible blue whale call.
- 1555 Buoy is at 110°R, 26 Ret. (223 mag)
- 1557 Whale 220 mag, 4 ret.
- 1557 150 mag, from buoy \rightarrow (135.5 TRUE)
- 1559 THDI GOT # B10754Y11
1606. Another possible blue call
1606. 240 mg, 27 net (14 nm) whale up. (52.054° 168, 57.60)
- 1609 DIFAR on whale vocal is 152 mag (137.5 TRUE)
1617. Whale up 30°R, 1.5 nmi.
- 1626 Buoy #3 - 125°R, 10 net. $52^\circ 03.24$
-168 57.36
- 1626 Another blue call
- 1627 Whale - 9°R, 5 net.
- DIFAR for blue is ~ 152 mag (137.5 TRUE)
- 1638 Whale up - 150° (turning)
- 1646 Sperm whales.
- 1648 Turning 150°R, fast whale up ~~6-800m~~ 150R
- 1651 end tape 25 SBDAT 25 eot
- 1652 Tg. Type 26 SBDAT 26 bot
- 1654 Lossy buoy #2 (ch 64)
- 1656 Back in C+S, no bw sounds lately.
note that whale seemed to be calling just prior to turning

8/19/04

1701 SB @ 75L Fretches could be buoy #2 ch. 64

1702 lots of PM, no fin lately

1704 both buoy (64 + 60 1nd)

1705 S# 445 over 33° Retic 1 (~23L)

1708 hearing AR1 near buoy

1708 35L fm killer whale

1709 Nobliss reported the communication again

1711 Buoy 60 cutting m + mt (SB#3), both cutting m + mt

1712 return to C-S

1715 AR1 done with blue, going to get GPS loc of sonobuoy.

1724 Possible blue call (?)

1726. Another possible call. (more likely than previous)

1730 Tried switching antennas → no good!

1733 Ø bars mbth radios but still good pilot tones Cleast fm
from buoy

1751 Signal strength @ Ø bars m both buoy - will
end monitoring when SBDAT 26 finishes

note: radio setup 54 sh1 ch1 in 1sh
64 sh2 ch2 in 1sh

plus

60 sh2 ch1 in 1sh

64 sh2 ch2 in 1sh

MORNINg SONOBUOY

SONOB S. OF ATU

14

8/20/04

52° 20.965'N 171° 28.953'E

SB DAT 27, C+ 58 (90ft, 8hrs)

Sperm Whales
ORCAS

NO LF (1)

0607 BUOY 1 DEPLOYED - Good Buoy

0608 START RECORDING - ship is @ 3 knots, moving away
from buoy - ship noise loud now (& PM clicks, of course!)

0620 we are 1/2 nmi from buoy, coming to TLL STOP
3-6 bars reception (Corr Buoy!!)

0625 Sperm whales Loud, faint orca cries sometimes

0643 Still PM, no decent LF

0715 ERT DAT 27 EOT

0718 Maneuvering to check out a log (thought it
was a Dall's porpoise dead)

→ Still hearing Sperm Whales & Orca Cries
No More Recording

Will Monitor until PVC put out the Array

0727 - We are ~1nmi from buoy - interference during
radio check; 3-4 bars reception

0733 Stop monitoring, will put out the array

Morning sound buoy 15

8/23/04

SBDAT 28 50° 28.71'N 179° 20.37'E
Ch 56 SBDAT 28, 29

Sperm whale

* Possible faint LF - re monitor

- 0506 SB1 in the water (Ch 56 @ 90ft 8hrs)
0508 start recording - Good buoy, full reception
→ loud ship noise, good water noise, and (of course)
a single sperm whale clicking away
→ some noise @ 20 Hz, looks continuous
0524 - some faint "noise" @ 20 Hz - possibly from super faint/
instant blues? Also - a bit ago I had a LF 20 Hz
downsweep (<5sec long) check around 0520 or so?

0534 - NEED TO RE-MONITOR

I am playing w/ DIFAR, etc a lot
we are 1nm from buoy, still some ship noise

0605 we are re-approaching buoy - will
change course & head away (we are now 0.3 nm
from buoy)

0616 ERT SBDAT 28

ERT SBDAT 29

0624 Now ~ 1nm from buoy, 5-6 bars reception, sound good
0636 I've been trying to DIFAR 20 Hz sounds, they
have not been clear enough to get a good fix.
Now that ship is quieter, may be faint 20 Hz?
Anyhow, not good "enough"

0645 LOUD - loud LF noise - good reception, could
still hear ship noise - seismic? possible earthquake?

0702 Stop Monitoring - prep for The Array

→ still recording, will record to end of SBDAT 29

⑯, ⑰

ST# 458 BLUE WHALE

Lat/Long

SB Ch/DAT

50° 29.732'N ; 178° 52.038'W

Ch 64 90ft 8ms SB DAT 30

8/23/04

⑯

1600 Buoy DEPLOYED

1602 START RECORDING Ch 64 Both Channels - BUOY

whale is down now... buoy ~ 0.4nm from whale
whale has been somewhat stationary

1604 whale up 40R, 14-15 sec

1607 Quite a bit of energy @ 20Hz - likely from more
distant blue whales

1611 Buoy 0.54nm, great reception, faint calls

1615 90R, 400m whale up again

still lots of faint calls - getting better though

1625 resight. POOR, 0.5nm

1627 reception now down to 2-3 bars; buoy is @ 1nm away
we are re-approaching buoy now (whale)

1628 whale down @ 10R, 300m

1634 whale up @ 70R, 0.5nm

1635 some radio interference

1635 whale in front of bow

1636 30Hz down sweep (we've seen a few of these) - short

1638 30Hz down sweeps are repetitive

1641 whale up - ahead and 1/4nm out

1643 - we are losing reception @ 1.5nm !!

1646 - animal was up 2 min ago @ 300m off the bow

animal is charging now fast

⑰

16

CH 60, 90 ft, 8ms - 2nd buoy deployed

Lat/Long → next page
50° 29.27'N 178° 48.50'W

(7), (8)

(8)

8/23/04

1648 Ch 60 - left Ch - good buoy!
Ch 64 - Right Ch (going bad @ 2.6nni)

1650 buoy is up, good reception

1652 faint calls on both channels

probably no calls from our buoys

1653 whale up 1nmi @ 160 RT

→ This is VERY close to our buoy

1700 - Ch 60 - full bars → now at 74L 12/1st

Ch 64 - 1 bar - 2.5nni away

1704 whale up @ 10R, 0.5nni out

1704 ERT SBDAT 30 eot (stopped a few min

1704 BRT SBDAT 31 bot before the EOT

1706 FAINT BW calls are closer to the 1st sonobuoy

No calls on our, whale yet

1716 whale is up at 150R, 400m

1718 Ch 60 - left - 1.2nni - 2-3 bars

Ch 64 - right - 3.5nni - 1 bar - NOW DEAD

(8) →

60° 29.6
60° 44.6

178

1720 Buoy 3 in water - Good buoy

Ch 60 - left - 1nmi away (but reception problems) ⁴

Ch 56 - right - <0.2nni away - Full bars

1723 Possible good BW vocals?? - But whale should be within a few hundred meters of buoy - so, it just isn't quite loud enough to be this animal

1727 Sonobuoy 3 (Ch 56) is ~500m out @ 90R

1728 - whale is up 110L and ~1nmi out

we are losing Ch 60 (buoy 2) - now @ 12nni

1735 - Good BW Call, buoy is ~1.2nmi away out

- Could this be our guy?? louder on buoy 3

* our true heading is 174T; buoy is 168T from us now

{ buoy 2 is 20T from us }
{ buoy 3 is 168T from us }
we are heading 174T

8

1740 Ch 60 - 2.1nni 4 bars (bearing 194° from us) 8/23/04

Ch 56 - 1.6nni 3-4 bars (bearing 166° from us)

1741 - Another Good BW Call

1742 Still can't find animal

1745 Good BW Call

1748 SB 2 | Ch 60 | → DIFAR = 146 - 145 = 1.5

160 = 145.5

SB 3 | Ch 56 | →

1752 whale is up 160R, 300m

1800 whale is up → not too far

Ch 60 just gave out - bad noise

1801 whale is up 70L & 300m - now (during trn)

1803 BAD WHALE!! It's trying to disappear!!

1809 Whale is up 400m ahead of us

1812 ert SBDAT31 cct, brt SBDAT 32 bot

1815 Ch 60 (1 bar) - bad buoy - 2.8nni

Ch 56 2-3bars - good, no difar locks - 2.3nni

1818 Close whale is up @ ~200m

They have a 2nd whale up @ 1nni or so

1825 150m 0° whale

1837 Still getting calls in ch 56, no visual info in 12min

1841 trying for 2nd whale

1844 whale up 75L 600m

ch 60 1bar (bad buoy) 3.3nni 205T

ch 56 1bar good 2.7nni 190Trn

1850 70R 200m whale up

8/23/04

+ 1851 whale ~~there~~ ~~so soon~~ whale down 100 m off bow

+ 1852 getting both channels back

+ 1853 have photos, leave whale & get other

+ 1858 whale behind 170' R 8.5 mi

+ 1900 still getting blue whale

+ 1905 cells getting fainter

+ 1911 returning to C+S

+ 1913 putting both channels on 56, 60 is incomplete
5.2 mi for buoy 3,

+ 5.5 mi for buoy 2

+ 1916 no more monitoring / will need to end offsite
signals bad on both channels

+ 1920 ert SBDAT 32 eot

+ no more recording for now

0460 01
0454 1 2

(19)

8/24/04

MORNING SONOBUOY

Lat/Long $50^{\circ}39.0'N$ $76^{\circ}41.0'W$ 0447

SBCh/BAT

SBDAT 33

ch60 8h 90'

hrt sbdat 33 0449

0450 - short call?

0451 faint call?

0452 many noise type, stop now + more faint calls

0453 tried Difur call no looks, have PM

0502 got beam ~182 M (188.6 T?) Var= 6.80 May

bwz, 1 1.48 nm, 264T from ship

0514 got beam 182M ~ 148T

0516 800 PM

0518 many back to back beams

0521 getting faint calls 194 M (200T)

0526 calls getting more faint

0539 calls getting progressively fainter, with get looks

0544 call ~194 M 210T

0545 PM

0547 200 → 210 Animal hearing w?

0548 "Sei" 210 Hz

0552 beam 216 M 222T

0553 evt sbdat = 33 co+

0554 brt sbdat 34

0559 220 Hz - 236T

0601 PM

0602 approx ~210T 2 min to sharp back beam

both bump back right now

0610 calls faint again

Sperm Whales

W. Blue Whales

new spot
8/24/04

(P)

60 1 L
54 2 R

(P)

8/24/04

0614 another 40-30 Hz call ~ (nearby pt.)

0617 193 nm = 200 T

0621 190 nm ~ 196 T

0622 buoy 2 m So 37.14N 176.41.97W
ch 54 8 h 90'

60 1 L

54 2 R

0626 3 bars 54, 2-3 ch 60

0627 no calls yet

0630 ch 54 226 m ~ 232 T faint call

0632 1 0.87 nm 001 True } for ship 50°38.08N
2 0.924 nm 200 T } 176°41.44W

0639 still getting calls but faint on both buoys

0642 in good range of both buoys

0643 calls continue to get more faint, PM

0646 60 no ticks
54 no ticks

Alpha distant for buoy good call

0647 calls getting louder

0650 another good call, no buoys another

0658 60 217 = 223
54 205 = 211) diverged

0702 ext shdnt 34
bit shdnt 35

Closing up ship to get ready to away

60 1 L
54 2 R

(P)

8/24/04

+ 0614 another 40-30 Hz call - see Comment page 1

0615 183.41 = 322+

0621 190 m ~ 196T

+ 0622 bump 2m 50 37.14N 176 41.97W
ch 54 8h 90'

60 1 L

54 2 R

0626 3 bars 54, 2-3 ch 60

0627 no calls yet

0630 ch 54 226 m ~ 232 T faint call

0637 1 0.87 nm 001 True } from ship } 50°38.08N
2 0.924 nm 200T } 176°41.47W

0639 still getting calls but faint on both bumps

0642 in good range of both bumps

0643 calls continue to get more faint, PM

0646 60 m locks

54 m locks

0647 calls getting louder

0650 another good call, m locks on either

0658 60 217 = 223

54 205 = 211

0702 ext shdnt 34

bit shdnt 35

approx distance from bump, good call

Closing up ship to get ready to away

(21)

MORNING SONOBUOY

8/25/04

Lat/Long $50^{\circ}53.870'N$ $172^{\circ}51.646'W$
SBch / DAT Ch 64, 8ms, 90ft

TRUE
MAG
+E
-W

Sperm Whales

Very faint W. Blue whale calls

0506 Sonobuoy 1 in the water

0508 Start recording Good buoy - full reception BRT SBDAT 36
water noise, ship noise, sperm whales

0519 - There is energy @ 20Hz - but can't yet distinguish calls

0527 → faint DIFAR @ $250^{\circ}M \rightarrow 258^{\circ}T$

this is in our general direction

0612 still some energy ~ 20Hz, very weak
can't pull a direction out of difar

0615 ert SBDAT 36 eot

brr SBDAT 37 brr

- we are 1nm from the buoy, 3-4 bars reception

0654 Still sperm whales, some energy @ 20Hz, not
strong enough for location purposes

0723 ert SBDAT 37 eot

→ will stop here, not much going on

End of Morning 32 Qs

A.M. SONOSURVEY

(22)

8/26/04

ST 1

Lat/Long 51° 46.66N 170° 19.77W 0510 11.0

SBCH/PAT

SBDAT 38

ch 60 8 h 90'

Today: Nothing on L channel; SBDAT until 11:00 AM.

0511 Buoy in

0512 B12 SBDAT 38

0518 good PM

0520 checked all channels. No more activity.

ch 60 8 h 90' - L channel - VADIS 1000

0526 30 Hz DS

0537 good PM 0.6s IC1

0538 3-4 whale 100', at least 2 but maybe 3 ans

0544 Poss over whistle?

0546 Poss flattening 100' ss

0549 KW - pretty sure

0553 PM 0.7s IC1

0554 Sm EQ

0601 great PM cracks

0610 Still strengths, v 1st PM fne 235m

0618 EKT SBDAT 38

0619 PKT SBDAT 39

0624 3-4 ban L 2-3R

0626 fins fainter, PM still good

0646 PM + fins same faint

0649 v. weak L 1st PM

0656 good PM again

0712 well go to end of SBDAT 39, still good fins - 235m

rounds like buoys beginning to drift out

0725 EKT SBDAT 39

Sperm Whales

FIN WHALES

bath strong

Retrievable Sonobuoy Test

8/26/08

SBCH570 Retrievable Sonobuoy
1810 BUT SBOAT 40 BOF

~~Detext~~ NO
~~SS~~ ~~AF~~ ~~TC~~
~~NO~~ ~~THIS~~ ~~LONG~~ ~~GO~~

0m00sec Signal in/out

0.29 Signal out (mostly), some in

Difar has strange metallic sound to it

1.01 No Signal - the "tinny" metallic sound fades in/out

2.00 Good water noise, Difar in/out

when tinny sound "out" - signal looks/sounds good

3.00 Signal OUT

4.12 Nothing More

→ In small boat, when buoy was in the water,
I was banging on the RHIB w/ a metal bar for
~20-30 sec. I did not hear this on the tape

DIFAR TEST

- I DID NOT HAVE MORE THAN A FEW SECONDS OF CLEAR DIFAR (WENT "TINNY")
- LESS THAN 2 MIN RECORDING w/ BAD SIGNAL (NEXT TIME, TRY IT A LITTLE LONGER!)
- COULD NOT GET A DIFAR LOCK AT ANY TIME

(23)

9/3/04

540 *Orcinus orca*

64° 58.07' N 167° 38.21' W

Ch 15 Type 51 Sonobuoy; SBDAT 41

1837 Start Recording

1838 Buoy in water - good buoy, some orca calls
2-3 bars reception

1841 Loud for AR-1

1842 Lg Male 45R, 200m

smaller group 1/2 nm out
buoy is 1/3 nm behind us

1844 switch antenna, now VHF antenna

w/ full reception Great calls, animal calls

1845 AR-1 is @ 85R, 2nm out - VERY LOUD

1846 (SOL, buoy is behind us @ 0.7nm heading back to buoy
noisy for turn

1850 sm group ahead @ 500m ~3 mammals

2 singles std beam ~500m

1902 LOUD for AR-1

1904 - buoy is 1nm off ar std beam - reception ~2 bars

1932 sonobuoy is 2nm away, reception @ 1 bar
reception comes/goes

1944 ert SBDAT 41 ~~cot~~

1945 brt SBDAT 42 ~~lot~~

ORCAS

25

9/3/04

1951 Fantastic calls - whet ship/AR-1 noise is not so awful (sonobuoy is now 2nm behind us)
→ word is that these are residents feeding

2048 Still semi-monitoring, still recording.
It's getting dark & we're heading out to AR-1
to pick 'em up will continue to record

2052 end SB DAT 43 EOT
brt SB DAT 43 501

no more monitoring just recording

2108 getting staticky, ~3 mi from buoy
still occas. calls

2141 still orca vocalizations

2147 pretty staticky now, ~4 mi from buoy

2153 couple more calls

2200 end SB DAT 43

24

9/4/04

544 Minke Whale

55° 39.46'N 169° 21.53'W

Ch 56 90ft 8kg SBDAT 44

Fin Whales

0858 Begin Recording, Good buoy (SBDAT 44)
→ full reception0902 60L, 150m whale is on far side of
buoy - no resight since turn0907 - tons of LF downswaps ~40Hz down
lots of fin whales in the outer area

0907 - possible fin nearby, too

0910 - tons of fin calls (w/ lots of multipath/echoes)

0912 - off bow is a small fin whale

→ giving up on these guys

0914 HS 8100L

0915 CS → Loud ship noise now . . .

0919 buoy is 0.8nm behind us @ ~150L (by map)
ship noise lower now, still lots of
fin whale calls (5-6 bars reception)

0922 buoy is now 1nm away, 5-6 bars reception

0928 buoy is now 2nm behind us (~170L),
3-4 bars reception. Still looks/sounds good
Still lots of finner calls0934 buoy ~3nm away, reception going down a bit (some
static interference). Stop monitoring now, will record no EOT
No Monitor (2-3 bars
reception)

MORNINGS Ringer WHALE Buoy 9/7/04

Lat/Long

SBCN/POAT

Ch56, 8hrs, 90ft

SBDAT 45

L = R = Ch56

(25)

57° 4.6

165° 43.9

FINS
Right whale (faint)?

0751 Buoy DEPLOYED, START Recording

→ Good buoy

0754 VHF Antennae - full reception

Ship will move 3/4 nmi from buoy & hold location

0834 Trouble w/ Difar - not monitoring well

LF upsweep - faint RW call? ^{saved} cwo834-4psup2

0836 faint (UF) 40 Hz downsweep

0837 20Hz Downsweep

→ will increase SHIPS distance to 1.5nmi
from the buoy - need to ↓ ship noise

0859. est SBDAT 45 est

brt SBDAT 46 bot

0903 - we are going on effort to
latest RW location (60+ nmi S)

will record to bot end of reception

Have not been monitoring, problems

w/ DIFAR

0916 - we are 3rd nmi from buoy - reception 1-2 bars
Starting to get some interference, ship noise
still loud

0926 signal going out - no monitor, will record for
a short bit (buoy is 4.5nmi away)

0931 stopped SBDAT 46

9/07/04

True = Magnetic + 11°

1022 playing back RW buoy SB DAT 45.

have adjusted ishDifar + df-ish code
 to have seasize=2, NDFT=1024 (in ishDifar)
 and R° (decimation factor) = 60. (in df-ish).

also adjusted sound card line-in volume

under control panel \rightarrow settings \rightarrow sounds.

Difar processing is working better

now! tighter bearings to ship (around 100° mn,
 which was the correct bearing at the time)and need ~ 3 sec before call to lock
 onto tones.

tape time

0830 dnswp ~85-70 Hz 92° mn0834 poss fw upswp - scattered bearings,
 but around 171° mn = 182° true
 58 DAT 450837 fin whale dswps 192° mn (203° frag)0843 poss. very faint fw upswp? 174° ? (scattered)0854 fin whale dswps 192° mn, 190° mn
 ship Difar: 93° mn0855 more fins 194° mn, 186° mn @ 0856

tape stopped 0858

0901 poss. v faint fw upswp? can't get good bearing
 0910 " " " " "

09/07/04

1259 E #564 355° 0.4 ret humpback

26

MID-DAY R.W. Sonobuoy

9/7/04

56° 24.918'N 165° 48.246'W

Ch 56 8ms 90ft; SBDAT 47

Right WHALES!

FIN
HUMPBACK

1340 Buoy deployed, begin recording
we are on a humpback sighting; taking
advantage of this time to do a buoy for R.W.
sounds
→ Good buoy, full reception

1355 Pretty bad noise from AR-1 (intermittent)

1358 120 Hz pulses? Seem very regular

1407 176° 140 Hz blip ; fin whale 40 Hz
1409 60 Hz dnswp ~181 mn, AR-1 322°
1410 fin dnswp 347°

1414 turning ship 90R - noisy for ship noise

1440 - Going back to CS - 4-5 bars reception; buoy is
1.2 nmi away from WS

1447 possible faint RW upsweep (105 mag; 116 T)

1448 ELT SBDAT 47, brt SBDAT 48

1550 losing buoy reception

1503 - changing ship's course to 116 T

1505 good RW call

9/7/04

26

27

1516 Buoy 2 = new L channel Ch 60
old buoy = R channel Ch 56
→ new buoy @ $50^{\circ} 20.390' N$; $165^{\circ} 43.873' W$
→ There is another ship @ 290 Magnetic fars
now (buoy should be 209T from us now).
A 2nd ship @ 181 magnetic now.

1524 Change RT channel to Ch 60, new buoy

1529 - getting LOUD upsweeps now

1531 220 Hz down sweep good call 175M / 186T

1533 ~ 100 Hz Moan? Messy

1534 OG done w/MN - on chase for our RW call
we are now going 186T to chase this
call (The Loudest of the Calls)

1554 Buoy is now 2.8nm away, 3-4 bars
reception

1555 eot SBDAT 48 eot / BRT SBDAT 49 bot

1600 - more humpbacks out here - might go on chase

1637 - still maneuvering for MN sighting - buoy 4nm away,
reception is 1-2 bars

1642 - Another series of good RevCalls - 180M / 191T

1703 EOT 49, BOT 50

pitcher of
cosmos $\# > 25\text{mi}$ →
pitcher $\# 5$

09/07/04

(27)

1705 humpback trumpet calls 190° mag.

1723 - Tape is dead - err 50 eot

SBDAT
50

WILL ADD TO THIS
TAPES LATER

(28)

1913 bottom in water, start recording Buoy #4
up to 600 ft, 1000 ft - full reception
55° 58' N 165° 56.8' W

1916 some good rw calls, MN calls

1926 noise for AR-1

(29)

- 1950 ch50 - left - full reception
ch60 - right - 1 bar

Buoy #5
55° 58.1'
165° 48.6'

1954 - These are DEFINATELY Right Whales

1955 7R, 0.91 nmi is location of whales

2000 Animals 20R, 1/3 nmi

2001 BRTSBAT 50err / BRT SBDAT51 bot

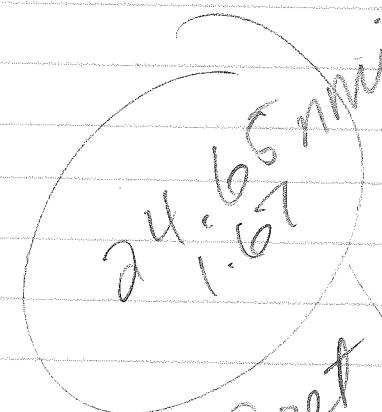
2005 up call L 73°, no bg. on R channel

2007 R buoy is v. staticky - can't do Difar but can
still see long calls

2008 whales are 20° L, 600 m

2008 whale up @ 30° L 500 m

09/07/04
DJK



ST 567
Right whale call
a) mother call
b) single call
in the end joined by another

RW was all night
26. 2 nm up
26. 2 net now a call
that may get to call
way off
Voyage
26. 2 net now a call
way off
Voyage
26. 2 net now a call
way off
Voyage

2011 call - L 191° m_g

2014 more 100 Hz dn-ups, L chan, 191°

~2010 have turned ship + heading w (toward old buoy)

2017 whale up 10° R 500 m

2018 dn-up call 191°

2023 dn-up L 194° 5.3 sec arrive
R arrive 7.8 sec

time delay = 2.5 sec

$$2.5 \text{ sec} \times 1470 \text{ m/s} = 3675 \text{ m}$$

should be 3.6 km closer to L than R

5.1 m from R, 3.6 from L

2031 rw's 5° R 2.8 nm

2038 rw up @ 10R, 2.2 net

2047 - picking up AR-1, lots of noise, radio interference

2051 2 RT whales up @ 22R, 12 net
(going off to a bit)

700. staying off effort, but still, recording

2109 ext SBDAT 50 brt SBDAT 52

we are doing CTD now

2219 ext SBDAT 52 ext - No More Recording

RW Evening Sonobuoy.

9/7/04

(30)

BAD
BUOY

2320 SBuoy 1 is in the water \rightarrow start SBDAT53

Location =

55° 50.162 N 166° 15.070 W

Channel 60, 8 hr, 90 ft.

2324 RW up sweep.

2330 RW up. \rightarrow 4

2338 SB1 \rightarrow lots of static: bad noise on hydrophy, started \sim 2330, can't fix

2347 Buoy was sounding a little better for 1 min \rightarrow back to bad again though.

000 going to throw another buoy in \rightarrow SB1 is bad

9/8/04

(30)

0002 Holding off a minute, buoy coming back

0005 OK, going to throw another

0012 SB2 is in the water.

LOCATION =

55° 50.267 N 166° 11.952 W

Chan 56, 8 hr, 90 ft.

0003 SBA is approx. 1.5 nmi from SB1.

0015 SB1 is just a blue display, \rightarrow looked at it 11000 Hz \rightarrow no pilot tones \Rightarrow SB1 is dead; SBA is doing well

9/8/04.

0021 RW waver DIFAR → 65.2

0026 Another possible ^{very} ~~FATIGUE~~ 100 dn, no DIFAR. Avail

0028 ERSBDAT53, BRSBDAT54.

0029 Look like 3B1 is cutting in and out again.

0030 RW waver DIFAR → 65

0032 RW up (this one a little stronger) → 67°

0034 RW up. / //

0035 RW up → 67.

0036. " "

0044 Quiet now → havent heard EW for couple min.

0047 RW dn op → 68°

0048 RW / → 139.

0050 RW X → 140.

0054 RW ~ ~ ~ ~ ~ VERY FAINT. ^{No DIFAR}

0056 RW 20Hz ¹⁰⁰ ~ ~ ~ - ["] ^{No DIFAR} VERY FAINT.

0058 RW 100Hz - 61 strong

0059 RW ~ 62 strong

0058 RW ~ 64 strong.

0100 RW ~ 45. med strength.

0107 RW // → no DIFAR. 62.

0110 RW / → 62 strong.

0120 Getting some of those humpback calls - ^{No DIFAR}.

9/8/04.

0128 → not much going on, not really hearing much.

0129 Humpback @ 40

0133 // ~100 faint: no DIFAR (all red!)

0135 BL SBDAT5H , BR SBDAT5S

0137 In the past hour or so it has gone from several animals (it seemed) vocalizing fairly constantly, higher intensity to few, if any faint, calls (most almost inaudible)

0140 Thump-Mn → 55.

0149 Possible really faint upwarp ~ 4th DIFAR.

0153 Faint drawee → no good DIFAR.

0154 80HzDn → NO DIFAR.)

0156 100 Dn → no DIFAR } REAULT FAINT

0157 90 flat → no DIFAR. } NOT sure if pw.

0202 LMM on monitoring

0206 humpback trumpet call

0218 " " "

0225 - tape was not recording!! BRT 55.

0228 hb trumpet - 242° m

0236 couple of bleeps - bubbled? hb trumpet.

0242 bleep 243°

0247 hb trumpet calls

0252. " 35°, ship bearing 248°

09/08/04

0332 ERT 55, BRT 56

0334 hb trumpet call

0403 pulsed calls like Chafe

0407 poss. faint rw up? not good bearing

0408 RW dn-up 49° on prob the RWS

0409 another " 52° mn. Same were on earlier
(evening 09/07)

0416 w upswp $45\text{--}54^{\circ}$ scattered

0434 RW up - $\approx 190^{\circ}$? not a good bearing - scattered

0435 LOUD rw upswp! 298°

0436 another - few more! 295°

0438 med. loud upswp 188°

0440 ERT 56, BRT 57

0444 RW upswp loud - 287°

0445 RW - med. loud - 113° ? bad bearing?

0445 another loud RW up - busy w/ previous call

0446 loud RW up 282° - good bearing

0447 " 278°

↓ More calls

0448 classic / dn-up 278°

09/08/04



0451 loud 279° (w up)

0452 loud 273° "

↓ calls continue 269°

0454 med-loud up 269° { guys are

0458 loud up 270° { dark, solid
0459 " " 268° lines }

267°

0458 med-loud 54°

2 calls 46° then 268°

0459 " up 57° - medium loud { these

0501 " " 49° " " { guests

0502 thumps/gunshot sorts - could be fw calls

are

broken

up a little

0504 fw up 49°

0505 " 51°

0506 " 52°

0512 more calls - med-loud

0527 our plan of attack:

buoy 2

200 ft 1000 fm

fw up

will set buoy 3 4 nmi S

of buoy 2, then sit

I will Not it &

listen to both

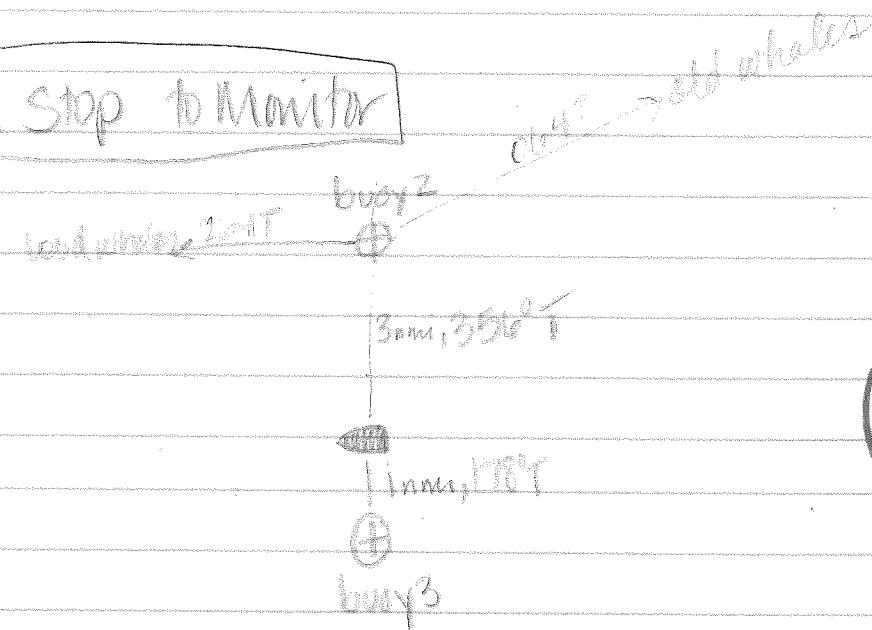
about 0515 loud guy is back 253°

0524 - Moving 4 nmi south to deploy 3rd buoy to find true location... only 3 hrs left on buoy!

we are 2 miles from buoy 2

air for

0611 - All Stop to Monitor



0535 Loop RW UPSWEEPS Now seem to be Moving North
(0540 - temporary computer shutdown - virt menu low)

0547 eri SEDAT 57 eot / brt 58 bot

0553 kinda quiet now

en 62, 90°
~ 81m

0605 Deploy buoy 3 @ $55^{\circ}46.0'N$; $166^{\circ}11.5'E$
buoy 3 ch 62 : left / ch1 - full reception
buoy 2 ch 56 : rt / ch2 - 1 bar

* 0617 - All stop to monitor < buoy 2 - rt / ch2 - 3nm N
buoy 3 - 5-6 bars reception - Great
buoy 2 - 1 bar - ok

0619 b3 - ' up (med/faint) - no locks
loud trumpet (MN) calls on buoy 3; buoy 2 looks in

0625 - now buoy 2 looks apod again
buoy 3 - ch 62 (Y/F) - 5 bars ($1.1\text{nm}, 178^{\circ}T$)
buoy 2 - ch 56 (rt) - 1 bar ($3.0\text{nm}, 356^{\circ}T$)

0632 faint rw upsweeps - difar rot clear ($258^{\circ}T$)
0636 ~~rot~~ quiet now - sb2/rt ch out again?; sb3 great

0645 faint trumpets (no difar on those)
→ the loud animals @ $260-270^{\circ}T$ from buoy 2
do not seem to be calling (not since ~0535!)

0647 - some sound on buoy 2 (loud MN calls); many very faint
rw in buoy 3 0654 ERT 58, BRT 59

0701 - some faint rw. on buoy 3

0710 - some up/up at 246° on buoy 2

0719 - moving to $300^{\circ}T$, 3nm to drop another buoy
or see what's out there - it is in the direction
of our earlier lost whales

9/8/04

0728 - Moved to a position midway (8W) of sb2, sb3
and sb2 is back in action.

b2 sb3 - 4 bars (very good)

b6 sb2 - 1 bar (good)

0730 med calls on sb3 - not really seen/heard on sb2

0753 Observers going on effort. - heading due North
at half speed through this area

0758 laid balloon sb2
towd opp m sb3 - $14^{\circ}N - 25^{\circ}T$

0802 err SBDAT 59 / brt SBDAT (60)

0813 S# 568 10L, 2nm out (below)
3/4 speed, 10L

(34)

0822 Buoy 2 just died

0825 Buoy 4 deployed -
both Ch 54 (rr/left)
 $55^{\circ}51.16N$ $166^{\circ}14.21W$

0832 humpback thump calls

- 0833 roll up 48° , more calls follow

9/08/04

0852 hb thump 43°

0858 80° R 3.5 nm poss hb
coming up to FS 80° R

0907 loud dn-up 30° from SB4

0910 ERT 60, BRT 61

0921 21° R 0.1 nm - Possible right whale

0932 ~ RW \rightarrow 76° DIFAR (SB4)

0937 Visual 9R 2.5 ret \rightarrow confirmed RW

0939 Visual 152° R 0.5 nmi \rightarrow another RW

0944 hb thumps

0949 HB whistles \sim 260-280 Hz

0951 RW \curvearrowleft up (100-140 Hz) - DIFAR: 113m (SB4)

0959 RW Visual 109L, 1.7 nmi 3rd RW sighted

1001 Loud RW up, DIFAR 105m (SB4)

1010 50° L, 700m, whale up.

1011 25L, 4 knots.

~1015 ERT 61 BRT 62.

1029 Weather is getting worse.

1033 Med intensity RW up sweep \rightarrow no DIFAR = ARI too loud.

1035 Fin Whales?

1046 Med-intensity RW up sweep \rightarrow 105 (SB4)

1049 Fin whales.

1058 $1/2$ nmi off bow (0°)

1059 RW $\cdot \cdot \cdot$ 90Hz blip 355 m (SB4)
Lrrr + great DIFAR loc

9/8/04.

- 1102 ~100Hz Dn → could not get DIFAR lock.
1110 60Hz blip. → DIFAR ~189° - BUT NOT A GOOD ONE
1112. 60Hz blip → DIFAR - 168 (SB4) prob fin.
1116 80Hz blip → 166 prob fin (SB4)
1118 60Hz Dn → (0°?) prob fin. (SB4) m120
1120 80Hz Dn → prob fin 159 (SB4) ERT 62
1123. Unid moan 100Hz → 326° (SB4) BRT 63

- 1126 poss fw or hb 35° dnswp 160-100Hz
1128 belch/moans ?, 336°
1132 poss fw dnswp 37°
1135 within 3.5 nm of sb 3 - put R channel
on sb 3 = 62.
1136 loud fw up on L = 331°
1137 no signal, no pilot tones on R - switch
back to sb 4 = L = R = ch. 54

1140 pulsed belches 329°
↓ continue 331° upsweep

- 1141 RW fluke up 700 m off bow
1146 loud fw up - smeared (bounces? not x 329°
1146 wave clean, don't look like waves)
1147 smoky moan 330° - harmonics?
1148 more RW calls 332°, 130°
1151 pulsed bleeps 333°
1153 fw up - 328° - couple of sec long

9/08/04

1204 Lots of static on SB4 again \rightarrow Barely hearing pilot tones. \rightarrow hopefully will clear \uparrow again

1207 Better sound on buoy

1208 Gradual upsweep \rightarrow 324 (SB4) loud

1209 Good upsweep, RW \rightarrow 330 (SB4) loud

1210 Pulsed blip, RW \rightarrow no DIFAR lock 'argh' loud

1213 Multi-up RW \rightarrow 334° (B4) loud

12

1214. RW upsweep \rightarrow no good with faint.

1217. Pulsed upsweep \rightarrow 330
333°

1220 2 RW's 30° ft, 1 mile

1223 have cone 30° R - rw's should be ahead

1233 ERT 63, BRT 64

1234 30° L, 0.5 mi rw's are up

1240 Buoy #4 getting a little staticky, \sim 3.8 mi

1244 - Not getting long enough Difar locks

1247 down to steerage - better pilot tone: now

1249 heading back to 'J' cluster- 120° R full spd

1257 100Hz RW moan 343°

1258 " 340°

1259 moan

1300 moan 336°

1301 RW upswee

1303 poss rw? hb? dnswp 340°

1310 ↓ humpback thumps (recurring)

09/08/04

- 1316 hb dnswp/feather? 33°
1317 rw ups, faint-med. 338°
1322 smeared moan/up 342°
1328 " " 344°
1330 #569 Minke whale 30m off bow
1333 rel. faint rw up - too close to a thump for DIFAR
1340 ERT 64 BRT 65
1342 whale sighting 35° L, 1 mi.
1343 rw upswp, not a good brg.
1345 right whale 3.5 ret, 5° L (about 1 nm)
1348 rw upswp? ship right on top of buoy
1349 buoy sighted going down port side
took a 1 hr break to go on fl. bridge

1448 ERT 65 BFT 66
rw's everywhere - prob same ones

- 1458 moan 311°
1459 dn-yp 331°
1503 ~ rw up 321 (SB4) med-loud.
1504 ~ wave 316 STRONG.
1508  $\frac{1}{4}$ mile ^{one whale} bow, another 1-2nm port side [visual]
1509 RW 100Hz DN, 335 strong. (SB4)
1512 RW multi up, 344 (SB4) med-loud
1516 RW 100-180Hz upswep → couldn't get DIFAR
1517 RW upswep, med-low; intensity no DIFAR
1520 RW DN up, loud. 346 (SB4)
1523 RW 120-220 up, loud 57° (SB4)
1524 RW ~ ~, loud 330 (SB4)

9/5/04

- 1529 RW ~ 1526 ~, medium intens. 328° (SB4)
1531 ~ 1526 ~, med-loud 329° SB4 (SHIP: 27A)
1533 ~ ~ ~, med-loud 329°
1536 / 120-200 Hz, med-low, NO DIFAR
1537 / 80-160 Hz low
1538 ~, med. 343° (SB4)
1540 60 Hz Blip Prob fin.
1541 ~ 105 ~ 100 Hz, med-low.
1542 RW / 100-120, No DIFAR lock
1546 RW 25-105 /, 324° (SB4) - med.
1550 RW ~ 105 ~, - no DIFAR lock - med-low.

1556 ERTSB 66, BRTSB 67

1601 Animal up, 45° L 1/2 nmi

1602 Another animal up 90° L 1/2 nmi

1607 Sbuoy 4 not looking so good. → will wait ~ 15 min
before testing another.

1615 Haven't heard anything in a while.
→ going to put in a new buoy.

1622. Tossed sonobuoy 5

Location:

— 55° 54.177 N 166° 00.584 W

— Chan. 60,

— 8 hrs, 90 ft.

1625 Hearing lots of humpback whales.

1637 RW / ~, med. 185° (SB5)

1638 RW ~, med. 141° (SB5)

(33)

9/8/04

1646 PW 1054 1056 med-loud, 182° (SBS)

1655 Lots of humpbacks.

1657 Whale up 30L, 1/2 nmi. (which whale? → go back)

1700 RW ✓ 265 med-loud. (SBS)

intersects w/ calls from SB4!

1704 ERT 67 BRT 68

1705 RW dn-up 267°

1709 waver 266°

1711 rw moan? 79° faint, broken-up

1712 hb feather 7°

1714 faint cw moan 270°

1735 faint cw moan 264°

1736 poss rw snorted dnswp 128°

1739 40°L, 1mi humpback sighted

1741 RW med-loud, 268°

1743 RW 100-40Hz, multi-dnswp, loud., 6° (SBS)

1755 RW ~ 274, med-loud (SBS)

1756 RW poss. ↓, loud 9° (SBS)

1812 ERT 68

BRT 69



1805 Und whl ↓ loud 9° (SBS)

1816 rw moan 270°

1847 hb due N "chicken leg"

1851 poss rw moan-faint

1853 hb trumpet thumps almost constant-noisy!

1854 poss rw 264° snarled upswp

hb
thumps
throughout

faint
fin
whale
dnswp
125°

09/08/04

1856 poss rw moon? 69°

1858 " 62

1901 hb chicken leg 7°

1920 ERT 69

1926 BRT 70 staticky on buoy still

1959 hb thumps still combe

2031 RW ~ med, 11° (ss5)

2032 ERT70, BRT71

2037 RW /, med → no good DIFAR.

2044 RW / Faint.

2102 No more monitoring, letting tape run till end.

2140 ERT 71 eot

⇒ no more recording
buoy is dead

(34)

9/9/04

RW Day Operations

55°49.783N. 166°17.538W

Ch 54, 8ms, 90ft SBDAT 72

sb1a 54
bad buoy

sb1b 60
bad buoy

(34)

sb1c good 58
good

0411 1st Buoy deployed, start recording - looks like a bad buoy (Ch 54 8ms 90ft) - both Ch.

0417 2nd Buoy deployed - (Ch 60, 8ms, 90ft) - R+Ch.
- This one also looks bad. No reception on either buoy

0423 3rd Buoy deployed (Ch 58, 90ft, 8ms) - left Ch
This one looks good → both Channels (55°49.783N
(Ship is heading 56°M from the buoy, 10a) 166°17.538W
spot ~ 1nm from the buoy

0438 I have faint fins, I had 1 faint RW upstroke.
And some LF Thump/knocks (120-230 Hz) - not sure what this is?
Also, had some MN calls

→ lot of LF Thump & a lot - maybe it is a fishy wishy?

0445 - Quick check - Ch 54 & Ch 60 still bad (buoy 1a, 1b)
Sb 1c - Ch 58 - 3-4 bars

0449 - OFF FOR A FEW, NO MONITORING

0459 - BACK ON MONITORING

0500 - we are 2nm from some buoy; 3-4 bars reception
we will turn to head towards it again

0513 faint RW upstroke - 35°M (towards yesterday's chaos)

0519 ext SBDAT 72/bri SBDAT 73

0523 faint RW upstroke - no data
→ some better ones after this (73°T)

9/9/04

(35)

0539 we are ~1.5nm from buoy - 2-3 bars reception, sound good

0541 LOUD Dn 120Hz → 60Hz (364°T)

0545 More med-faint rv calls (69-75T-towards yesterday's)

→ quite a few calls

0602 off for a min to monitor thru 0611 (back on)

0626 ert SEDAT 73 / brt SEDAT 74

we are now ~0.7nm from buoy - ship noise louder

0632 Ship noise loud (we are ~0.7nm from buoy)
we will head south for now until sunrise

0702 some faint calls, no diffr

0722 faint up from 39° true - JEFF BRANDON

0732 loud up from 37 true

followed by a series of relatively loud calls (~5 min)

0735 changed tape from SEDAT 74 → SEDAT 75

0740 observers start effort

0746 ship noise - turning north - towards SB whalers & whalers

0750 site # 571 341° / Ref 1.2 ; 2 miles whalers (MN & EG)

0755 turning 10° left & sail speed.

0800 26 right 2.6 ref. - west of SB

0810 SB1 dead - will deploy SB2 Ch56, 8ms, 90ft

0815 Group A - 1/2nm 98°R

Group B - 1.5nm @ 106°

0818 SB2 deployed @ 55°48.845'N
166°19.812'W

0818 Ch 56 (left; ch1) - full bars
Ch 58 (right; ch2) - -1

(35)