<table>
<thead>
<tr>
<th>Eventlabel</th>
<th>CAR2013_sel_a_m_15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campaign</td>
<td>King George Island 2013</td>
</tr>
<tr>
<td>Species</td>
<td>Southern elephant seal (<em>Mirounga leonina</em>)</td>
</tr>
<tr>
<td>Age</td>
<td>Adult; &gt;7 years</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Length (total)</strong></td>
<td>4310 mm</td>
</tr>
<tr>
<td><strong>Length (standard)</strong></td>
<td>3780 mm</td>
</tr>
<tr>
<td><strong>Length (curvatur)</strong></td>
<td>4310 mm</td>
</tr>
<tr>
<td><strong>Girth (pectoral)</strong></td>
<td>2950 mm</td>
</tr>
<tr>
<td>Weight [estimated]</td>
<td>&gt;3000</td>
</tr>
<tr>
<td>Weight [calculated]</td>
<td></td>
</tr>
<tr>
<td>Weight [measured]</td>
<td></td>
</tr>
<tr>
<td><strong>ARGOS PTT ID</strong></td>
<td>24656</td>
</tr>
<tr>
<td><strong>Transmitter type</strong></td>
<td>SMRU/Series 9000 SRDL/CTD</td>
</tr>
<tr>
<td><strong>Manufacturer</strong></td>
<td>SMRU</td>
</tr>
<tr>
<td><strong>PTT Serial Number</strong></td>
<td>10066</td>
</tr>
<tr>
<td><strong>PTT Software</strong></td>
<td>ELLY_05APOST2009</td>
</tr>
<tr>
<td><strong>Setting protocol</strong></td>
<td>Software specification for ELLY_05A deployment (Pangea ellies Mar 2005)</td>
</tr>
<tr>
<td>Page transmission sequences:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Until day 1464: 0 1 2 1 3 0 3 1 3 0 3 using 1 PTT numbers</td>
</tr>
<tr>
<td>Satellite availability (UTC):</td>
<td></td>
</tr>
<tr>
<td>00:</td>
<td>-- on --</td>
</tr>
<tr>
<td>01:</td>
<td>-- on --</td>
</tr>
<tr>
<td>02:</td>
<td>-- on --</td>
</tr>
<tr>
<td>03:</td>
<td>-- on --</td>
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<td>04:</td>
<td>-- on --</td>
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<td>05:</td>
<td>-- on --</td>
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<td>06:</td>
<td>-- on --</td>
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<td>07:</td>
<td>-- on --</td>
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<td>08:</td>
<td>-- on --</td>
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<tr>
<td>09:</td>
<td>-- on --</td>
</tr>
<tr>
<td>10:</td>
<td>-- on --</td>
</tr>
<tr>
<td>11:</td>
<td>-- on --</td>
</tr>
<tr>
<td>12:</td>
<td>-- on --</td>
</tr>
<tr>
<td>13:</td>
<td>-- on --</td>
</tr>
<tr>
<td>14:</td>
<td>-- on --</td>
</tr>
<tr>
<td>15:</td>
<td>-- on --</td>
</tr>
<tr>
<td>16:</td>
<td>-- on --</td>
</tr>
</tbody>
</table>
Transmission targets:

80000 transmissions after 300 days

In Haulouts: ON (one tx every 1 min 20 secs) for first 5 hours
then cycling OFF for 6 hours, ON for 1 hour

Check sensors every 4 secs
When near surface (shallower than 5m), check wet/dry every 1 sec
Consider wet/dry sensor failed if wet for 2 days or dry for 99 days
Dives start when wet and below 6m for 8 secs
and end when above 6m for 0, or dry at any time
No separation of 'Deep' dives
A cruise begins if there has been no dive for 9 mins
A haulout begins when dry for 10 mins
and ends when wet for 40 secs

Dive shape (normal dives):
4 points per dive using dive characterisation algorithm
3 speeds per dive

Dive shape (deep dives):
none

CTD upcasts: max 2000 dbar up to 6 dbar in 2 dbar bins.
12 cut points per profile
Send the deepest 2 upcasts in each 2-hour period.
Minimum depth to trigger collection of cast:
500m in hour 1
50m in hour 2
or 20% greater than current maximum.

Sample CTD sensor every 0.5 seconds.
Temperature: Collected, Stored.
Conductivity: Not Available.
Salinity: Not Available.

No GPS data

TRANSMISSION BUFFERS (in RAM):
Dive in groups of 3 (6.25 days @ 10mins/dive): 300 = 1200 bytes
No 'deep' dives
Haulout: 100 = 400 bytes
6-hour summaries in groups of 3 (9 days): 12 = 48 bytes
No berniegrams
No timelines
Cruise: 100 = 400 bytes
No diving periods
No spot depths
No emergence records
No Duration histograms
No Max depth histograms
CTD casts (5 days): 120 = 480 bytes
No GPS fixes

TOTAL 2528 bytes (of about 21000 available)

MAIN BUFFERS (in 6.2 Mb Flash):
Dive in groups of 3 (416.667 days @ 10 mins/dive):
20000 x 115 bytes = 2300000 bytes
No 'deep' dives
Haulout: 5000 x 12 bytes = 60000 bytes
6-hour summaries in groups of 3 (750 days): 1000 x 71 bytes = 71000 bytes
No berniegrams
No timelines
Cruise: 5000 x 13 bytes = 65000 bytes
No diving periods
No spot depths
No emergence records
No Duration histograms
No Max depth histograms
CTD casts (500 days): 12000 x 65 bytes = 780000 bytes
No GPS fixes

TOTAL 3199 kb (from 6333 kb available)

PAGE CONTENTS (for 28-bit PTT codes):

PAGE 0:

PTT NUMBER OVERHEAD (28-bit code)
-----------[8 bits: 0 - 7]

PAGE NUMBER
-----------[2 bits: 8 - 9]

DIVE group in format 0:
Normal dives transmitted in groups of 3
Time of start of last dive: max 6 days @ 8 sec

secs = 64800

(tx as raw 16 bits in units of 1
(range: 0 to 65535 )
(recommended sell-by 5 days 23 hours)
Sell-by range: 5 days 18 hours
Number of records: raw 2 bits in units of 1
(range: 0 to 3 )
Reason for end: -- not transmitted --
Group number: -- not transmitted --
Max depth: -- not transmitted --)
Dive duration:  odlog 1/6 in units of 30 s
(range: 0 to 5715 s)
Mean speed:   -- not transmitted --
Profile data (4 depths/times, 3
speeds):
  Depth profile:  odlog 2/5 in units of 40 dm (range: 0 to 19020 dm)
  Profile times:  raw 5 bits in units of 32.2581 permille (range: 0 to 1000 permille)
  Speed profile:   -- not transmitted
--
Residual:   -- not transmitted --
Calculation time:   -- not transmitted --
Surface duration:  odlog 2/4 in units of 2.5 s (range: 0 to 588.75 s)
cf. cruise starts after 9 mins (540 secs)
Dive area:   -- not transmitted --
--------------[201 bits: 10 - 210]

DIAGNOSTICS in format 0:
TX number:  raw 12 bits in units of 25
(range: 0 to 102375 )
Tag time (mm:ss):  raw 9 bits in units of 8 secs (range: 0 to 4088 secs)
Max depth ever:  odlog 1/5 in units of 250 dm (range: 0 to 23625 dm)
Number of resets:  wraparound 2 bits in units of 1 (range: 0 to 3 )
Dry conductivity:  raw 7 bits in units of 2 (range: 0 to 254 )
--------------[36 bits: 211 - 246]

Available bits used exactly
=== End of page 0 ===
Mean speed: -- not transmitted --
Profile data (4 depths/times, 3 speeds):
  Depth profile: odlog 2/5 in units of 40 dm (range: 0 to 19020 dm)
  Profile times: raw 5 bits in units of 32.2581 permille (range: 0 to 1000 permille)
  Speed profile: raw 4 bits in units of 15 cm/s (range: 0 to 225 cm/s)
Residual: -- not transmitted --
Calculation time: -- not transmitted --
Surface duration: odlog 2/4 in units of 2.5 s (range: 0 to 588.75 s)
  cf. cruise starts after 9 mins (540 secs)
Dive area: -- not transmitted --
-----------[237 bits: 10 - 246]
Available bits used exactly
=== End of page 1 ===

PAGE 2:
PTT NUMBER OVERHEAD (28-bit code)
-----------[8 bits: 0 - 7]
PAGE NUMBER
-----------[2 bits: 8 - 9]
CRUISE group in format 0:
  Number of records: raw 1 bits in units of 1 (range: 0 to 1)
  Cruise number: wraparound 5 bits in units of 1 (range: 0 to 31)
  Start time: -- not transmitted --
  End time: max 5 days 12 hours @ 2 mins = 3960 tx as raw 12 bits in units of 1 (range: 0 to 4095)
  (recommended sell-by 5 days 11 hours)
  Sell-by range: 5 days 4 hours
  Duration: raw 9 bits in units of 90 s (range: 0 to 45990 s)
  cf. Max duration is 12 hours
  Speed: -- not transmitted --
  Reason for end: -- not transmitted --
-----------[27 bits: 10 - 36]
HAULOUT in format 0:
  Number of records: raw 1 bits in units of 1 (range: 0 to 1)
  Haulout number: wraparound 5 bits in units of 1 (range: 0 to 31)
  Start time: -- not transmitted --
  End time: max 5 days 12 hours @ 2 mins = 3960 tx as raw 12 bits in units of 1 (range: 0 to 4095)
  (recommended sell-by 5 days 11 hours)
  Sell-by range: 5 days 4 hours
  Duration: raw 9 bits in units of 90 s (range: 0 to 45990 s)
  cf. Max duration is 12 hours
  Speed: -- not transmitted --
  Reason for end: -- not transmitted --
-----------[27 bits: 10 - 36]
Duration: raw 9 bits in units of 90 s
(range: 0 to 45990 s)
  cf. Max duration is 12 hours
  Reason for end: -- not transmitted --
  Contiguous: -- not transmitted --
  -----------------[27 bits: 37 - 63]

SUMMARY group in format 0:
  Transmitted in groups of 3
  Record could be in buffer for 9 days
  End time: max 7 days @ 6 hours= 28
  tx as raw 5 bits in units of 1
  (range: 0 to 31)
  (recommended sell-by 6 days 17 hours)
  Sell-by range: 6 days 12 hours
  Number of records: raw 1 bits in units of 1
  (range: 0 to 1)
  Cruising time: -- not transmitted --
  Haulout time: raw 6 bits in units of 15.873 permille (range: 0 to 1000 permille)
  Dive time: raw 6 bits in units of 15.873 permille (range: 0 to 1000 permille)
  Deep Dive time: -- not transmitted --
  Normal dives:
    Avg max dive depth: odlog 2/5 in units of 40 dm (range: 0 to 19020 dm)
    SD max dive depth: odlog 2/5 in units of 40 dm (range: 0 to 19020 dm)
    Max max dive depth: odlog 2/5 in units of 40 dm (range: 0 to 19020 dm)
    Avg dive duration: odlog 1/6 in units of 30 s (range: 0 to 5715 s)
    SD dive duration: odlog 1/6 in units of 30 s (range: 0 to 5715 s)
    Max dive duration: odlog 1/6 in units of 30 s (range: 0 to 5715 s)
    Avg speed in dive: -- not transmitted --
  Number of dives: odlog 1/4 in units of 2 (range: 0 to 93)
  Deep dives:
    Avg max dive depth: -- not transmitted --
    SD max dive depth: -- not transmitted --
    Max max dive depth: -- not transmitted --
    Avg dive duration: -- not transmitted --
    SD dive duration: -- not transmitted --
    Max dive duration: -- not transmitted --
    Avg speed in dive: -- not transmitted --
    Number of dives: -- not transmitted
    Avg SST: -- not transmitted --
  -----------------[183 bits: 64 - 246]

Available bits used exactly
PAGE 3:

PTT NUMBER OVERHEAD (28-bit code)

-----------[8 bits: 0 - 7]

PAGE NUMBER
-----------[2 bits: 8 - 9]

CTD in format 0:

End time:  max 5 days 12 hours @ 1 min = 7920
          tx as raw 13 bits in units of 1
          (range: 0 to 8191)
          (recommended sell-by 5 days 11 hours)
          Sell-by range:  5 days
          CTD cast number:  wraparound 7 bits in units
          of 1  (range: 0 to 127)
          Min pressure (now obsolete):  -- not
          transmitted --
          Max pressure:  raw 10 bits in units of 2
dbar (range: 0 to 2046 dbar)
          Number of samples:  -- not transmitted --
          12 profile points 0 to 11 (from total of 12
          cut points):
          Min temperature:  raw 13 bits in units of 5
degC/1000 (range: 0 to 40955 degC/1000)
          Max temperature:  raw 13 bits in units of 5
degC/1000 (range: 0 to 40955 degC/1000)
          10 pressures: raw 8 bits in units of
          1 dbar (range: 0 to 255 dbar)
          Temperature:  raw 8 bits in units of
          3.92157 permille (range: 0 to 1000 permille)
          Residual:  raw 5 bits in units of 1
degC/1000 per sample (range: 0 to 31 degC/1000 per
          sample)
-----------[237 bits: 10 - 246]

Available bits used exactly

=== End of page 3 ===
<table>
<thead>
<tr>
<th>Deployment</th>
<th><img src="image.png" alt="Image" /></th>
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</tr>
</tbody>
</table>
| Comment | Seal tag: ST 79 ST; C434 C435  
Deposition site: Refugio Elephante  
Prev. Deployment: none |
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-62.294 -58.664 |
| Tag retrieved | -- // |
| First transmission | 2013-11-15T18:14:39  
-62.294 -58.664 |
-62.266 -58.627 |