DEPLOYMENT LOG for IceCube STRING # 65

Deployment Start: *at* 5 05 pm *on* 06 Jan 2006

Deployment End: *at* 7.40 am *on* 07 Jan 2007

Target depth (DOM60): **2450** m Final depth: 2450 (cable mark calculations)

Deployment Crew

alternate

	Position	First Shift	Second Shift	
1	Shift lead	[illegible]	[illegible]	lead = 1
2	DOM install 1 (high)	[illegible]		hole = 3
3	DOM install 2 (low)	[illegible] Gouwe		
4	DOM supply ~~1~~ / DOM install 3	[illegible]	[illegible] Path	
5	DOM supply 2 / ~~floater~~	[illegible]	[illegible]	DOM = 1
6	Winch operator (cable & tower)	[illegible]	[illegible]	Winch = 1
7	Notary (logbook & photos)	[illegible]	[illegible] / Tom P.	PTS + = 1 Log
8	PTS (monitoring / sensors)	[illegible]	[illegible]	
9	Support (optional)			= 7

people needed

Time of shift change: 6.30 pm

Summary/Comments:

7 ?

15 hrs 13 hrs

3 drillers 4 drillers

Hole Handover

4.50 pm → drill out of the hole waiting for the winch to be moved.

☐ Drill data reviewed

☑ maximum drift in x: -03→13 ☐ plot

☑ maximum drift in y: 0 ? 75 ☐ plot

☑ maximum depth: 2475

☑ minimum radius: NA ☐ plot 0.5, by calibration

☐ plot of predicted radius vs depth and time

☑ Hole dimensions verified Time: 9.55 pm

Drill Lead: _____
name / signature / date

Deployment Lead: _____
name / signature / date

☑ Handover complete 5. pm

Hole Logging
(skip if not applicable)

☐ Logger drop started Time:_____ Speed:_____
☐ Logging started Time:_____ Speed:_____
☐ Logging ended Time:_____

☐ Estimated hole lifetime:_____

▶ Must reach target depth by _____ on _____

Deployment Startup

Time: 5.05 pm

- [x] Cable winch anchored and [x] operational
- [x] Tower winch operational
- [x] Tie off verified
- [x] Yellow rope verified

- [x] Deployment monitoring system (PTS) operational [x] DDB# 04
- [x] Pressure sensors on hand: Paro and Keller, with backups
- [x] Laser ranger, tape measure (metric) on hand

- [x] Bleeder string installed (on quad connectors inside cable reel drum)

- [x] Uphole pressure system on hand: Setra sensor and cable

- [x] DOMs placed in racks
- [x] Weight stack on hand: weights (5) and 2 m cable
- [x] 17 m string extension steel cable on hand

Safety checks complete ([x] 1st shift [ ] 2nd shift)

- [x] [x] Crew safety briefing
- [x] [x] E-stop locations identified
- [x] [x] TOS evacuation procedures reviewed
- [x] [x] Mustering point identified
- [x] [ ] Snow mobile driver(s): anyone
- [x] [ ] CPR trained: [illegible] / [illegible] / Darren / [illegible] ...
- [x] [ ] Food runners: [illegible]

call galley at 65521

- [x] End of Main Cable brought into TOS and secured

Cable end attachments

→ Problem with laser measurement: gives error water vs/or turbulent?

- [x] Measure well depth: 215 feet = 65.53 m
- [x] Weights (5) attached x12 x2.54
- [x] Weight cable attached (weight stack complete) Time: 5.50 PM

↳ after this → downtime + shift change after DOM 60 was attached (delay ~ 45 min)

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 60 DOM id: TP 6P1391
(T, Long)

☑ Bottom shackle connected to weight stack **Payout:** 0.22
☑ Top shackle connected to 17 m steel cable
Photos: ☑ whole view

shift change → shift change around here

DOM position 59 DOM id: UP 5P1034
(U, Short) Cable mark: 0.15 m NA?

☑ Bottom shackle connected to 17 m cable
☑ Top shackle connected to Yale grip Δ(59-60): 17.087 (use laser ranger)
☑ Main cable end taped to 17 m steel cable
Photos: ☑ phi orientation ☑ whole view

Breakout 30 Time: 7.10 P.M

Depth:

- LongDOM Payout 3.88
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ☑ Loose pigtails taped to cable

Paro Serial #: 104228 Nipple ☑ on ☐ off
☑ Connected ☑ Operational ☑ Air pressure [PSI]: 9.51
☑ Cable mark: NA ☑ Distance to DOM59: 0.795

D(paro, dom60) = 17.796

☑ All clear to lower cable ☺

paro hit water just before dom55

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 58 DOM id: TP GP1373

(T, Long) Cable mark: 0019

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(58-59): 16.759
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☐ whole view

DOM position 57 DOM id: UP GP1410

(U, Short) Cable mark: 0036

☑ Bottom shackle connected
☑ Top clutch connected at link # 20 Δ(57-58): 16.598
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☐ whole view

Breakout 29 Time:

Now 9.20 pm
Last b/o 7.10 pm
Δt [min] 1.50 hr

- LongDOM
  - ☑ connector O-ring in place and ☐ lubed
  - ☑ breakout O-ring in place and ☐ lubed
  - ☑ connected

Depth:
Paro NA
Payout -57.40

- ShortDOM
  - ☑ connector O-ring in place and ☐ lubed
  - ☑ breakout O-ring in place and ☐ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

We noted a lot of slack in mean cable (loose caps on wire R)
We connected a Yoke grip to near the string on tower and then manually took the caps out and inspected. start = 7.20 pm
end = 7.45 pm

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 56 DOM id: TP 5P0793

(T, Long) Cable mark: 0053

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(56-57): 16.915
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 55 DOM id: UP 5P0598

(U, Short) Cable mark: 0040

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(55-56): 16.909
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 28

Time:

Now 9.30 pm
Last b/o 9.20 pm
Δt [min] 10 min

Depth:

Paro 76.13
Payout 74.23) OK

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☐ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

PARO [illegible] DOM 57

☐ **All clear to lower cable** ☺

Well depth estimate:
→ + 4 × 17 − 0.709 = 67.291

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 54 DOM id: TP 6P1375

(T, Long) Cable mark: 0087

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(54-55): 16.998
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

P20
92.73
OK

DOM position 53 DOM id: UP 6P1406

(U, Short) Cable mark: 0104

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(53-54): 16.967
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 27

Time:

Now 9.49 pm
Last b/o 9.30 pm
Δt [min] 18 min

Depth:

Paro 1099.65 (ok!)
Payout 99.35

- LongDOM
  - ☑ connector O-ring in place and ☐ lubed
  - ☑ breakout O-ring in place and ☐ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☐ lubed
  - ☑ breakout O-ring in place and ☐ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 52 DOM id: TP 5P0961

(T, Long) Cable mark: 0121

PMT 120 26

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(52-53): 16.952
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 51 DOM id: UP 6F1405

(U, Short) Cable mark: 0138

☑ Bottom shackle connected
☑ Top clutch connected at link # 43 Δ(51-52): 16.926
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 26 Time:

Now 9:50 pm
Last b/o 9:42 pm
Δt [min] 8 min

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

Depth:
Paro 141.71
Payout 193.54

- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 50 DOM id: TP CP1321

(T, Long) Cable mark: 1135

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(50-51): 16.941
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view
☑ Curved distance around DOM: 2 2 2 ☐ Vertical distance: ____

DOM position 49 DOM id: UP [illegible]

(U, Short) Cable mark: 0179

☑ Bottom shackle connected
☑ Top clutch connected at link # 20 Δ(49-50): 16.799
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view
☐ Curved distance around DOM: 2 2 ☐ Vertical distance: 2 2

Breakout 25

Time:

Now 10.10 pm
Last b/o 9.50 pm
Δt [min] 20 min

Depth:

Paro 178.37
Payout 149.91

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 48 DOM id: TP 6P1253
(T, Long) Cable mark: 6 189

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(48-49): 16.921
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 47 DOM id: UP 6P1914
(U, Short) Cable mark: 206

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(47-48): 16.953
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 24 Time:

Now 10.10 pm
Last b/o 10.10 pm
Δt [min] 10 min

Depth:
Paro 223.96
Payout 171.98

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

Inserted new well depth ↓ 529 m (after a few recalculation)

should be around 221 difference due to well depth uncertainty.

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☐ short); connectors (☐ long ☐ short)

DOM position 46 DOM id: TP 6P1385

(T, Long) Cable mark: 293

PARO = 239.34

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(46-47): 16.903
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

DOM position 45 DOM id: UP 6Y9949

(U, Short) Cable mark: 290

☑ Bottom shackle connected
☑ Top clutch connected at link # ~~18~~ 19 Δ(45-46): 16.973
☐ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☐ whole view

Breakout 23

Time:

Now 13.39 pm
Last b/o 16.20 pm
Δt [min] 11 min

Depth:

Paro 255.96
Payout 199 18

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☑ short); connectors (☐ long ☐ short)

DOM position 44 DOM id: TP 6P1263 273.1

(T, Long) Cable mark: 957

☑ Bottom shackle connected
☑ Top clutch connected at link # 13 Δ(44-45): 16.938
☐ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☑ whole view

DOM position 43 DOM id: UP 6P1264

(U, Short) Cable mark: 957 274

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(43-44): 16.918
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 22 Time:

Now 10.45 pm
Last b/o 10.31 pm
Δt [min] 14 min
Depth:
Paro 290.91
Payout 290.93

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

☑ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 42

DOM id: TP 6P1401

(T, Long) Cable mark: 292

☐ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(42-43): 16.954
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 41

DOM id: UP 5Y0120

(U, Short) Cable mark: 309

☐ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(41-42): 16.930
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☐ whole view

11 p.m → cable drop to 309 m

Free-fall 55 m ?

Breakout 21

Time:
Now 11:45 pm
Last b/o 10:45 pm
Δt [min] 1 hr

Depth:
Paro 324.28
Payout 255.07

Last Jam @ 596 m

→ should be around 323

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

☐ All clear to lower cable ☺

(KA) Post connection to PARO → wires got ripped off → would need to solder them back on

13/37

No more PARO

Photos: DOM ids (☑ long ☐ short); connectors (☑ long ☐ short)

DOM position 40 DOM id: TP 6P1393

(T, Long) Cable mark: 3253

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(40-41): 16.953
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 39 DOM id: UP 6P1230

(U, Short) Cable mark: 342-3

☑ Bottom shackle connected
☐ Top clutch connected at link # 18 Δ(39-40): 16.931
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 20

Time:
Now 0:07
Last b/o ~~1:52~~ 23:45
Δt [min] 1'22
Depth:
Paro
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 38 DOM id: TP 6P1377

(T, Long) Cable mark: 359.4

☑ Bottom shackle connected
☑ Top clutch connected at link # ~~19~~ 20 Δ(38-39): 16.531
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 37 DOM id: UP 5P1030

(U, Short) Cable mark: 316.4

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(37-38): 16.947
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 19

Time:
Now 01:24
Last b/o ~~35~~ 01:07
Δt [min] 00:17
Depth:
Paro
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 36 DOM id: TP 6P1269

(T, Long) Cable mark: 393.5

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(36-37): 16.936
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 35 DOM id: UP 6P1390

(U, Short) Cable mark: 410.5

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(35-36): 16.940
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 18 Time:

Now _____
Last b/o _____
Δt [min] _____

Depth:
Paro _____
Payout _____

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ Put two Kellers (one is for backup) in bucket of water/ice mix

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 34 DOM id: TP 5P0529

(T, Long) Cable mark: 427.6 ~~397.5~~

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(34-35): 16.972
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 33 DOM id: UP 6P1238

(U, Short) Cable mark: 444.6

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(33-34): 16.928
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 17

Time:
Now 9:35
Last b/o
Δt [min]
Depth:
Paro
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 32 DOM id: TP 5H0189
(T, Long) Cable mark: 461.7

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(32-33): 16.96
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☑ whole view

DOM position 31 DOM id: UP 5H0238
(U, Short) Cable mark: 478.7

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(31-32): 16.945
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☑ whole view

Breakout 16

Time:
Now 1:50
Last b/o 1:35
Δt [min] 15 min

Depth:
Paro
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 30 DOM id: TP 6Y4437
(T, Long) Cable mark: 495 8

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(30-31): 16.932
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

DOM position 29 DOM id: UP 5HØ156
(U, Short) Cable mark: 512.9

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(29-30): 16.96
☑ Bow OK → ☐ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 15

Time:
Now 2:05
Last b/o 1:50
Δt [min] 15
Depth:
Paro
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

Thermistor ☑ Present ☑ Distance to DOM29: ~ 0.5 m
Keller ☑ Connected ☐ Operational NA ☐ Air pressure [PSI] NA.
Ser.#: 060744 ☒ Cable mark: 513 ☐ Distance to DOM29:

slope = 129.9372
inter = -940.07524

☑ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 28
(T, Long) Cable mark: 529.9

DOM id: TP ~~6Y4435~~ 5P0547

☑ Bottom shackle connected
☑ Top clutch connected at link # 19
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Δ(28-29): ~~16.948~~ 16.961

* This DOM replaced because it struck the side and tilted

DOM position 27
(U, Short) Cable mark: 546.9

DOM id: UP 6Y4410

☑ Bottom shackle connected
☑ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Δ(27-28): 16.953

Breakout 14

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☐ short); connectors (☐ long ☐ short)

DOM position 26 DOM id: TP 6Y4367

(T, Long) Cable mark: 565.5

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(26-27): 16.975
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 25 DOM id: UP 6Y4366

(U, Short) Cable mark: 581

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(25-26): 16.938
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 13

Time:
Now 2:45
Last b/o 2:22
Δt [min] 23 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☑ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 24 DOM id: TP 6Y4477

(T, Long) Cable mark: 598

☐ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(24-25): 16.950
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☑ whole view

DOM position 23 DOM id: UP 6P1256

(U, Short) Cable mark: 615

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(23-24): 18.935
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 12 Time:

Now 3.45 am
Last b/o 4.45 am
Δt [min] 10 mins

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

Depth:

Paro ~~X~~
Keller ~~X~~
Payout -987.39

- ShortDOM
  - ☐ connector O-ring in place and ☑ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

Michael Kleist talk to Cabinet PARO. problem

☑ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 22 DOM id: TP 6Y4382
(T, Long) Cable mark: 642.1

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(22-23): 16.937
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☑ whole view

DOM position 21 DOM id: UP 6Y4432
(U, Short) Cable mark: 649.1

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(21-22): 16.936
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 11

Time:
Now 3:15
Last b/o ?
Δt [min]

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

Depth:
Paro
Keller
Payout

- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☑ long ☑ short); connectors (☐ long ☐ short)

DOM position 20

DOM id: TP6P1207

(T, Long) Cable mark: 666

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(20-21): 16.918
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view
~~☐ Curved distance around DOM:~~ ~~☐ Vertical distance:~~

DOM position 19

DOM id: UP6P1234

(U, Short) Cable mark: 683.4

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(19-20): 16.940
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view
~~☐ Curved distance around DOM:~~ ~~☐ Vertical distance:~~

Breakout 10

Time:

Now 3:58 wrong
Last b/o 3:50
Δt [min] 18 min

Depth:

~~Paro~~
Keller
Payout 595.74 m

- LongDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected
- ShortDOM
  - ☑ connector O-ring in place and ☑ lubed
  - ☑ breakout O-ring in place and ☑ lubed
  - ☑ connected

☑ Loose pigtails taped to cable

☑ All clear to lower cable ☺

Photos: DOM ids (☑ long ☐ short); connectors (☐ long ☐ short)

DOM position 18 DOM id: TP 6P1399
(T, Long) Cable mark: 700.3

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(18-19): 16.996
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 17 DOM id: UP 6Y4450
(U, Short) Cable mark: 717.2

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(17-18): 16.971
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 9

Time:
Now 3:53
Last b/o ~~3:50~~
Δt [min]

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

Depth:
Paro
Keller
Payout

- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 16 DOM id: TP GY4443

(T, Long) Cable mark: 734.4

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(16-17): 16.797
☑ Bow OK → ☐ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 15 DOM id: UP 520956

(U, Short) Cable mark: 751.4

☐ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(15-16): 16.9
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 8

Time:
Now 4:10
Last b/o 3:53
Δt [min] 17min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 14 DOM id: TP 5P0965
(T, Long) Cable mark: 768.4

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(14-15): 16.993
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

DOM position 13 7855 DOM id: UP 6P1258
(U, Short) Cable mark: 89

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(13-14): 16.496 m
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 7

Time:
Now 4:24
Last b/o 4:10
Δt [min] 14 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 12 DOM id: TP 59 0 949

(T, Long) Cable mark: 902.5

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(12-13): 16.987
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 11 DOM id: UP 5P1058

(U, Short) Cable mark: 819.5

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(11-12): 16.963
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Sloth upload

Breakout 6

Time:
Now 4:43
Last b/o 4:24
Δt [min] 19min

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

Depth:
Paro
Keller
Payout

- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short) 64427

DOM position 10 DOM id: TP ~~5P0949~~

(T, Long) Cable mark: 836.6 ~~X02-5~~

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(10-11): 17.001
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

DOM position 9 DOM id: UP 64468

(U, Short) Cable mark: 853.76

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(9-10): 16.938
☑ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 5

Time:
Now 05:00
Last b/o 4:43
Δt [min] 17 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 8 DOM id: TP 5P0957
(T, Long) Cable mark: 870.6

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(8-9): 16.972
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 7 DOM id: UP 5P0624
(U, Short) Cable mark: 887.7

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(7-8): 16.962
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 4

Time:
Now 0514
Last b/o 0500
Δt [min] 14 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 6 DOM id: TP 6Y4413

(T, Long) Cable mark: 704.8

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(6-7): 16.974
☑ Bow OK → ☐ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 5 DOM id: UP 6Y4472

(U, Short) Cable mark: 921.9

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(5-6): 16.991
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 3

Time:
Now 5:30
Last b/o 5:14
Δt [min] 16 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 4 DOM id: TP 6P1277

(T, Long) Cable mark: 938.9

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(4-5): 16.953
☑ Bow OK → ☑ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

DOM position 3 DOM id: UP 6P1382

(U, Short) Cable mark: 956

☑ Bottom shackle connected
☐ Top clutch connected at link # 19 Δ(3-4): 16.525
☐ Bow OK → ☐ clutch zip tied
Photos: ☐ phi orientation ☐ whole view

Breakout 2

Time:
Now 05:41
Last b/o 05:30
Δt [min] 11 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)

DOM position 2 DOM id: TP 6Y4311

(T, Long) Cable mark: ~~973~~ 973

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(2-3): 16.960
☑ Bow OK → ☑ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

DOM position 1 DOM id: UP 6Y4360

(U, Short) Cable mark: ~~998~~ 990

☑ Bottom shackle connected
☑ Top clutch connected at link # 19 Δ(1-2): 16.990
☑ Bow OK → ☐ clutch zip tied
Photos: ☑ phi orientation ☑ whole view

Breakout 1

Time:
Now 5:55
Last b/o 5:41
Δt [min] 14 min

Depth:
Paro
Keller
Payout

- LongDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected
- ShortDOM
  - ☐ connector O-ring in place and ☐ lubed
  - ☐ breakout O-ring in place and ☐ lubed
  - ☐ connected

☐ Loose pigtails taped to cable

last DOM into hole @6:10

No second Paro no more...

☑ Group photo

☐ All clear to lower cable ☺

Uphole Pressure Sensor (Setra)

After DOM1 is safely under the surface (> 50 m)

Time: ~ 6:10 am

☐ Stop the cable winch

☐ Lower Setra pressure sensor into hole

☐ Distance to Setra from floor:_____

☐ Setra readout verified with monitoring system

☐ Well depth from Setra: NA

☐ Well depth from laser: NA

If the two well depth measurements agree:

☐ Switch to Setra well depth in monitoring system

Time:_____

Now the String Drop begins

String Drop

*The target depth is **2450** m*

☐ Switch cable winch to computer control

☐ Speed:_____ Time:_____ Depth:_____
☐ Speed:_____ Time:_____ Depth:_____
☐ Speed:_____ Time:_____ Depth:_____
☐ Speed:_____ Time:_____ Depth:_____
☐ Speed:_____ Time:_____ Depth:_____
☐ Speed:_____ Time:_____ Depth:_____

Depth Monitoring (log on the fly – do not stop for this) NA

Depth by Paro[1]	Time	Well depth[1]	Depth by cable marks[2]	Depth by Payout[1]	Δdepth P-K[1]
1000 m					
1500 m					
2000 m					
2100 m					
2200 m					
2300 m					
2400 m					

[1]Read off monitoring screen
[2]Cable mark offset = _____ (at DOM59) – 17 m = _____ (at DOM60)
(from p.4)

☐ Switch to manual control @ 2400 m

☐ Well depth
@ 2420:_____ not applicable
@ 2440:_____

using cable marks
switch tie-off
D(60) = ~~total~~ (cable mark) + 15 + 12 − 5
distance (D60) → end cable

☑ Position string at target depth of **2450** m Time: 7:25 am

☑ String secured with Yale grip and anchor chain Time: 7:40 am

Absolute depth with bottom Paro
(depth in *meters* and pressure in *PSI*)

☐ Distance from Paro to DOM60:

$d_{Paro\text{-}DOM59}$ = _____ (from p. 4)

$d_{Paro\text{-}DOM60}$ = ($d_{Paro\text{-}DOM59}$ + 17) m = _____ ← insert below

☐ Convert Paro pressure to string depth:

$K = 3.78151 \cdot 10^{-6}$ /PSI (compressibility of aerated water)

(use 6 decimals for exp's)

Ambient pressure (from p. 4): P_0 = _____ PSI → $\exp(-KP_0)$ = _____

Pressure reading (from screen): P = _____ PSI → $\exp(-KP)$ = _____

Subtract exponentials → = _____

× $1.85947 \cdot 10^5$

Paro depth in water → = _____ m

Add distance to DOM60 (above) → + _____ m

Add well depth → + _____ m

Depth of bottom DOM → = _____ m

Final depth estimates (07 Jan 2007)

Both connectors were repaired

◄--------- read off deployment screen ---------►

Time:	Paro	Keller	Payout	Cable marks
Reading	2454 m ~~PSI~~	1850 m ~~PSI~~	m	2418 m
Offset	PSI	PSI	m	m
Well depth	50.290 (laser) m		This space is intentionally left blank	
Dist. to DOM60	m	m		
DEPTH (DOM60)				

Time: _____

Final depth (DOM60): ~ 2440 m according to PARO data + new well depth measurement

Deployment Closeout

- [x] Log entries complete
- [x] String safely secured
- [x] Hole covered and secured
- [x] Equipment safely shutdown and secured
- [x] Deployment data OK (in database) → MO PARO / Keller Docket
- [x] Site cleanup
- [x] Deployment crew dismissed
- [x] String deployment complete

Time: 2:15 pm Date: 07 Jan 2007

Shift Lead: GARY HILL
name / signature

Logger: Freya Descamps
name / signature

PTS Lead: Freya Descamps
name / signature

Deployment Manager: SVEN
name / signature

Safety Officer: _____
name / signature

IceCube On-ice Lead: _____
name / signature

IceCube Deployment Monitoring Check Sheet (IDMCS)

Version 4.0
December 12, 2006

Kurt Woschnagg, UCB

General instructions

- Read through this entire document before deployment starts.
- Deployment monitoring is done with a computer (housed in the TOS) running drill/deployment monitoring software (by Chuck Rentmeesters) with a GUI for readout and manual inputs. All deployment sensor data and manual inputs are logged and saved on disk by this system.
- For each manual entry into the monitoring interface (marked **ENTER** below), also make a note in the logbook (marked *Logbook* below).
- For each entry in the logbook, include time and name (initials).
- Write down as much useful information you can think of (it *will* all be needed sooner or later).

Measurement instructions

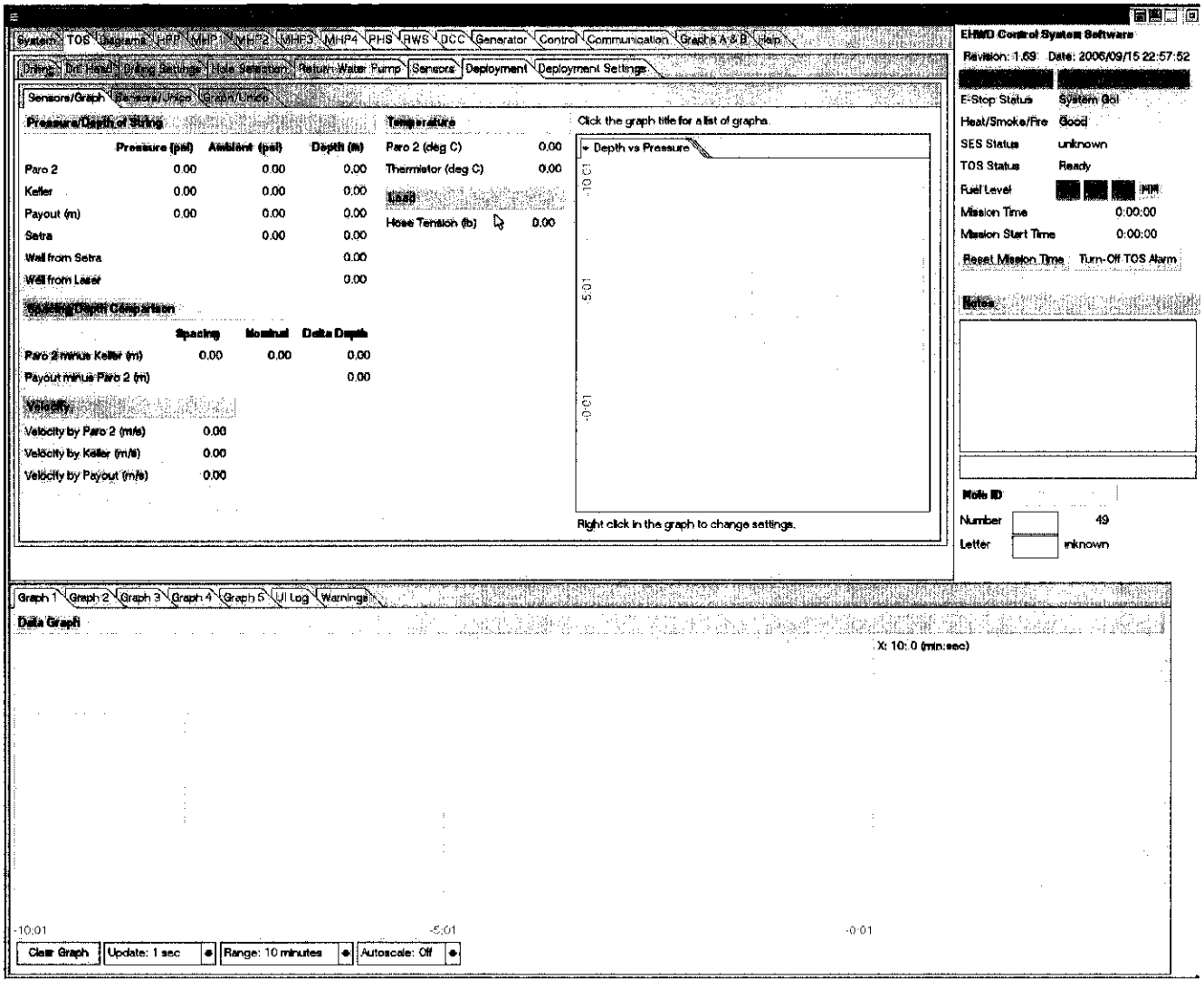
- All vertical measurements are relative to the floor of the tower (not the lip of the kick board).
  - Measure well depth from this level.
  - Take cable mark readings at this level.
- The location of a DOM on a string (for distance measurements) is defined as the position of the center of the sphere (at the equator defined by the harness).
- When taking a cable mark reading, estimate the location to nearest cm (0.01 m) with closest cable marks and tape measure.
- The location of a Paro is defined at the bottom of its body (at the little hole with the nipple).
- The location of a Keller is defined at the row of holes in the black plastic nose cap.
- The distance between a pressure sensor and the nearest DOM is positive/negative if the unit is above/below the DOM.
- Well depth is measured with a laser ranger (if possible), or with a tape measure (if not).
- The unit used for all distances and depths during deployment is **meters**.

Screen Tab: TOS ▶ Deployment

▶ Sensors/Graph

This is the main tab used during deployment monitoring. No input required on this tab.

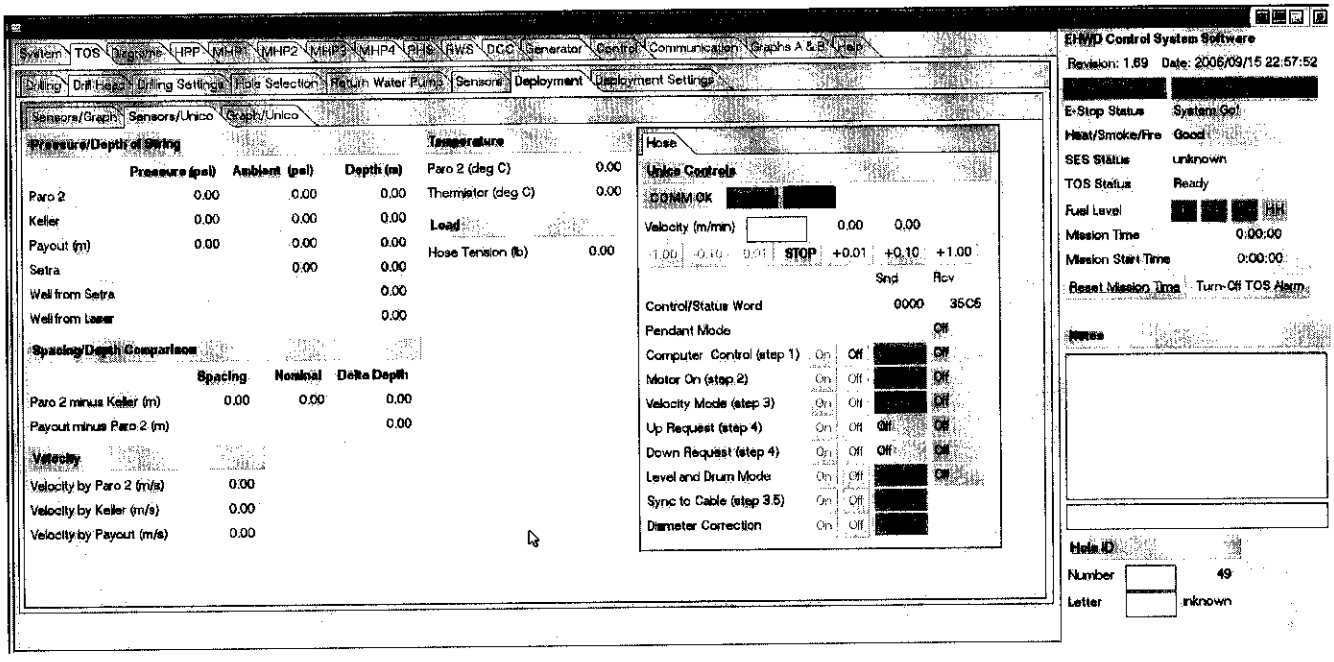
Pressure/Depth of String Current and ambient (air) pressures, and the corrected depths at DOM60.
Spacing/Depth Comparison Difference in depth from pressure data. *Should be stable during deployment!*
Velocity The deployment velocity calculated from recent pressure/payout readings.
Temperature Temperature readings.
Load Cable tension from load cell data.



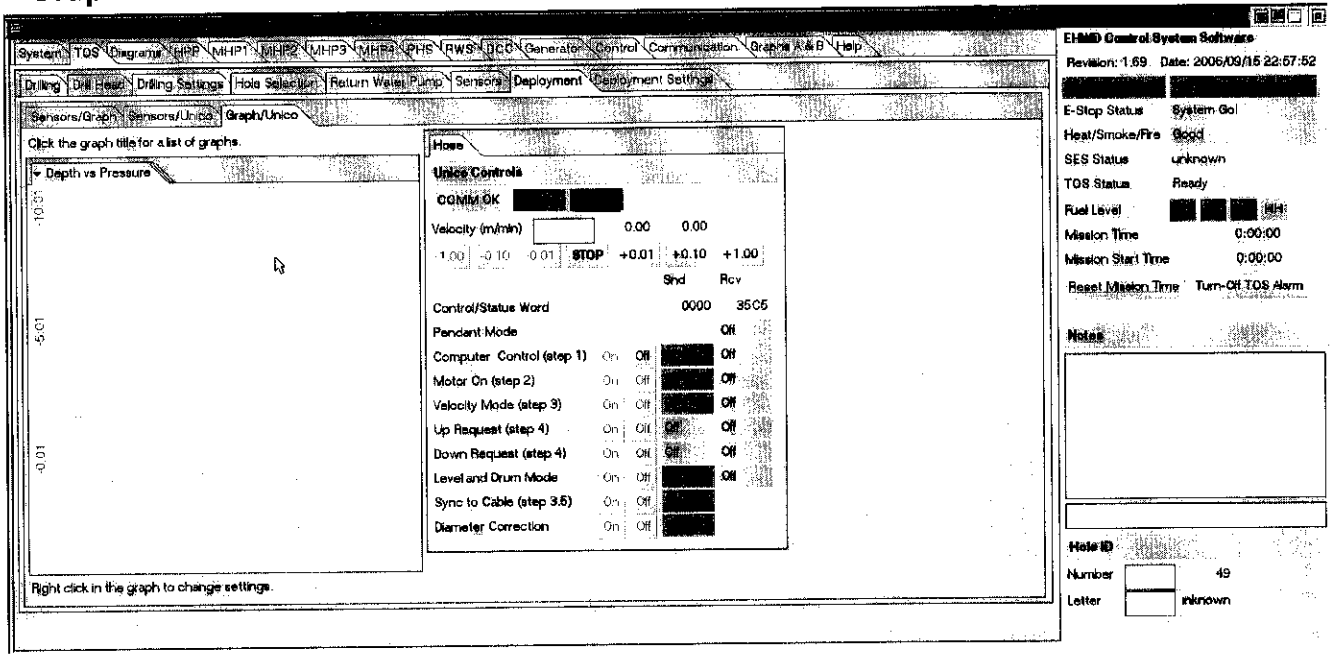
Screen Tab: TOS ▶ Deployment

▶ Sensors/Unico

This tab has the same data display as the main Sensors/Graph tab above, but instead of the graph window this tab has the controls for the Unico drive which controls the winch.



▶ Graph/Unico

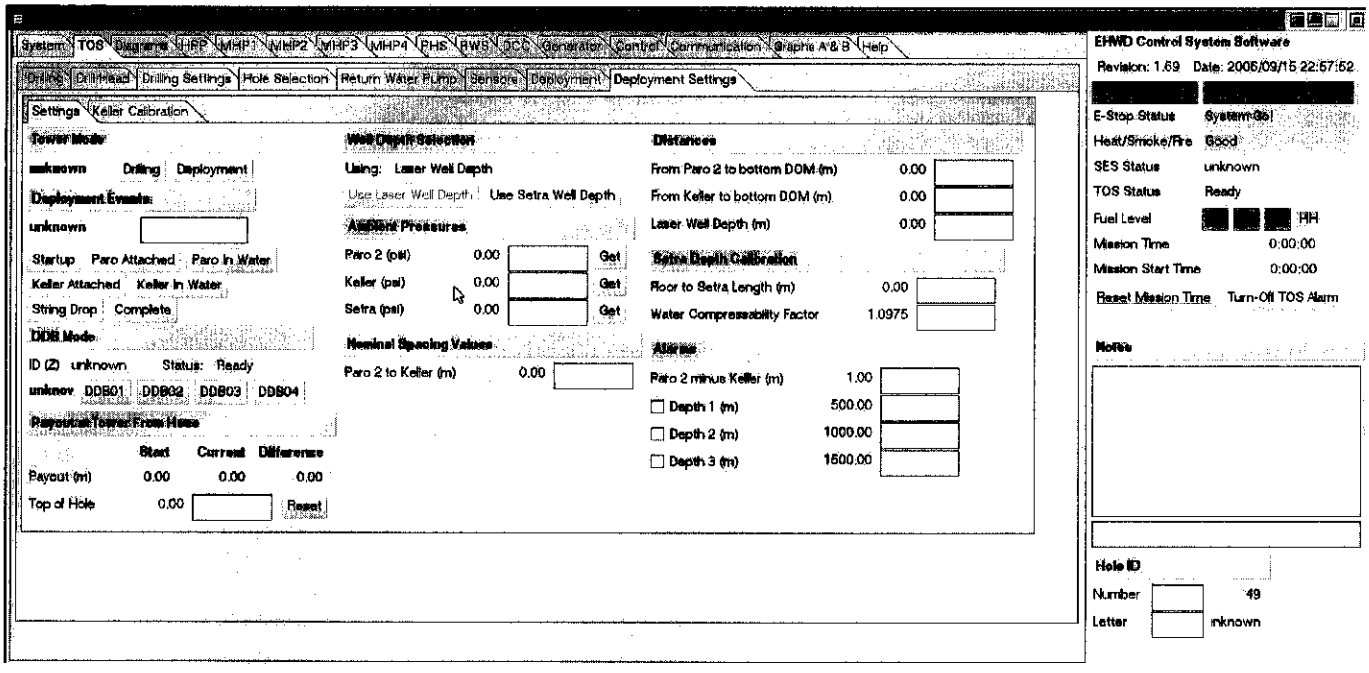


Screen Tab: TOS ► Deployment Settings

► Settings

This is the main tab for entering information that is needed for a correct depth calibration of the pressure data. Make sure you understand what all the entries mean before deployment starts.

Tower Mode	Click on "Deployment".
Deployment Events	Click the appropriate button when one of the predefined events occurs (see list below).
DDB Mode	Select the correct DDB ID before deployment startup (needed for Keller calibration).
Payout at Tower	Reset payout when bottom DOM is at tower floor level.
Well Depth Selection	Select source of well depth used in depth calculation.
Ambient Pressures	Press "Get" when pressure sensor is attached to cable, or enter reading at that time.
Nominal Spacing	Enter calculated distance between Paro and Keller.
Distances	Enter calculated distances between Paro/Keller and DOM60, and well depth.
Setra Depth Calib.	Enter measured length of Setra cable, from floor to sensor.
Alarms	Set values for which alarm is to be sounded (optional).



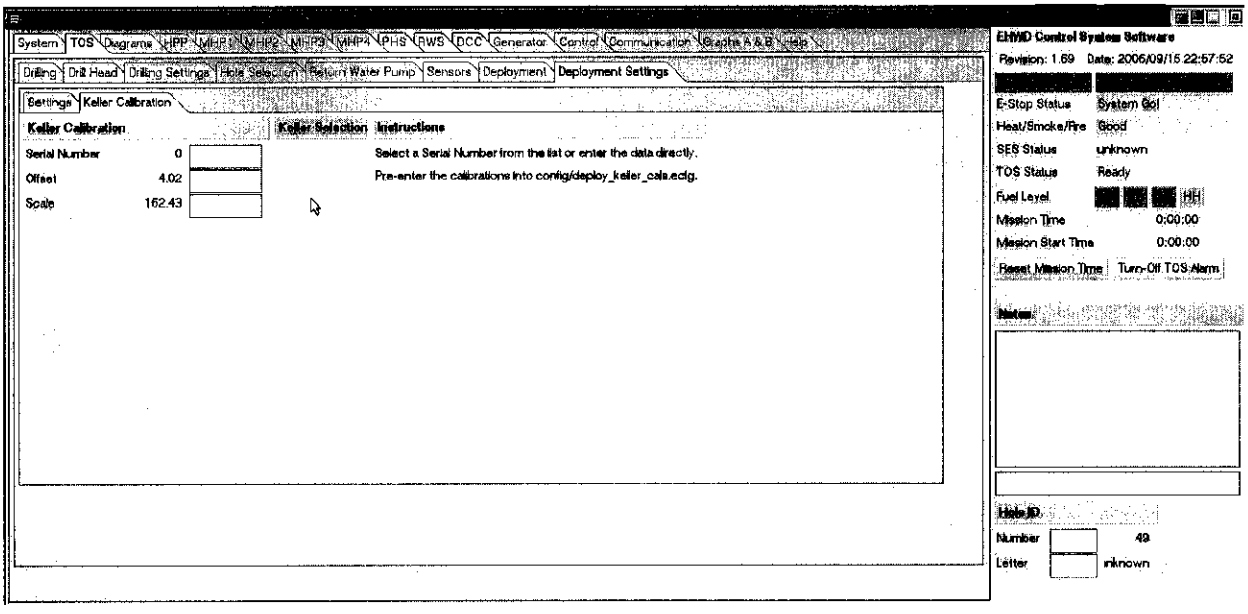
Deployment Events

☐ **Startup**	Click when the deployment begins.
☐ **Paro Attached**	Click when the Paro is attached to the breakout and starts sending data.
☐ **Paro In Water**	Click when the Paro reaches the water.
☐ **Keller Attached**	Click when the Keller is attached to the breakout and starts sending data.
☐ **Keller In Water**	Click when the Keller reaches the water.
☐ **String Drop**	Click when the String Drop phase begins, after all DOMs have been attached.
☐ **Complete**	Click when the deployment ends (string is secured, etc).

Screen Tab: TOS ▶ Deployment Settings

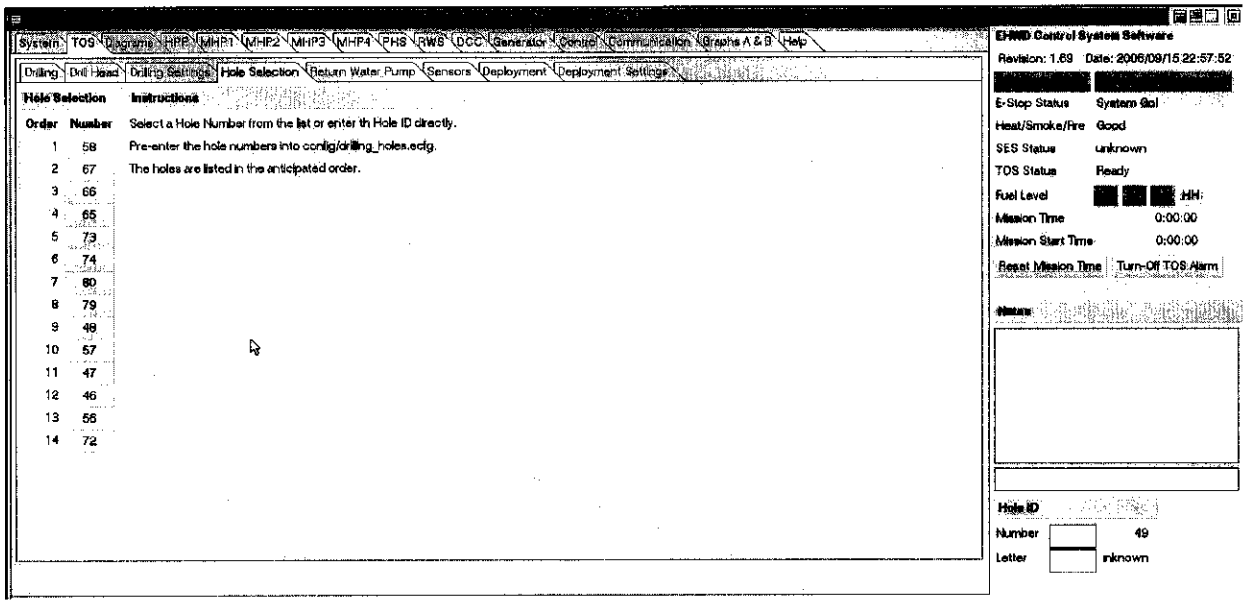
▶ Keller Calibration

On this tab you select the Keller ID by clicking on the appropriate button. The correct (pre-programmed) calibration constants will then be used for the Keller pressure reading.



Screen Tab: TOS ▶ Hole Selection

On this tab you select the hole/string number, *either* by clicking on the numbered button on the left *or* by entering it in the "Hole ID" field in the lower right hand corner.



Distances between devices

calculate manually and enter on Deployment Settings tab

Distance between Paro and DOM60: _____ = _____

Distance between Keller and DOM60: _____ = _____

Distance between Paro and Keller: _____ = _____

Notes:

There are 60 DOMs on every string.

The nominal spacing between DOMs is 17 m.

The nominal spacing between breakouts is 34 m.

Breakouts (1-30) and DOMs (1-60) are counted from the top.

The Keller is at breakout 15, just above DOM29.

The Paro is at breakout 30, just above DOM59.

(Fun Fact: There used to be a second Paro at breakout 1 on the first four strings)

Pressure conversions

	PSI	mH_2O	Atm
1 PSI =	1	0.70	0.07
1 mH_2O =	1.4	1	0.1
1 atm =	14.7	10.3	1

Check Sheet

STRING # 65

DATE: 06 JAN 2007

Before Deployment

☑ **Action**: Locate laser ranger for well depth measurements.

☑ **Action**: Locate metric tape measure.

☑ **Action**: Locate one Paro and one Keller, *plus spares* of each.

☑ **Action**: Locate bucket (for cooling of Keller sensor with water/ice mix).

☑ **Action**: Fill bucket with snow and place in heated area to make slush.

☑ **Action**: Locate Setra uphole pressure assembly (sensor + cable).

Deployment Startup

☑ **Action**: Click "Deployment" button under "Tower Mode" on Deployment Settings tab.

☑ **Action**: Select string (=hole) number on Hole Selection tab.

☑ **Action**: Note deployment start time. just dom attached 6.09

Logbook: Time

☑ **Action**: Click "Reset Mission Time" on the right panel on the deployment screen.

☑ **Action**: Click "Startup" under Deployment Events.

☑ **Action**: Note DDB id number (1, 2, 3, or 4). 4

ENTER: DDB# (select button)

Logbook: DDB#

☑ **Action**: Take a well depth measurement with the laser ranger.

ENTER: Well depth [m]

Logbook: Well depth 96.012 m

no Laser — did tape measurement.

☑ **Action**: Reset Payout when DOM60 breaks the plane of the floor.

CLICK: "Reset" button (Top of Hole Reset) on Deployment Settings ► Settings tab.

Logbook: Payout Start value – payout not running?

☑ **Action**: Get cable mark reading at DOM59. (0 32)

Logbook: Cable mark [m] (NA)

☑ **Action**: Attach Paro at breakout #30. (This is called "Paro2" on the monitoring screen).

Logbook: Paro serial number

☑ **Action**: Click "Paro Attached" under Deployment Events.

☑ **Action**: Measure distance between Paro location and nearest DOM.

Estimate distance to *bottom* DOM by adding *n* 17-meter segments
(*n* should be 1 for the Paro since nearest DOM is #59).

ENTER: Distance [m] from Paro to *bottom* DOM (#60)

Logbook: Distance to nearest DOM, nearest DOM#, estimated distance to DOM60

☑ **Action**: Get cable mark reading at Paro.

Logbook: Cable mark [m] NA

B.F. :
61644

☐ **Action**: Take Paro air pressure reading just before it breaks the water surface. @ DOM 50

ENTER: Ambient pressure [PSI] for Paro

Logbook: Paro2 air pressure

During Deployment

☐ **Action**: Click "Paro In Water" under Deployment Events.

☐ **Action**: Measure curved distance of main cable going around DOM (for at least two DOMs).

Logbook: Straight (vertical) distance for DOM segment, curved cable distance

☑ **Action**: Measure real distance between neighboring DOMs (for every pair) with laser ranger.

Logbook: DOM#'s, distance

☑ **Action**: Put Keller (and one spare) in bucket of water (at near freezing temperature) at least one hour before breakout #15 is reached.

Note: The Keller is not temperature corrected and must therefore be brought to the temperature of the water in the hole (0-2°C) before the air pressure offset is determined.

☑ **Action**: Attach Keller at breakout #15.

ENTER: Keller serial number 606744

Logbook: Keller serial number

☑ **Action**: Click "Keller Attached" under Deployment Events.

☒ **Action**: Measure distance between Keller and nearest DOM. → not done

Estimate distance to *bottom* DOM by adding *n* 17-meter segments (*n* should be 31 for Keller since nearest DOM is #29).

ENTER: Distance [m] from Keller to *bottom* DOM (#60) ~ (13 × 17) + ~0.5m

Logbook: Distance to nearest DOM, nearest DOM#, estimated distance to DOM60

☑ **Action**: Get cable mark reading at Keller.

Logbook: Cable mark [m] for Keller

☐ **Action**: Determine Keller air pressure offset before (or just as) Keller hits water.

N/A

ENTER: Ambient pressure [PSI] for Keller

Logbook: Ambient Keller pressure

N/A ☐ **Action**: Click "Keller In Water" under Deployment Events.

☑ **Action**: Get cable mark reading at top DOM.

Logbook: Cable mark [m]

☐ **Action**: Measure well depth as soon as top DOM is under water.

ENTER: Well depth [m]

Logbook: Well depth [m], measurement method (laser/tape)

well depth number without pressure recorded

Between DOM attachment and String Drop

☐ **Action**: Lower Setra assembly into hole (after top DOM is at least 50 m under the surface).

☐ **Action**: Measure distance between Setra sensor and floor of tower (distance marked on cable).

ENTER: Distance Setra to floor [m]

Logbook: Distance Setra to floor

☐ **Action**: Measure well depth with Setra system and laser ranger and compare.

Logbook: Well depth from Setra [m], well depth from laser [m]

☐ **Action**: If the two well depth meaurements agree, switch from laser to Setra in monitoring system.

During String Drop

☑ **Action**: Click "String Drop" under Deployment Events.

☐ NA **Action**: Measure well depth manually (with laser ranger and/or tape measure).

(if shift lead allows: repeat several times during drop)

ENTER: Well depth [m]

Logbook: Well depth, measurement method (laser/tape)

☐ **Action**: Read cable marks at regular intervals.

Logbook: Cable mark [m]; depth readings [m] (Paro, Keller); time

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End of Deployment

☐ **Action**: Get final pressure readings from Paro and Keller when final depth has been reached.

Logbook: Pressure readings [PSI]; corrected depths [m] (from screen)

☐ **Action**: Get final well depth reading (laser and/or Setra).

HAS TO BE SIMULTANEOUS WITH FINAL PRESSURE READINGS!

NA *Logbook*: Well depth [m] (laser); well depth [m] (Setra)

☑ **Action**: Note deployment end time.

Logbook: Time

☐ **Action**: Click "Complete" under Deployment Events.

STRING 65

NAME	DOMID	REMARK	DEPLOYED AT
Jyestha	TP6Y4435		DAMAGED?
Baccarat	TP6P1391		60
Rotavirus	UP5P1034	Droopy	59
Barbu_Card	TP6P1373		58
Kings_In_The_Corn	UP6P1410		57
Trichophilia	TP5P0743	Droopy	56
Ergophobia	UP5P0598	Droopy	55
UNO_Card	TP6P1375		54
Wyatt_Earp	UP6P1406		53
Polio	TP5P0961	Droopy	52
Phase_10	UP6P1408		51
Living_Dead	TP6P1301		50
Blackjack	UP6P1392		49
Hyssop	TP6P1253		48
Thirty_One	UP6P1414		47
Whist	TP6P1385		46
Ah_Puch	UP6Y4242		45
Windflower	TP6P1263		44
Mistletoe	UP6P1264		43
Slapjack	TP6P1401		42
Lamborghiniish	UP5Y0120	Droopy	41
3_card_Poker	TP6P1393		40
Montbretia	UP6P1230		39
Gin_Rummy	TP6P1377		38
From Buffer 3	UP5P1030	Droopy	37
Waxflower	TP6P1269		36
Canasta	UP6P1390		35
Williwaw	TP5P0529	Droopy	34
From Buffer 1	UP6P1238		33
Domherre	TP5H0189	Droopy	32
Sillgrissla	UP5H0238	Droopy	31
Brahma	TP6Y4437		30
Morkulla	UP5H0156	Droopy	29
Solar_Nebula	TP5P0547	Droopy	28
Garuda	UP6Y4410		27
Lokapala	TP6Y4367		26
Kashjapa	UP6Y4366		25
Danu	TP6Y4411		24
Buckbean	UP6P1256		23
From Buffer 2	TP6Y4381		22
Agni	UP6Y4432		21
Marigold	TP6P1207		20
Flowering_Peach	UP6P1234		19
Bid_Poker	TP6P1399		18
Songshan	UP6Y4450		17
Diti	TP6Y4443		16
South_Dakota	UP5P0956	Droopy	15
Typhus	TP5P0965	Droopy	14
Sunflower	UP6P1258		13
Babesiosis	TP5P0949	Droopy	12
Chickenpox	UP5P1058	Droopy	11
Svaha	TP6Y4427		10
Nakula	UP6Y4468		9
Iris_Nebula	TP5P0957	Droopy	8
Gamophobiaish	UP5P0624	Droopy	7
Arjaman	TP6Y4413		6

Meru	UP6Y4472		5
Pet_Sematary	TP6P1277		4
Five_Crowns	UP6P1382		3
Nandi	TP6Y4311		2
Tlaloc	UP6Y4360		1
Svarthakedopping	TP5H0207	Droopy	
Andreegatan	UP6H7506		
Desmoche	UP6P1380		

String Installation Traveler

Surface Cable# : 65 **Length (m) :** 465 m	**Start date:** 12/21/06
Surface to DOM Cable# : C15	**Start date:** 1/6/07

	Process Step	Doc. no. reference	Tech initials	Date Completed	Comments
1	Visual Inspection of Cables at Pole	9400-0006-QLP	MC	1/6/07	1 S2D inspected, not present for SC

Surface Cable Assembly Inspection — Pass ☑ Fail ☐ By: ____

Surface to DOM Cable Assembly Inspection — Pass ☑ Fail ☐ By: MC

2	Trench Surface Cable Assembly (SCA)	9400-0006-QLP	MC		not present
3	Install SCA into Surface Junction Box (SJB)	9400-0006-QLP	MR		not present
4	Install SCA into ICL	9400-0075-PLN	MC		not present
5	Complete IceTop FCU Power and Data Installation Procedure	9400-005-QLP	JM	12/28/06	
6	Verify Connectivity of IceTop DOMs with Quad Connectivity Tester (QCT)		MK	1/8/07	
7	Pre-deployment Inspection Procedure		MC	1/6/07	
8	S2D Cable into SJB installation	9400-0007-QLP	MC	1/7/07	
9	Wet Connector Testing of Quads		MC	1/9/07	1 wet quad - Q 11
10	QCT Testing of Quads		MC	1/9/07	
11	SJB Final Inspection Complete (Ok to Bury)	9400-0007-FRM	MC	1/9/07	
12	Handoff to IceCube C &V Team		MC	1/9/07	

String Installation Traveler

String QCT and Wet Connector Test Form

String # 65 Name of Tester: Ryan Hammetter / Mike Heist

	QCT Results # of DOMs (0, 1, 2)			Wet Connector Test Results (micro Amps)					
Quad name	# of DOMs WP0	# of DOMs WP1	Pass/ Fail	J	L	M	K	Pass/ Fail	Recheck Pass/ Fail
Q2	2	2	P					P	
Q3	2	2	P					P	
Q4	2	2	P					P	
Q5	2	2	P					P	
Q6	2	2	P					P	
Q7	2	2	P					P	
Q8	2	2	P					P	
Q9	2	2	P					P	
Q10	2	2	P					P	
Q11	2	2	P			>180 μA	>150 μA	F	
Q12	2	2	P					P	
Q13	2	2	P					P	
Q14	2	2	P					P	
Q15	2	2	P					P	
Q16	2	2	P					P	
IceTop Quads								P	
ITQ1	1	1	P					—	
ITQ2	1	1	P					✓	

Service Quads	Device Connected	Verified on	Tech Initials	Comments
Q1				
Q17				
Q18				
Q19				
Q20				