<table>
<thead>
<tr>
<th>Eventlabel</th>
<th>CAR2013_sel_a_m_14</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>Length (total)</td>
<td>4870 mm</td>
</tr>
<tr>
<td>Length (standard)</td>
<td>4290 mm</td>
</tr>
<tr>
<td>Length (curvatur)</td>
<td>4535 mm</td>
</tr>
<tr>
<td>Girth (pectoral)</td>
<td>3570 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>ARGOS PTT ID</td>
<td>7075</td>
</tr>
<tr>
<td>Transmitter type</td>
<td>SMRU/Series 9000 SRDL/CTD</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>SMRU</td>
</tr>
<tr>
<td>PTT Serial Number</td>
<td>10432</td>
</tr>
<tr>
<td>PTT Software</td>
<td>ELLY_05APOST2009</td>
</tr>
<tr>
<td>Setting protocol</td>
<td>Software specification for ELLY_05A deployment (Pangea ellies Mar 2005)</td>
</tr>
</tbody>
</table>

Page transmission sequences:

   Until day 1464:  0 1 2 1 3 0 3 1 3 0 3 using 1 PTT numbers

Satellite availability (UTC):

    00:  -- on --
    01:  -- on --
    02:  -- on --
    03:  -- on --
    04:  -- on --
    05:  -- on --
    06:  -- on --
    07:  -- on --
    08:  -- on --
    09:  -- on --
    10:  -- on --
    11:  -- on --
    12:  -- on --
    13:  -- on --
    14:  -- on --
    15:  -- on --
    16:  -- on --
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 @ 10mins/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 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 ===

PAGE 1:
  PTT NUMBER OVERHEAD (28-bit code)
--------------[8 bits: 0 - 7]

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

DIVE group in format 1:
  Normal dives transmitted in groups of 3
  Time of start of last dive: max 6 days @ 8 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:  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
  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)

(recommended sell-by 5 days 11 hours)

Sell-by range: 5 days

CTD cast number: wraparound 7 bits in units of 1

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 4095 degC/1000)

Max temperature: raw 13 bits in units of 5 degC/1000 (range: 0 to 4095 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>![Seal Image]</th>
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<td>Immobilisation</td>
<td><a href="http://doi.pangaea.de/10.1594/PANGAEA.833216">http://doi.pangaea.de/10.1594/PANGAEA.833216</a></td>
</tr>
</tbody>
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Deployment site: P5 - Refugio Elephante  
Prev. Deployment: none |
| Tag retrieved | -- // |
| First transmission | 2013-11-11T21:02:46 -62.256 -58.625 |
| Last transmission | 2014-06-01T23:08:08 -73.609 -103.037 |