

DEPLOYMENT LOG for IceCube STRING # 39Deployment Start: at 23:27 on 3 Jan 2006Deployment End: at 13:02 on 4 Jan 2006Target depth (DOM60): **2450 m** Final depth: 2452.4 m**Deployment Crew**

Position	First Shift	Second Shift	Third Shift
Shift lead	AK	Tom Han	
DOM install 1 (high)	Jon. Eisch	John Kelley	
DOM install 2 (low)	Tim Murray	Karthik S.	
DOM supply 1 / DOM install 3	Mike Solare	Mark Krinsky	
DOM supply 2 / floater	Nobuyoshi	Justin V.	
Winch operator (cable & tower)	AK / Dar	P.J. Chap.	
Notary (logbook & photos)	Ethan (Ethan)	D. Caven	
PTS (monitoring / sensors)	Dar	Kurt W	
Support (optional)	Ralf	Tom P.	
Time shift on:	22:45	6:45	
Time shift off:		13:02	

Summary/Comments:

Hole Handover

☒ Drill data reviewed

- ☐ maximum drift in x: _____ ☐ plot
- ☐ maximum drift in y: _____ ☐ plot
- ☐ maximum depth: _____
- ☐ minimum radius: _____ ☐ plot
- ☐ plot of predicted radius vs depth and time

☐ Hole dimensions verified

Time: _____

Drill Lead: _____
name / signature / date

Deployment Lead: AK *[Signature]* 1-3-2006, 2200h
name / signature / date

☒ Handover complete

Hole Logging

(skip if not applicable)

☒ Logger drop started

Time: 20:12
19:39

Speed: ~20 m/min → 48 → 60
5 m/min / 21.5 / 32

☒ Logging started (for 1400 m)

Time: 21:34

Speed: ~23 m/min

☐ Logging ended

Time: _____

~37 m/min up-rate

☐ Estimated hole lifetime: _____

► Must reach target depth by _____ on _____

Deployment Startup

Time: 22:00
1/3/06

- ☒ Cable winch anchored and ☐ operational
☒ Tower winch operational
☒ Tie off verified
☒ Yellow rope verified
☒ Deployment monitoring system (PTS) operational ☒ DDB# 3
☒ Pressure sensors on hand: Paro(s) and Keller
☒ Laser ranger, tape measure (metric) on hand
☒ Loopback terminators connected (inside cable reel drum)
☒ Uphole pressure system on hand: Setra sensor and cable
☒ DOMs placed in racks
☒ Weight stack on hand: weights (5) and 2 m cable
 Safety checks complete (☐ 1st shift ☐ 2nd shift)
☒ ☒ Crew safety briefing
☒ ☒ E-stop locations identified
☒ ☒ TOS evacuation procedures reviewed
☒ ☒ Mustering point identified
☒ ☒ Snow mobile driver(s): ✓ ED, DG, TM, NK, OFC, Kanthi
☒ ☒ CPR trained: DG, NK, ED, Kanthi, Tom, John, PJ
☒ ☒ Food runners: Sven
☐ End of Main Cable brought into TOS and secured

call galley at 65521

Cable end attachments

- ☒ Measure well depth: 55.70 m
☒ Weights (5) attached
☒ Weight cable attached (weight stack complete)

Time: 23:37

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

DOM position 60

(T, Long)

Cable mark: 2.5

DOM id: ☒ TP5P0685

☐

Reason for substitution:

☒ Bottom shackle connected to weight stack

☒ Top clutch connected at link # 19

☒ Bow OK → ☒ clutch zip tied

Payout: MA

☒ Cable end taped to weight stack cable

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

DOM position 59

(U, Short)

Cable mark: 19.3

DOM id: ☒ UP5P0692

☐

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 19

☒ Bow OK → ☒ clutch zip tied

$\Delta(59-60)$: 17.0m
(use laser ranger)

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

Breakout 30

Time: 00:09

☒ Cable/LC continuity test complete (Q16)

☒ all pass

☒ fail: _____

Depth: _____
Payout MA

- LongDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

- ShortDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

☒ Loose pigtails taped to cable

Para: (= Para2) ☒ Connected ☒ Operational ☒ Air pressure [PSI]: 10.27

Ser.#: 9849 ☒ Cable mark: 20.0m ☒ Distance to DOM59: 458cm

Adapter: 100v2 Nipple ☐ on ☒ off

95411

☒ All clear to lower cable ☺

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

DOM position 58

(T, Long)

Cable mark: 36.4DOM id: ☒ TP5P0789

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(58-59)$: 17.1☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☒ chain with clutch ☐ phi orientation ☐ whole view**DOM position 57**

(U, Short)

Cable mark: 53.2DOM id: ☐ UP5P0914

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 21 $\Delta(57-58)$: 17.0☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 29**

Time:

☒ Cable/LC continuity test complete (Q16)☐ all pass☐ fail: _____Now 00:42Last b/o 00:09 Δ [min] 00:38**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2

Payout -25.3**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cable*tape fragment
down hole*

Thermistor:

☒ Present☐ Distance to DOM57: 61 cm☐ All clear to lower cable ☺

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

DOM position 56DOM id: ☒ TP5P0915

(T, Long)

Cable mark: 70.2

Reason for substitution:

☐ Bottom shackle connected☐ Top clutch connected at link # 19 $\Delta(56-57)$: 17.1☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**DOM position 55**DOM id: ☒ UP5P0854

(U, Short)

Cable mark: 87.01

Reason for substitution:

☒ Bottom shackle connected☐ Top clutch connected at link # 19 $\Delta(55-56)$: 17.0☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 28**

Time:

☒ Cable/LC continuity test complete (Q15)☐ all pass☐ fail: _____Now 01:12Last b/o 00:47 Δt [min] 25**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 84.0☒ connector O-ring in place and ☐ lubedPayout -52.1☒ breakout O-ring in place and ☐ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cabletype Fragment
in hole

lunch

01:20 - 01:41

☒ All clear to lower cable ☺ Kurt x61786

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

DOM position 54

(T, Long)

Cable mark: 104.3DOM id: ☒ TP5P0727

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(54-55)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 53**

(U, Short)

Cable mark: 121.3DOM id: ☒ UP5P1004

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(53-54)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 27**

Time:

☒ Cable/LC continuity test complete (Q15)☒ all pass☒ fail: _____Now 01:50Last b/o 01:12 Δt [min] 38

(+21m

Far line

- LongDOM☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 53.3Payout -78.5**- ShortDOM**☒ connector discharged (ESD)☒ 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: ☒ TP5H0115

(T, Long)

Cable mark: 138.8

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 19

$\Delta(52-53)$: 17.1

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

DOM position 51

DOM id: ☒ UP5Y0142

(U, Short)

Cable mark: 154.6

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 19

$\Delta(51-52)$: 17.1

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

Breakout 26

Time:

☒ Cable/LC continuity test complete (Q14)

☒ all pass

☒ fail: _____

Now 02:08

Last b/o 01:50

Δt [min] :18

- LongDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

Depth:

Paro2 80.5

Payout 104.5

- ShortDOM

☒ connector discharged (ESD)

☒ 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

(T, Long)

Cable mark: 172-1DOM id: ☒ TP5P0799☐

Reason for substitution:

☐ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(50-51)$: 16.9☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view☐ Curved distance around DOM: _____ ☒ Vertical distance: _____**DOM position 49**

(U, Short)

Cable mark: 189.1DOM id: ☐ UP5P0904☐

Reason for substitution:

☐ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(49-50)$: 12.6☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view☒ Curved distance around DOM: 2.36m ☒ Vertical distance: 2.00m**Breakout 25**

Time:

☒ Cable/LC continuity test complete (Q14)☐ all pass☒ fail: cont good / LC badNow 02:22Last b/o 02:08 Δt [min] :14

- LongDOM

☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected

- ShortDOM

☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable

Depth:

Paro2 169.5Payout -133.9Thermistor: ☐ Present ☒ Distance to DOM49: 55.6cm☐ All clear to lower cable ☺

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

DOM position 48

(T, Long)

Cable mark: 206.1DOM id: ☒ TP5P0705

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(48-49)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 47**

(U, Short)

Cable mark: 223.7DOM id: ☒ UP5P0720

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(47-48)$: 16.9☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 24**☐ Cable/LC continuity test complete (Q13)☐ all pass☒ fail: cnt good / LC bad**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cable

Time:

Now 02:38Last b/o 02:32 Δt [min] 06

Depth:

Paro2 203.7Payout -155.4

photo of paint
Marker on face of
T connector

☒ All clear to lower cable ☺

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

DOM position 46

(T, Long)

Cable mark: 240:0mDOM id: ☒ TP5P0643

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(46-47)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 45**

(U, Short)

Cable mark: 2257.0DOM id: ☒ UP5P0600

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(45-46)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 23**

Time:

☒ Cable/LC continuity test complete (Q13)☒ all pass☒ fail: cont good lc badNow 03:00Last b/o 02:38 Δt [min] 22**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 237.67Payout -175.7**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

photo of Ncm
cable sheath damage

☒ All clear to lower cable ☺

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

DOM position 44

(T, Long)

Cable mark: 274.0DOM id: ☒ TP5P0777☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 10 $\Delta(44-45)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 43**

(U, Short)

Cable mark: 291.0DOM id: ☒ UP5P0570☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(43-44)$: 17.1☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 22**

Time:

☒ Cable/LC continuity test complete (Q12)☒ all pass☐ fail: _____Now 03:16Last b/o 03:00 Δt [min] :16**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☐ Loose pigtails taped to cable

Depth:

Paro2 222.74Payout -192.9

well
depth
was
accidentally
cleaned

photo of minor
gel curing
UP5P0570 (3943)

☐ All clear to lower cable ☺

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

DOM position 42

(T, Long)

Cable mark: 307.9DOM id: ☒ TP5P0557

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(42-43)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 41**

(U, Short)

Cable mark: 324.8DOM id: ☒ UP5P0984

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(41-42)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 21**

Time:

☒ Cable/LC continuity test complete (Q12)☒ all pass☒ fail: _____Now 03:37Last b/o 03:16 Δt [min] :21

- LongDOM

☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 256.70Payout -210.6

- ShortDOM

☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Thermistor:

☒ Present☒ Distance to DOM41: 56 cm☒ All clear to lower cable ☺

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

DOM position 40

(T, Long)

Cable mark: 341.8DOM id: ☒ TP5P0779☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(40-41)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 39**

(U, Short)

Cable mark: 338.8DOM id: ☒ UP5P0892☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(39-40)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 20**

Time:

☒ Cable/LC continuity test complete (Q11)☐ all pass☒ fail: cont good / LC bridNow 03:53Last b/o 03:37 Δt [min] :16**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 339.49Payout -232.8**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

photo A sent in
39-40 TP5P0779

☒ All clear to lower cable ☺

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

DOM position 38

(T, Long)

Cable mark: 375.6DOM id: ☒ TP5H0179

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(38-39)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 37**

(U, Short)

Cable mark: 392.7DOM id: ☒ UP5H0178

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(37-38)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 19**

Time:

☐ Cable/LC continuity test complete (Q11)☐ all pass☒ fail: cont good / LC badNow 04:08Last b/o 03:53 Δt [min] :15**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected

Depth:

Paro2 373.80Payout -254.9**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cable

Minor crimp
 39-37 (1 cm²)

☒ All clear to lower cable ☺

Photos: DOM ids (☒ long ☒ short); connectors (☒ long ☒ short)**DOM position 36**

(T, Long)

Cable mark: 409.7DOM id: ☒ TP5Y0137☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(36-37)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 35**

(U, Short)

Cable mark: 426.6DOM id: ☒ UP5Y0132☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(35-36)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 18**

Time:

☒ Cable/LC continuity test complete (Q10)☐ all pass☐ fail: _____Now 04:23Last b/o 04:08 Δt [min] 15

- LongDOM

☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 407.19Payout -274.9

- ShortDOM

☒ connector discharged (ESD)☒ 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 ☺

39-36
some crazy
no photo

good comment

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

DOM position 34DOM id: ☐ TP5P0807

(T, Long)

Cable mark: 443.6

Reason for substitution:

☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(34-35)$: 17.0☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**DOM position 33**DOM id: ☐ UP5P0992

(U, Short)

Cable mark: 460.6

Reason for substitution:

☐ Bottom shackle connected☐ Top clutch connected at link # 17 $\Delta(33-34)$: 17.1☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 17**

Time:

☐ Cable/LC continuity test complete (Q10)☐ all pass☒ fail: cont good / 1c badNow 04:36Last b/o 04:23 Δt [min] :13

- LongDOM

Depth:

☐ connector discharged (ESD)Paro2 443.36☒ connector O-ring in place and ☐ lubedPayout -295.5☒ breakout O-ring in place and ☐ lubed☐ connected

- ShortDOM

☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 477.5DOM id: ☒ TP5P0703☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(32-33)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 31**

(U, Short)

Cable mark: 494.5DOM id: ☒ UP5P0682☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(31-32)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 16**

Time:

☐ Cable/LC continuity test complete (Q9)☐ all pass☒ fail: cont good / 100% lc badNow 04:48Last b/o 04:36 Δt [min] 12**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 476.60Payout -320.84**- ShortDOM**☒ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 511.5DOM id: ☒ TP5P0857

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(30-31)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 29**

(U, Short)

Cable mark: 528.6DOM id: ☒ UP5P0564

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(29-30)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 15**☒ Cable/LC continuity test complete (Q9)☒ all pass☒ fail: cont good / lc bad**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtailed taped to cable**Thermistor:**☒ Present ☒ Distance to DOM29: 0 cm**Keller:**☒ Connected ☒ Operational ☒ Air pressure [PSI]: 16.82Ser.#: 0504007☒ Cable mark: 529.7 ☒ Distance to DOM29: 57 cm☐ All clear to lower cable ☺

Time:

Now 05:02Last b/o 04:48 Δt [min] :14

Depth:

Paro2 510.84Payout 343.1



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

DOM position 28

(T, Long)

Cable mark: 545.5

DOM id: ☒ TP5P0795

☐

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 17

$\Delta(28-29)$: 17.1

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

DOM position 27

(U, Short)

Cable mark: 561.7

DOM id: ☒ UP5P0542

☐

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 17

$\Delta(27-28)$: 17.0

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

Breakout 14

☒ Cable/LC continuity test complete (Q8)

☐ all pass

☐ fail: _____

- LongDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

- ShortDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

☒ Loose pigtails taped to cable

Time:

Now 05:45:19

Last b/o 05:17:02

Δt [min] 17

Depth:

Paro2 545.98

Keller 57.53 (m air?)

Payout -369.4

8 cm² crating

39-27 (UP5P0542)

☐ All clear to lower cable ☺

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

DOM position 26

(T, Long)

Cable mark: 579.5DOM id: ☒ TP5H0879

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(26-27)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 25**

(U, Short)

Cable mark: 596.5DOM id: ☒ UP5P0840

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(25-26)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 13**☒ Cable/LC continuity test complete (Q8)☐ all pass☐ fail: _____**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Time:

Now 05:32Last b/o 05:19 Δt [min] :13

Depth:

Paro2 580.05Keller 72.16Payout -393.2*tape down hole**continuity test delay*☒ All clear to lower cable ☺

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

DOM position 24

(T, Long)

Cable mark: 613.6DOM id: ☒ TP5P0923☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(24-25)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 23**

(U, Short)

Cable mark: 630.7DOM id: ☒ UP5P0884☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(23-24)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 12**

Time:

☒ Cable/LC continuity test complete (Q7)☐ all pass☒ fail: cont ok / 1c badNow 05:47Last b/o 05:32 Δt [min] 15**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☒ lubed☐ connected

Depth:

Paro2 614.15Keller 106-1Payout -412.6**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☒ lubed☐ connected☒ Loose pigtails taped to cable

tape down hole
from breakout

☒ All clear to lower cable ☺

* $\rightarrow$ 1c detector, intermittent continuity

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

DOM position 22

(T, Long)

Cable mark: 647.6DOM id: ☒ TP5H0167

Reason for substitution:

☒ Bottom shackle connected☐ Top clutch connected at link # 17 $\Delta(22-23)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 21**

(U, Short)

Cable mark: 664.6DOM id: ☒ UP5H0172

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(21-22)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 11**

Time:

☒ Cable/LC continuity test complete (Q7)☒ all pass☐ fail: _____Now 06:05Last b/o 05:47 Δt [min] :18**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 647.07Keller 138.01Payout -432.0**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 651-5DOM id: ☒ TP5Y0101

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(20-21)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: 239m ☒ Vertical distance: 2.31m**DOM position 19**

(U, Short)

Cable mark: 697.5DOM id: ☒ UP5Y0112

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(19-20)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: 236 ☒ Vertical distance: 2.33**Breakout 10**

Time:

☒ Cable/LC continuity test complete (Q6)☒ all pass☒ fail: cont ok / c 6-dNow 06:11Last b/o 06:05 Δt [min] :14**- LongDOM**

Depth:

☒ connector discharged (ESD)Paro2 682.60☒ connector O-ring in place and ☒ lubedKeller 174.58☒ breakout O-ring in place and ☒ lubedPayout -450.8☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

numerous small
cracks on 39-19
(UP5Y0112) marginal
but ok

☒ All clear to lower cable ☺

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

DOM position 18

(T, Long)

Cable mark: 715.5DOM id: ☒ TP5P0821☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 16 $\Delta(18-19)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ chain with clutch ☒ phi orientation ☒ whole view**DOM position 17**

(U, Short)

Cable mark: 732.8DOM id: ☒ UP5P1024☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(17-18)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ chain with clutch ☒ phi orientation ☒ whole view*TAPE fill into hole***Breakout 9**

Time:

☒ Cable/LC continuity test complete (Q6)☒ all pass☐ fail: _____Now 7:03Last b/o 6:19 Δt [min] 44*(shift change)***- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☐ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 732.4Keller 735.1Payout -466.95**- ShortDOM**☐ connector discharged (ESD)☒ 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 *golden*DOM id: ☒ TP5P0917 *golden*

(T, Long)

Cable mark: 749.5

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(16-17)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 15**DOM id: ☒ UP5P0702

(U, Short)

Cable mark: 766.6

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(15-16)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 8**

Time:

☒ Cable/LC continuity test complete (Q5)☒ all pass☒ fail: LCNow 87:34Last b/o 87:03 Δt [min] 31**- LongDOM**

Depth:

☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☐ breakout O-ring in place and ☐ lubed☒ connectedParo2 766.0Keller 770.7Payout -487.5**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 783.5DOM id: ☒ TP5P0573

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(14-15)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☐ phi orientation ☐ whole view**DOM position 13**

(U, Short)

Cable mark: 800.6DOM id: ☒ UP5P0590

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(13-14)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 7**

Time:

☐ Cable/LC continuity test complete (Q5)☒ all pass *contin ok*☒ fail: LC failNow 17:56Last b/o 17:34 Δt [min] 22**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 791.0Keller 804.5Payout -505.6**- ShortDOM**☐ connector discharged (ESD)☒ 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 12DOM id: ☒ TP5P0745

(T, Long)

Cable mark:

817.5

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(12-13)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 11**DOM id: ☒ UP5P0916

(U, Short)

Cable mark:

834.6

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(11-12)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 6**

Time:

☐ Cable/LC continuity test complete (Q4)☒ all pass *Contn. ok*☒ fail: LC+ LC- FAILNow 20:20Last b/o 19:56 Δt [min] 24**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 823.6☒ connector O-ring in place and ☒ lubedKeller 839.2☐ breakout O-ring in place and ☐ lubedPayout -522.6☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ 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 10 *golden*

(T, Long)

Cable mark: 851.4DOM id: ☒ TP5P0919

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(10-11)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 9** *golden*

(U, Short)

Cable mark: 868.6DOM id: ☒ UP5P0872

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(9-10)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 5**

Time:

☒ Cable/LC continuity test complete (Q4)☒ all pass *Cont. pass*☒ fail: LC failNow 08:42Last b/o 08:20 Δt [min] 22

- LongDOM

☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 842.02Keller 872.1Payout -568.03

- ShortDOM

☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 885.5DOM id: ☒ TP5P0527☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(8-9)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 7**

(U, Short)

Cable mark: 902.4DOM id: ☒ UP5P0888☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(7-8)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 4**☒ Cable/LC continuity test complete (Q3)☒ all pass cont.☒ fail: LC fail**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Time:

Now

9:04

Last b/o

2008.42 Δt [min]22

Depth:

Paro2

880.4

Keller

909.7

Payout

-551.9☒ All clear to lower cable ☺

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

DOM position 6

(T, Long)

Cable mark: 919.4DOM id: ☒ TP5H0163

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(6-7)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 5**

(U, Short)

Cable mark: 936.5DOM id: ☒ UP5H0124

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(5-6)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 3**

Time:

☒ Cable/LC continuity test complete (Q3)☒ all pass☒ fail: LCNow 9:25Last b/o 9:04 Δt [min] 23**- LongDOM**

Depth:

☒ connector discharged (ESD)Paro2 936.7☒ connector O-ring in place and ☒ lubedKeller 942.4☒ breakout O-ring in place and ☒ lubedPayout -578.6☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ 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

(T, Long)

Cable mark:

953.4DOM id: ☒ TP5P0707☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(4-5)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 3**

(U, Short)

Cable mark:

7DOM id: ☐ UP5Y0080☒UP5P0630

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(3-4)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☐ phi orientation ☒ whole view**Breakout 2**

Time:

☐ Cable/LC continuity test complete (Q2)☒ all pass CONT.☐ fail: LCNow 9:50Last b/o 9:25 Δt [min] 25**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 958.15Keller 975.3Payout ~600.6**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 987.3DOM id: ☒ TP5P0561

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(2-3)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☐ whole view**DOM position 1**

(U, Short)

Cable mark: 1004.3DOM id: ☒ UP5P0662

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(1-2)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 1**

Time:

☐ Cable/LC continuity test complete (Q2)☒ all pass Cont☒ fail: LCNow 10:10Last b/o 9:50 Δt [min] 20**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 988.1Keller 1010.0Payout -664.71**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cableParo (Q1): ☒ Connected ☒ Operational ☐ Air pressure [PSI]: 11.22Ser.#: 98109 ☒ Cable mark: 1005 ☒ Distance to DOM1: -1.45mAdapter: 12' extension Nipple ☐ on ☒ off☒ Group photo☒ All clear to lower cable ☺

Uphole Pressure Sensor (Setra)

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

Time: 10:37

- ☒ Stop the cable winch
- ☒ Lower Setra pressure sensor into hole
- ☒ Distance to Setra from floor: 70 m
- ☒ Setra readout verified with monitoring system
- ☒ Well depth from Setra: 47.24
- ☒ Well depth from laser: 50.13

If the two well depth measurements agree:

- ☐ Switch to Setra well depth in monitoring system

Time: 11:00

Now the String Drop begins

String Drop

The target depth is **2450 m**☐ Switch cable winch to computer control☐ Speed: 22 m/min Time: 11:05 Depth: 1200 m☐ Speed: 20 m/min Time: 11:14 Depth: 1370 m☐ Speed: 19 m/min Time: 11:22 Depth: 1500 m☐ Speed: 18 m/min Time: 11:33 Depth: 1715 m☐ Speed: 15 m/min Time: 11:52 Depth: 2020 m☐ Speed: _____ Time: _____ Depth: _____

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

Depth Paro2 ¹	Time	Well depth ¹	Depth c/marks ²	Depth payout ¹	Δ depth P2-P1 ¹	Δ depth P2-K ¹	Δ depth K-P1 ¹
1000 m	~11:00	47.2			2.59	-4.03	6.85
1500 m	11:14	47.0			2.58	-3.50	6.65
2000 m	11:22 11:50	46.76 46.05			2.59 2.64	-5.02 -8.03	7.05 7.47
2100 m	11:57	45.92			2.71	-8.26	10.49
2200 m	12:04	45.79			2.60	-8.18	10.89
2300 m	12:12	45.61			2.53	-8.37	11.59
2400 m	12:19	45.44			2.58	-4.16	7.55

¹Read off monitoring screen²Cable mark offset (at DOM60) is (p. 4): 2.5 m☒ Switch to manual control @ 2400 m☐ Well depth

@ 2420: _____

@ 2440: 45.35

Setra

well = 47.77 from laser
2443.4 m☐ Position string at target depth of **2450 m**

Time: _____

☐ String secured with Yale grip and anchor chain

Time: _____

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

☒ Distance from Paro2 to DOM60:

$$d_{\text{Paro2-DOM59}} = \overset{0.58\text{m}}{\cancel{2.58\text{m}}} \text{ (from p. 4)}$$

$$d_{\text{Paro2-DOM60}} = (d_{\text{Paro2-DOM59}} + 17) \text{ m} = \underline{17.58} \leftarrow \text{insert below}$$

☐ Convert Paro2 pressure to string depth:

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

(use 6 decimals for exp's)

Ambient pressure (from p. 4): $P_0 = \underline{\hspace{2cm}} \text{ PSI} \rightarrow \exp(-KP_0) = \underline{\hspace{2cm}}$

Pressure reading (from screen): $P = \underline{\hspace{2cm}} \text{ PSI} \rightarrow \exp(-KP) = \underline{\hspace{2cm}}$

Subtract exponentials $\rightarrow$ $= \underline{\hspace{2cm}}$
 $\times 1.85947 \cdot 10^5$

Paro2 depth in water $\rightarrow$ $= \underline{\hspace{2cm}} \text{ m}$

Add distance to DOM60 (above) $\rightarrow$ $+$ $\underline{\hspace{2cm}} \text{ m}$

Add well depth $\rightarrow$ $+$ $\underline{\hspace{2cm}} \text{ m}$

Depth of bottom DOM $\rightarrow$ $= \underline{\hspace{2cm}} \text{ m}$

Final depth estimates

←----- read off deployment screen -----→

Time:	Paro2	Keller	Paro1	Payout	Cable marks
Reading	3427.35 PSI	2712.71 PSI	2010.90 PSI	m	2445.1 m
Offset	10.27 PSI	16.82 PSI	11.22 PSI	m	2.5 m
Well depth	47.60 m			This space is intentionally left blank	
Dist. to DOM60	2452.4 m	527.57 m	1001.55 m		
DEPTH (DOM60)	2452.4	2462.0	2449.9		2442.6

17.58

Time: 13:01

Final depth (DOM60): 2452.4

Deployment Closeout

- ☒ Log entries complete
- ☒ String safely secured
- ☒ Hole covered and secured
- ☒ Equipment safely shutdown and secured
- ☐ Deployment data OK (in database)
- ☐ Site cleanup
- ☒ Deployment crew dismissed
- ☒ String deployment complete

Reel stop hit 13:02
1/4/06

Time: 13:02 Date: 1/4/2006

Shift Lead:

Jon Ham
name / signature

Logger:

Chris Cow
name / signature

PTS Lead:

Chris Cow
name / signature

Deployment Manager:

Jon Ham
name / signature

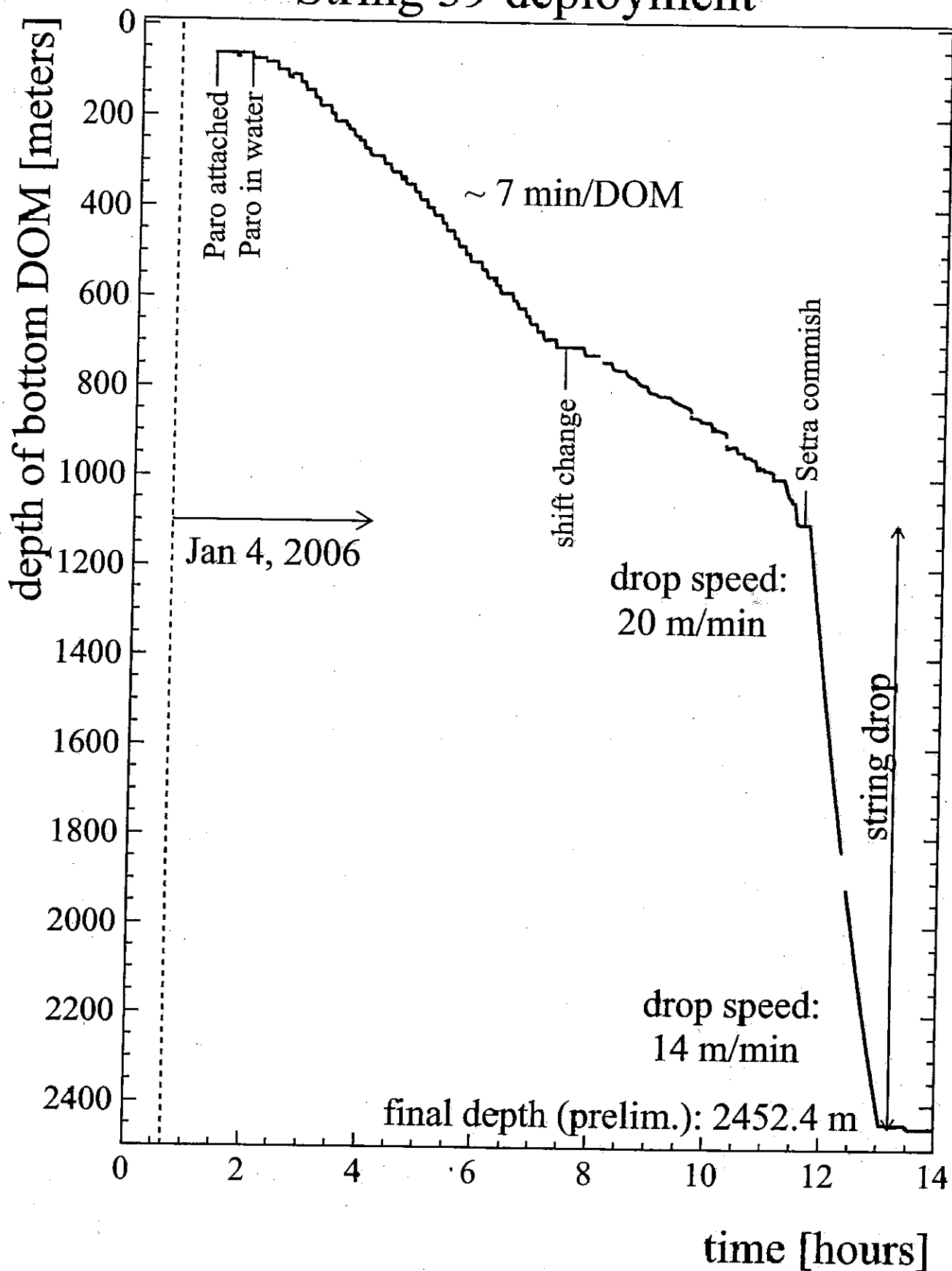
Safety Officer:

TH
name / signature

IceCube On-ice Lead:

name / signature

String 39 deployment



1000 4012

Change 1000
number 10

1000 4012 1000 4012

1000 4012

Solarz, Michael(Misha) (Event: A-333-S)

From: Karle, Albrecht (Event: A-333-S)
Sent: Wednesday, January 04, 2006 8:57 PM
To: icecube-c@icecube.wisc.edu
Cc: POL-IceCube; Grant, BK; Marty, Jerry; Lightbody, Jack
Subject: string 39 deployed

IceCube,

string 39, the second string of this season was deployed on January 4. Both drilling and string installation went rather smoothly. A logging run to 1500m after drilling should provide us with additional data on the hole and possibly freeze parameters.

Here is the time line:

1-1, 21:04 h: start drilling
1-3, 5:00h reach depth of 2560m
1-3, 1700h: drill reaches surface
1-3, 19:00h: start logging run
1-3, 23:30: end logging run
1-3, 23:27: start string deployment
1-3, 23:40 first DOM installation
1-4, 10:10h: last DOM installation
1-4, 12:30h: reached 2450m
1-4, 13:02h: string secured

Thanks to the drill team for delivering a very good hole. Good data were available about the size of the hole immediately after drilling. The deployment went very well. Both, day and night shift worked on this deployment. It took about 13 hours from beginning to reaching depth, and 14 hours including the closeout and startup.

Best regards,

albrecht

1. The first part of the report is a description of the project. It includes a brief history of the project, a statement of the problem, and a description of the objectives of the project. The second part of the report is a description of the methodology used in the project. It includes a description of the data collection methods, a description of the data analysis methods, and a description of the results of the project. The third part of the report is a discussion of the results of the project. It includes a discussion of the findings of the project, a discussion of the implications of the findings, and a discussion of the conclusions of the project.

12-01-01

Solarz, Michael(Misha) (Event: A-333-S)

From: Krasberg, Mark (Event: A-333-S)
Sent: Thursday, January 05, 2006 10:35 PM
To: Woschnagg, Kurt (Event: A-333-S); POL-IceCube
Subject: RE: String 39 deployment plot

we have 56 doms communicating on string 39 (in water)

one quad is not plugged in - there is a no-connect on one of the wire pairs, which is usually something that can be fixed by replacing the right connector.

mark.

-----Original Message-----

From: Woschnagg, Kurt (Event: A-333-S)
Sent: Thu 1/5/2006 9:34 PM
To: POL-IceCube
Subject: String 39 deployment plot

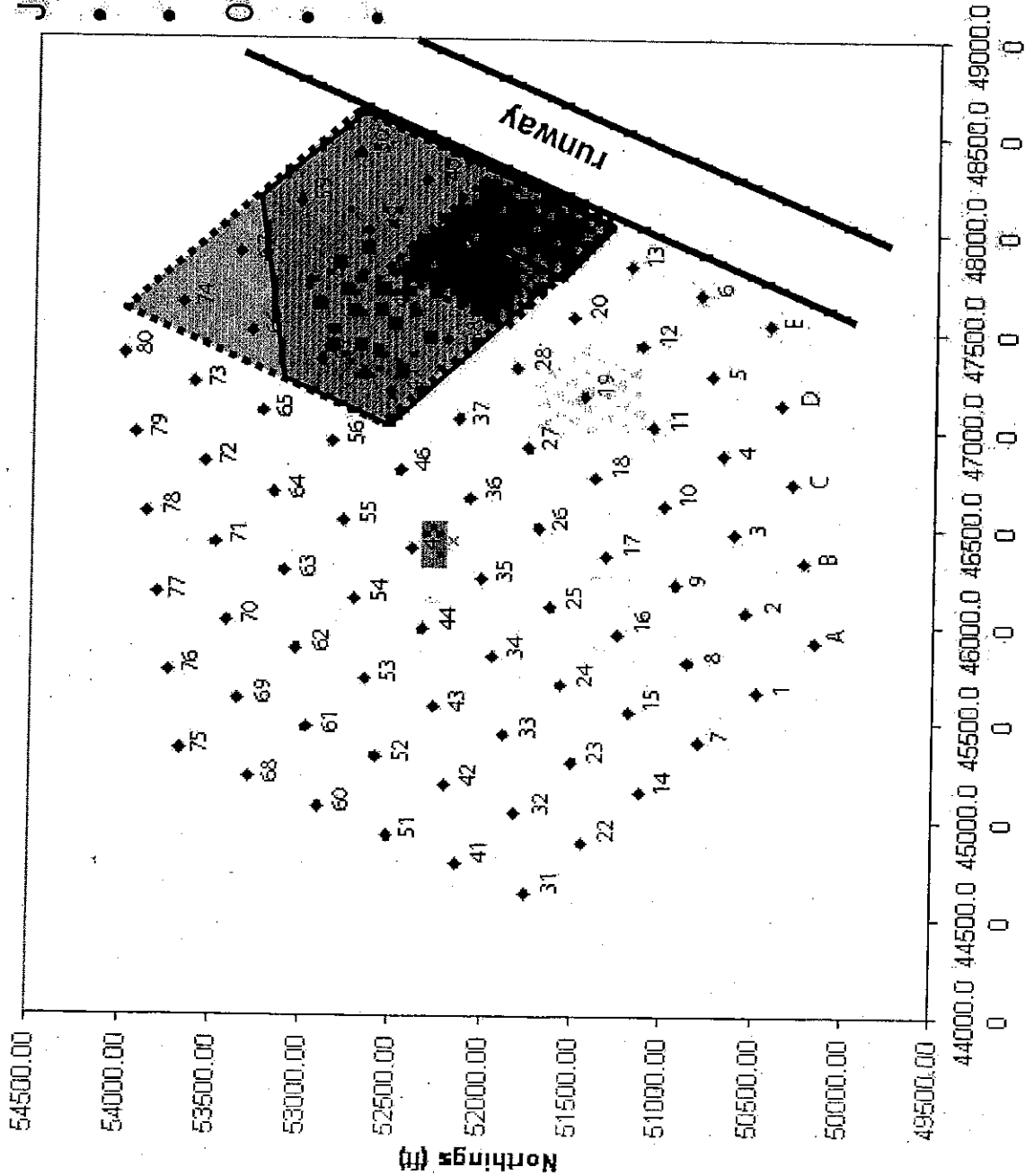
Hi everybody,

Attached is a plot of the string 39 deployment.

I am outta here. Enjoy the rest of the season.

Kurt

Drilling/deployment plan 2005/06



January 05:

- Strings: 1
 - Tanks/stations: 8/4
- 05/06 Plan*:
- Strings: 8 - 12
 - Tanks/stations: 24/12

◆ ICE CUBE
 ■ AMANDA
 □ SPASE II
 × Counting House (46429.69, 52171.24)

39804 Jan 06

[illegible]

RESISTANCE CABLE CAPACITANCE READINGS

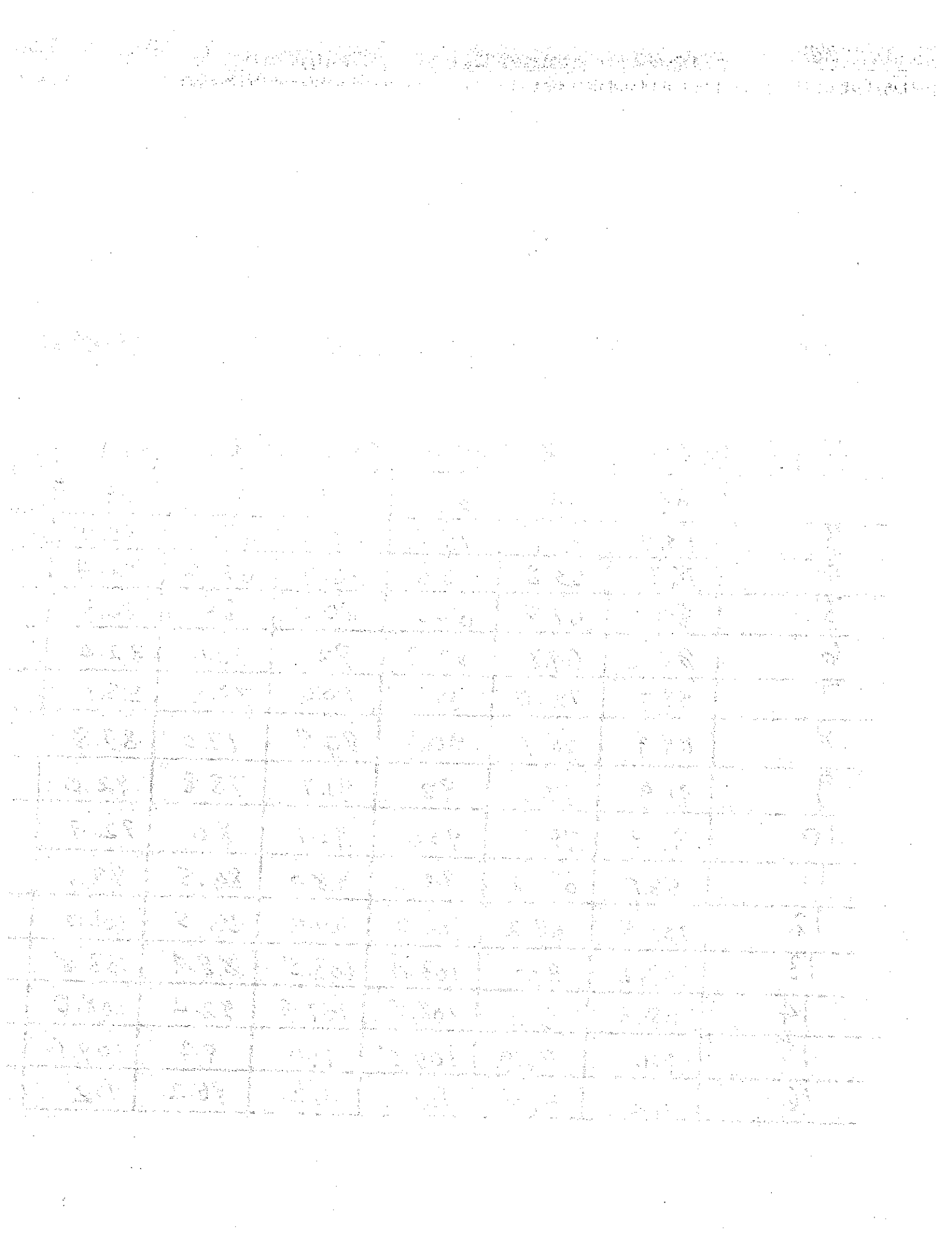
2005/2006

Ice Cube

COLORS: W, T, B, V; Cap. in nF

CABLE I.D. 002; FOR DEPLOY I.D. 39B4Jaxα

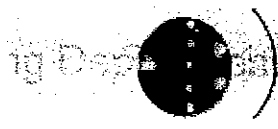
QUAD	W ∇ T	W ∇ B	W ∇ V	T ∇ B	T ∇ V	B ∇ V
2	69	58	68	69	59	69
3	73.5	61.7	73.6	73.6	63.2	73.9
4	76.3	63.8	76.6	76.9	65.6	76.4
5	80	67.5	80.2	80.2	69	80.3
6	82.2	69.3	82.3	82	70.6	82.4
7	85.7	72.0	86	85.0	73.2	85.1
8	89.9	75.7	90.1	89.9	77.0	89.8
9	91.9	77.3	92	91.7	78.8	92.0
10	93.5	78.5	93.6	93.1	80	92.9
11	98.5	83.2	99.2	98.5	84.5	99.1
12	101.8	85.2	101.0	101.4	86.5	101.0
13	103.2	87.1	103.4	103.5	88.4	103.8
14	108.3	91.1	108.5	107.9	92.4	108.0
15	110	92.9	109.5	110	94	109.6
16	112	94.5	113	112	96.2	112



DEPLOYMENT LOG for IceCube STRING # 39Deployment Start: at 23:27 on 3 Jan 2006Deployment End: at 13:02 on 4 Jan 2006Target depth (DOM60): **2450 m** Final depth: 2452.4 m**Deployment Crew**

Position	First Shift	Second Shift	Third Shift
Shift lead	AK	Tom Han	
DOM install 1 (high)	Jon. Eisch	John Kelley	
DOM install 2 (low)	Tim Murray	Karthik S.	
DOM supply 1 / DOM install 3	Mike Solare	Mark Krasny	
DOM supply 2 / floater	Nobuyoshi	Justin V.	
Winch operator (cable & tower)	AK / Dar	P.J. Chap.	
Notary (logbook & photos)	Ethan (Ethan)	D. Caven	
PTS (monitoring / sensors)	Dar	Kurt W	
Support (optional)	Ralf	Tom P.	
Time shift on:	22:45	6:45	
Time shift off:		13:02	

Summary/Comments:



Hole Handover

☒ Drill data reviewed

☐ maximum drift in x: _____ ☐ plot

☐ maximum drift in y: _____ ☐ plot

☐ maximum depth: _____

☐ minimum radius: _____ ☐ plot

☐ plot of predicted radius vs depth and time

☐ Hole dimensions verified

Time: _____

Drill Lead: _____

name / signature / date

Deployment Lead: AK

name / signature / date

1-3-2006, 2200h

☒ Handover complete

Hole Logging

(skip if not applicable)

☒ Logger drop started

Time: 20:12
19:39

Speed: ~20 m/min → 48 → 60
5 m/min / 21.5 / 32

☒ Logging started (for 1408m)

Time: 21:34

Speed: ~23 m/min

☐ Logging ended

Time: _____

~37 m/min up-rate

☐ Estimated hole lifetime: _____

► Must reach target depth by _____ on _____

Deployment Startup

Time: 22:00
1/3/06

- ☒ Cable winch anchored and ☐ operational
☒ Tower winch operational
☒ Tie off verified
☒ Yellow rope verified
☒ Deployment monitoring system (PTS) operational ☒ DDB# 3
☒ Pressure sensors on hand: Paro(s) and Keller
☒ Laser ranger, tape measure (metric) on hand
☒ Loopback terminators connected (inside cable reel drum)
☒ Uphole pressure system on hand: Setra sensor and cable
☒ DOMs placed in racks
☒ Weight stack on hand: weights (5) and 2 m cable
 Safety checks complete (☐ 1st shift ☐ 2nd shift)
☒ ☒ Crew safety briefing
☒ ☒ E-stop locations identified
☒ ☒ TOS evacuation procedures reviewed
☒ ☒ Mustering point identified
☒ ☒ Snow mobile driver(s): ✓ ED, PG, TM, NK, OFC, Kanthiah,
☒ ☒ CPR trained: DB, NK, ED, Kanthiah, Tom, John, PJ
☒ ☒ Food runners: Sven
☐ End of Main Cable brought into TOS and secured

call galley at 65521

Cable end attachments

- ☒ Measure well depth: 55.70 m
☒ Weights (5) attached
☒ Weight cable attached (weight stack complete)

Time: 23:37

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

DOM position 60

(T, Long)

Cable mark: 2.5DOM id: ☒ TP5P0685☐

Reason for substitution:

☒ Bottom shackle connected to weight stack☒ Top clutch connected at link # 19☒ Bow OK → ☐ clutch zip tiedPayout: MA☒ Cable end taped to weight stack cablePhotos: ☒ chain with clutch ☐ phi orientation ☒ whole view**DOM position 59**

(U, Short)

Cable mark: 19.3DOM id: ☐ UP5P0692☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19☒ Bow OK → ☐ clutch zip tied $\Delta(59-60)$: 17.8m
(use laser ranger)Photos: ☒ chain with clutch ☐ phi orientation ☒ whole view**Breakout 30**Time: 00:09☒ Cable/LC continuity test complete (Q16)☐ all pass☐ fail: _____

Depth:

Payout MA**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cableParo: (= Paro2) ☒ Connected ☐ Operational ☐ Air pressure [PSI]: 10.27Ser.#: 98119 ☒ Cable mark 20.0m ☐ Distance to DOM59: 438cmAdapter: 100v2 Nipple ☐ on ☒ off95411☒ All clear to lower cable ☺

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

DOM position 58

(T, Long)

Cable mark: 36.4DOM id: ☐ TP5P0789

Reason for substitution:

☐ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(58-59)$: 17.1☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**DOM position 57**

(U, Short)

Cable mark: 53.2DOM id: ☐ UP5P0914

Reason for substitution:

☐ Bottom shackle connected☒ Top clutch connected at link # 21 $\Delta(57-58)$: 17.0☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 29**

Time:

☒ Cable/LC continuity test complete (Q16)☐ all pass☐ fail: _____Now 00:47Last b/o 00:09 Δt [min] 00:38**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Paro2

Payout 25.3**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected☒ Loose pigtails taped to cabletape fragment
down hole

Thermistor:

☒ Present☐ Distance to DOM57: 61 cm☐ All clear to lower cable ☺

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

DOM position 56

(T, Long)

Cable mark: 70.2DOM id: ☒ TP5P0915☐

Reason for substitution:

☐ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(56-57)$: 17.1☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**DOM position 55**

(U, Short)

Cable mark: 87.01DOM id: ☒ UP5P0854☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(55-56)$: 17.0☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 28**

Time:

☒ Cable/LC continuity test complete (Q15)☐ all pass☐ fail: _____Now 01:12Last b/o 00:47 Δt [min] 25**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 84.0☒ connector O-ring in place and ☐ lubedPayout -52.1☒ breakout O-ring in place and ☐ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected☒ Loose pigtails taped to cable

type fragment

in hole

1 inch

01:20 - 01:41

☒ All clear to lower cable ☺ Kurt x61786

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

DOM position 54

(T, Long)

Cable mark: 104.3DOM id: ☒ TP5P0727

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(54-55)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 53**

(U, Short)

Cable mark: 121.3DOM id: ☒ UP5P1004

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(53-54)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 27**

Time:

☒ Cable/LC continuity test complete (Q15)☒ all pass☒ fail: _____Now 01:50Last b/o 01:12 Δt [min] 38

(+21m

Far/Lunc

- LongDOM☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 53.3Payout -78.5**- ShortDOM**☒ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 138.8DOM id: ☒ TP5H0115☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(52-53)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 51**

(U, Short)

Cable mark: 154.6DOM id: ☒ UP5Y0142☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(51-52)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 26**

Time:

☒ Cable/LC continuity test complete (Q14)☐ all pass☐ fail: _____Now 02:08Last b/o 01:50 Δt [min] 18**- LongDOM**

Depth:

☒ connector discharged (ESD)Paro2 80.5☒ connector O-ring in place and ☒ lubedPayout 104.5☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ 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: ☒ TP5P0799

(T, Long)

Cable mark: 172.1

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(50-51)$: 16.9☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: _____ ☒ Vertical distance: _____**DOM position 49**DOM id: ☒ UP5P0904

(U, Short)

Cable mark: 189.1

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(49-50)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: 2.36m ☒ Vertical distance: 2.00m**Breakout 25**

Time:

☒ Cable/LC continuity test complete (Q14)☒ all pass☒ fail: cmt good / LC badNow 02:22Last b/o 02:08 Δt [min] :14

- LongDOM

☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 175.5 / 169.5Payout -133.9

- ShortDOM

☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cableThermistor: ☒ Present ☒ Distance to DOM49: 55.6cm☒ All clear to lower cable ☺

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

DOM position 48DOM id: ☒ TP5P0705

(T, Long)

Cable mark: 206.1

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(48-49)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 47**DOM id: ☒ UP5P0720

(U, Short)

Cable mark: 223.8

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(47-48)$: 16.9☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 24**☒ Cable/LC continuity test complete (Q13)☒ all pass☒ fail: cnt good / LC bad

Time:

Now 02:38Last b/o 02:22 Δt [min] 16**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Depth:

Paro2 703.7Payout -155.4

photo of paint
Marker on face of
T connector

☒ All clear to lower cable ☺

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

DOM position 46

(T, Long)

Cable mark: 240.0 mDOM id: ☒ TP5P0643

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(46-47)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 45**

(U, Short)

Cable mark: 257.0DOM id: ☒ UP5P0600

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(45-46)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 23**

Time:

☒ Cable/LC continuity test complete (Q13)☒ all pass☒ fail: cont good / c badNow 03:00Last b/o 02:38 Δt [min] 22**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 237.67Payout -175.7**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

photo of Ncm
cable sheath damage

☒ All clear to lower cable ☺

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

DOM position 44

(T, Long)

Cable mark: 274.0DOM id: ☒ TP5P0777☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 10 $\Delta(44-45)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 43**

(U, Short)

Cable mark: 291.0DOM id: ☒ UP5P0570☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(43-44)$: 17.1☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 22**

Time:

☒ Cable/LC continuity test complete (Q12)☒ all pass☐ fail: _____Now 03:16Last b/o 03:00 Δ [min] :16**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Depth:

Paro2 222.74Payout -192.9

well
depth
measuring
accidentally
cleaned

photo of minor
gel curing
UP5P0570 (39-43)

☒ All clear to lower cable ☺

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

DOM position 42

(T, Long)

Cable mark:

307.9DOM id: ☒ TP5P0557

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(42-43)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 41**

(U, Short)

Cable mark:

324.8DOM id: ☒ UP5P0984

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(41-42)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 21**

Time:

☒ Cable/LC continuity test complete (Q12)☒ all pass☐ fail: _____Now 03:37Last b/o 03:16 Δt [min] 21**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 256.70Payout -210.6**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable**Thermistor:**☒ PresentDistance to DOM41: 56 cm☐ All clear to lower cable ☺

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

DOM position 40

(T, Long)

Cable mark: 341.8DOM id: ☒ TP5P0779☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(40-41)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 39**

(U, Short)

Cable mark: 338.8DOM id: ☒ UP5P0892☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(39-40)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 20**

Time:

☒ Cable/LC continuity test complete (Q11)☐ all pass☒ fail: cont good / LC badNow 03:53Last b/o 03:37 Δt [min] :16**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 339.49Payout -232.8**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

photo A sent in

39-40 TP5P0779

☒ All clear to lower cable ☺

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

DOM position 38

(T, Long)

Cable mark: 375.7DOM id: ☐ TP5H0179

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(38-39)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 37**

(U, Short)

Cable mark: 392.7DOM id: ☐ UP5H0178

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(37-38)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 19**

Time:

☐ Cable/LC continuity test complete (Q11)☐ all pass☒ fail: cont good / LC badNow 04:08Last b/o 03:53 Δt [min] 15**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 373.80☒ connector O-ring in place and ☒ lubedPayout -254.9☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

Minor crimp
 37-37 (1 cm)

☒ All clear to lower cable ☺

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

DOM position 36DOM id: ☒ TP5Y0137

(T, Long)

Cable mark: 409.7

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(36-37)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 35**DOM id: ☒ UP5Y0132

(U, Short)

Cable mark: 426.6

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(35-36)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 18**

Time:

☒ Cable/LC continuity test complete (Q10)☐ all pass☐ fail: _____Now 04:23Last b/o 04:08 Δ [min] 15**- LongDOM**

Depth:

☒ connector discharged (ESD)Paro2 407.19☒ connector O-ring in place and ☒ lubedPayout -274.9☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ 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 ☺

39-36
some crazy
no photo

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

DOM position 34DOM id: ☐ TP5P0807

(T, Long)

Cable mark: 443.6

Reason for substitution:

☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(34-35)$: 17.0☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**DOM position 33**DOM id: ☐ UP5P0992

(U, Short)

Cable mark: 460.6

Reason for substitution:

☐ Bottom shackle connected☐ Top clutch connected at link # 17 $\Delta(33-34)$: 17.1☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☐ whole view**Breakout 17**

Time:

☐ Cable/LC continuity test complete (Q10)☐ all pass☒ fail: can't good / 1c badNow 04:36Last b/o 04:23 Δt [min] :13**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 443.36☐ connector O-ring in place and ☐ lubedPayout -295.5☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector discharged (ESD)☐ 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

(T, Long)

Cable mark: 427.5DOM id: ☒ TP5P0703☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(32-33)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 31**

(U, Short)

Cable mark: 494.5DOM id: ☒ UP5P0682☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(31-32)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 16**

Time:

☐ Cable/LC continuity test complete (Q9)☐ all pass☒ fail: cont good / ~~bad~~ / lc badNow 04:48Last b/o 04:36 Δt [min] 12**- LongDOM**

Depth:

☐ connector discharged (ESD)Paro2 426.60☒ connector O-ring in place and ☐ lubedPayout -320.84☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ 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 30DOM id: ☒ TP5P0857

(T, Long)

Cable mark: 511.5

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(30-31)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 29**DOM id: ☒ UP5P0564

(U, Short)

Cable mark: 528.6

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(29-30)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 15**

Time:

☒ Cable/LC continuity test complete (Q9)☒ all pass☒ fail: cont good / lc badNow 05:02Last b/o 04:48 Δt [min] :14**- LongDOM**

Depth:

☒ connector discharged (ESD)Paro2 510.84☒ connector O-ring in place and ☒ lubedPayout 343.1☒ breakout O-ring in place and ☒ lubed☒ connected**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cableThermistor: ☒ Present ☒ Distance to DOM29: 0 cmKeller: ☒ Connected ☒ Operational ☒ Air pressure [PSI]: 16.82Ser.#: 0504007 ☒ Cable mark: 529.7 ☒ Distance to DOM29: 57 cm☐ All clear to lower cable ☺

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

DOM position 28DOM id: ☒ TP5P0795

(T, Long)

Cable mark: 545.5

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(28-29)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 27**DOM id: ☒ UP5P0542

(U, Short)

Cable mark: 561.7

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(27-28)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 14**

Time:

☒ Cable/LC continuity test complete (Q8)☒ all pass☒ fail: _____Now 05:45:19Last b/o 05:17:02 Δt [min] 17

- LongDOM

Depth:

☒ connector discharged (ESD)Paro2 545.98☒ connector O-ring in place and ☒ lubedKeller 57.53 (in air?)☒ breakout O-ring in place and ☒ lubedPayout -369.4☒ connected

- ShortDOM

☒ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 579.5DOM id: ☒ TP5H0879

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(26-27)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 25**

(U, Short)

Cable mark: 596.5DOM id: ☒ UP5P0840

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(25-26)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 13**

Time:

☒ Cable/LC continuity test complete (Q8)☐ all pass☐ fail: _____Now 05:32Last b/o 05:19 Δt [min] :13**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 580.05Keller 72.16Payout -393.2**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☐ connected☒ Loose pigtails taped to cable

tape down hole

continuity test delay

☒ All clear to lower cable ☺

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

DOM position 24DOM id: ☒ TP5P0923

(T, Long)

Cable mark: 613.6

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(24-25)$: 17.6☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 23**DOM id: ☒ UP5P0884

(U, Short)

Cable mark: 630.7

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(23-24)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 12**

Time:

☒ Cable/LC continuity test complete (Q7)☒ all pass☒ fail: cont ok / 1c badNow 05:47Last b/o 05:32 Δt [min] 15**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 614.15Keller 106-1Payout -412.6**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cableTape down hole
from breakout☒ All clear to lower cable ☺

4 tests: 1c tester, intermittent continuity

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

DOM position 22

(T, Long)

Cable mark: 647.6DOM id: ☒ TP5H0167☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(22-23)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 21**

(U, Short)

Cable mark: 664.6DOM id: ☒ UP5H0172☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(21-22)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 11**

Time:

☒ Cable/LC continuity test complete (Q7)☒ all pass☐ fail: _____Now 06:05Last b/o 05:47 Δt [min] :18**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 647.07Keller 138.01Payout -432.0**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 651-5DOM id: ☒ TP5Y0101☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(20-21)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: 2.39m ☐ Vertical distance: 2.31m**DOM position 19**

(U, Short)

Cable mark: 697.5DOM id: ☒ UP5Y0112☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(19-20)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view☒ Curved distance around DOM: 2.36 ☐ Vertical distance: 2.33**Breakout 10**

Time:

☒ Cable/LC continuity test complete (Q6)☒ all pass☒ fail: cont ok / c 6-0Now 06:19Last b/o 06:05 Δt [min] 14**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 682.60Keller 174.58Payout -450.8**- ShortDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected☒ Loose pigtails taped to cable

numerous small
cracks on 39-19
(UP5Y0112) minimal
but ok

☐ All clear to lower cable ☺

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

DOM position 18

(T, Long)

Cable mark: 715.5DOM id: ☒ TP5P0821

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18/16 $\Delta(18-19)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 17**

(U, Short)

Cable mark: 732.8DOM id: ☒ UP5P1024

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(17-18)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 9**☒ Cable/LC continuity test complete (Q6)☒ all pass☐ fail: _____**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☐ breakout O-ring in place and ☐ lubed☒ connected**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☐ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cable

Time:

Now 7:03Last b/o 6:19 (shift change) Δt [min] 44 min

Depth:

Paro2 732.4Keller 735.1Payout -466.95☒ All clear to lower cable ☺

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

DOM position 16 *golden*

DOM id: ☒ TP5P0917 *Golden*

(T, Long)

Cable mark: 749.5

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 17

$\Delta(16-17)$: 17.0

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

DOM position 15

DOM id: ☒ UP5P0702

(U, Short)

Cable mark: 766.6

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 18

$\Delta(15-16)$: 17.0

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

Breakout 8

Time:

☒ Cable/LC continuity test complete (Q5)

☒ all pass

☒ fail: LC

Now 07:37

Last b/o 07:03

Δt [min] 31

- LongDOM

Depth:

☐ connector discharged (ESD)

Paro2 766.0

☒ connector O-ring in place and ☒ lubed

Keller 770.7

☐ breakout O-ring in place and ☐ lubed

Payout -487.5

☒ connected

- ShortDOM

☐ connector discharged (ESD)

☒ 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

(T, Long)

Cable mark: 783.5DOM id: ☒ TP5P0573

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(14-15)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 13**

(U, Short)

Cable mark: 800.6DOM id: ☒ UP5P0590

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(13-14)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 7**

Time:

☐ Cable/LC continuity test complete (Q5)☒ all pass *contin ok*☒ fail: LC failNow 17:56Last b/o 17:34 Δt [min] 22**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 791.0Keller 804.5Payout -505.6**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 817.5DOM id: ☒ TP5P0745☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(12-13)$: 17.1☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 11**

(U, Short)

Cable mark: 834.6DOM id: ☒ UP5P0916☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(11-12)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 6**

Time:

☐ Cable/LC continuity test complete (Q4)☒ all pass *Contin. OK*☒ fail: LC+ LC- FAILNow 20:20Last b/o 19:56 Δt [min] 24**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☐ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 823.6Keller 839.2Payout -522.6**- ShortDOM**☐ connector discharged (ESD)☒ 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 10 *golden*

(T, Long)

Cable mark: 851.4

DOM id: ☒ TP5P0919

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 17

$\Delta(10-11)$: 17.0

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

DOM position 9 *golden*

(U, Short)

Cable mark: 868.6

DOM id: ☒ UP5P0872

Reason for substitution:

☒ Bottom shackle connected

☒ Top clutch connected at link # 17

$\Delta(9-10)$: 17.1

☒ Bow OK $\rightarrow$ ☒ clutch zip tied

Photos: ☒ chain with clutch ☒ phi orientation ☒ whole view

Breakout 5

Time:

☒ Cable/LC continuity test complete (Q4)

☒ all pass *Cont. pass*

☒ fail: LC fail

Now 08:42

Last b/o 08:20

At [min] 22

- LongDOM

☒ connector discharged (ESD)

☒ connector O-ring in place and ☒ lubed

☒ breakout O-ring in place and ☒ lubed

☒ connected

Depth:

Paro2 842.02

Keller 872.1

Payout -568.03

- ShortDOM

☒ connector discharged (ESD)

☒ 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

(T, Long)

Cable mark: 885.5DOM id: ☒ TP5P0527☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(8-9)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 7**

(U, Short)

Cable mark: 902.4DOM id: ☒ UP5P0888☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(7-8)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view*plastic cap dropped in hole***Breakout 4**☒ Cable/LC continuity test complete (Q3)☒ all pass *cont.*☒ fail: LC fail

Time:

Now 9:04Last b/o 2008: 42 Δt [min] 22**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 880.4Keller 909.7Payout -551.9**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 919.4DOM id: ☒ TP5H0163

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(6-7)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 5**

(U, Short)

Cable mark: 936.5DOM id: ☒ UP5H0124

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(5-6)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 3**

Time:

☒ Cable/LC continuity test complete (Q3)☒ all pass☒ fail: LCNow 9:25Last b/o 9:04 Δt [min] 23**- LongDOM**☒ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☒ lubed☒ connected

Depth:

Paro2 936.7Keller 942.4Payout -578.6**- ShortDOM**☒ connector discharged (ESD)☒ 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

(T, Long)

Cable mark:

953.4DOM id: ☒ TP5P0707☐

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 17 $\Delta(4-5)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**DOM position 3**

(U, Short)

Cable mark:

?DOM id: ☐ UP5Y0080☒UP5P0630

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(3-4)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ chain with clutch ☐ phi orientation ☒ whole view*At cable mark 970, had same cracking as at 936. Taped it up.**Crazing (see photos)***Breakout 2**

Time:

☐ Cable/LC continuity test complete (Q2)☒ all passCONT.☐ fail:LC

Now

9:50

Last b/o

9:25 Δ [min]25**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2

958.15

Keller

975.3

Payout

~600.6**- ShortDOM**☐ connector discharged (ESD)☒ 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

(T, Long)

Cable mark: 987.3DOM id: ☒ TP5P0561

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(2-3)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☐ whole view**DOM position 1**

(U, Short)

Cable mark: 1004.3DOM id: ☒ UP5P0662

Reason for substitution:

☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(1-2)$: 17.0☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ chain with clutch ☒ phi orientation ☒ whole view**Breakout 1**

Time:

☐ Cable/LC continuity test complete (Q2)☒ all pass Cont☒ fail: LCNow 10:10Last b/o 9:50 Δt [min] 20**- LongDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☒ lubed☒ breakout O-ring in place and ☐ lubed☒ connected

Depth:

Paro2 988.1Keller 1010.0Payout -664.71**- ShortDOM**☐ connector discharged (ESD)☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☒ Loose pigtails taped to cableParo (Q1): ☒ Connected ☒ Operational ☐ Air pressure [PSI]: 11.22Ser.#: 98109 ☒ Cable mark: 1005 ☒ Distance to DOM1: -1.45mAdapter: 12' extension Nipple ☐ on ☒ off☒ Group photo☒ All clear to lower cable ☺

Uphole Pressure Sensor (Setra)

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

Time: 10:37

- ☒ Stop the cable winch
- ☒ Lower Setra pressure sensor into hole
- ☒ Distance to Setra from floor: 70 m
- ☒ Setra readout verified with monitoring system
- ☒ Well depth from Setra: 47.24
- ☒ Well depth from laser: 50.13

If the two well depth measurements agree:

- ☐ Switch to Setra well depth in monitoring system

Time: 11:00

Now the String Drop begins

String Drop

The target depth is **2450 m**☐ Switch cable winch to computer control☐ Speed: 22 m/min Time: 11:05 Depth: 1200 m☐ Speed: 20 m/min Time: 11:14 Depth: 1370 m☐ Speed: 19 m/min Time: 11:22 Depth: 1500 m☐ Speed: 18 m/min Time: 11:33 Depth: 1715 m☐ Speed: 15 m/min Time: 11:52 Depth: 2020 m☐ Speed: _____ Time: _____ Depth: _____

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

Depth Paro2 ¹	Time	Well depth ¹	Depth c/marks ²	Depth payout ¹	Δ depth P2-P1 ¹	Δ depth P2-K ¹	Δ depth K-P1 ¹
1000 m	~11:00	47.2			2.59	-4.03	6.85
1500 m	11:14	47.0			2.58	-3.50	6.65
2000 m	11:22 11:50	46.76 46.05			2.59 2.64	-5.02 -8.03	7.05 9.47
2100 m	11:57	45.92			2.71	-8.26	10.49
2200 m	12:04	45.79			2.60	-8.18	10.89
2300 m	12:12	45.61			2.53	-8.37	11.59
2400 m	12:19	45.44			2.58	-4.16	7.55

¹Read off monitoring screen²Cable mark offset (at DOM60) is (p. 4): 2.5 m☒ Switch to manual control @ 2400 m☐ Well depth

@ 2420: _____

@ 2440: 45.35well = 47.77 from base @
Setra ← last reading before Setra removes 2443.4 m☐ Position string at target depth of **2450 m**

Time: _____

☐ String secured with Yale grip and anchor chain

Time: _____

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

☒ Distance from Paro2 to DOM60:

$$d_{\text{Paro2-DOM59}} = \frac{0.58 \text{ m}}{\cancel{2.00 \text{ m}}} \quad (\text{from p. 4})$$

$$d_{\text{Paro2-DOM60}} = (d_{\text{Paro2-DOM59}} + 17) \text{ m} = 17.58 \quad \leftarrow \text{insert below}$$

☐ Convert Paro2 pressure to string depth:

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

(use 6 decimals for exp's)

Ambient pressure (from p. 4): $P_0 = \text{_____ PSI} \rightarrow \exp(-KP_0) = \text{_____}$

Pressure reading (from screen): $P = \text{_____ PSI} \rightarrow \exp(-KP) = \text{_____}$

Subtract exponentials $\rightarrow$ $= \text{_____}$
 $\times 1.85947 \cdot 10^5$

Paro2 depth in water $\rightarrow$ $= \text{_____ m}$

Add distance to DOM60 (above) $\rightarrow$ $+ \text{_____ m}$

Add well depth $\rightarrow$ $+ \text{_____ m}$

Depth of bottom DOM $\rightarrow$ $= \text{_____ m}$

Final depth estimates

←----- read off deployment screen -----→

Time:	Paro2	Keller	Paro1	Payout	Cable marks
Reading	3427.35 PSI	2712.71 PSI	2010.90 PSI	m	2445.1 m
Offset	10.27 PSI	16.82 PSI	11.22 PSI	m	2.5 m
Well depth	47.60 m			This space is intentionally left blank	
Dist. to DOM60	2452.4 m	527.57 m	1001.55 m		
DEPTH (DOM60)	2452.4	2462.0	2449.9		2442.6

17.58

Time: 13:01

Final depth (DOM60): 2452.4

Deployment Closeout

- ☒ Log entries complete
- ☒ String safely secured
- ☒ Hole covered and secured
- ☒ Equipment safely shutdown and secured
- ☐ Deployment data OK (in database)
- ☐ Site cleanup
- ☒ Deployment crew dismissed
- ☒ String deployment complete

Reel stop hit 13:02
1/4/06

Time: 13:02 Date: 1/4/2006

Shift Lead:

Jon Ham
name / signature

Logger:

Chris Caw
name / signature

PTS Lead:

Chris Caw
name / signature

Deployment Manager:

Jon Ham
name / signature

Safety Officer:

TH
name / signature

IceCube On-ice Lead:

name / signature

1944-1945

1944-1945

1944-1945

1944-1945

1944-1945

1944-1945

1944-1945

1944-1945

1944-1945

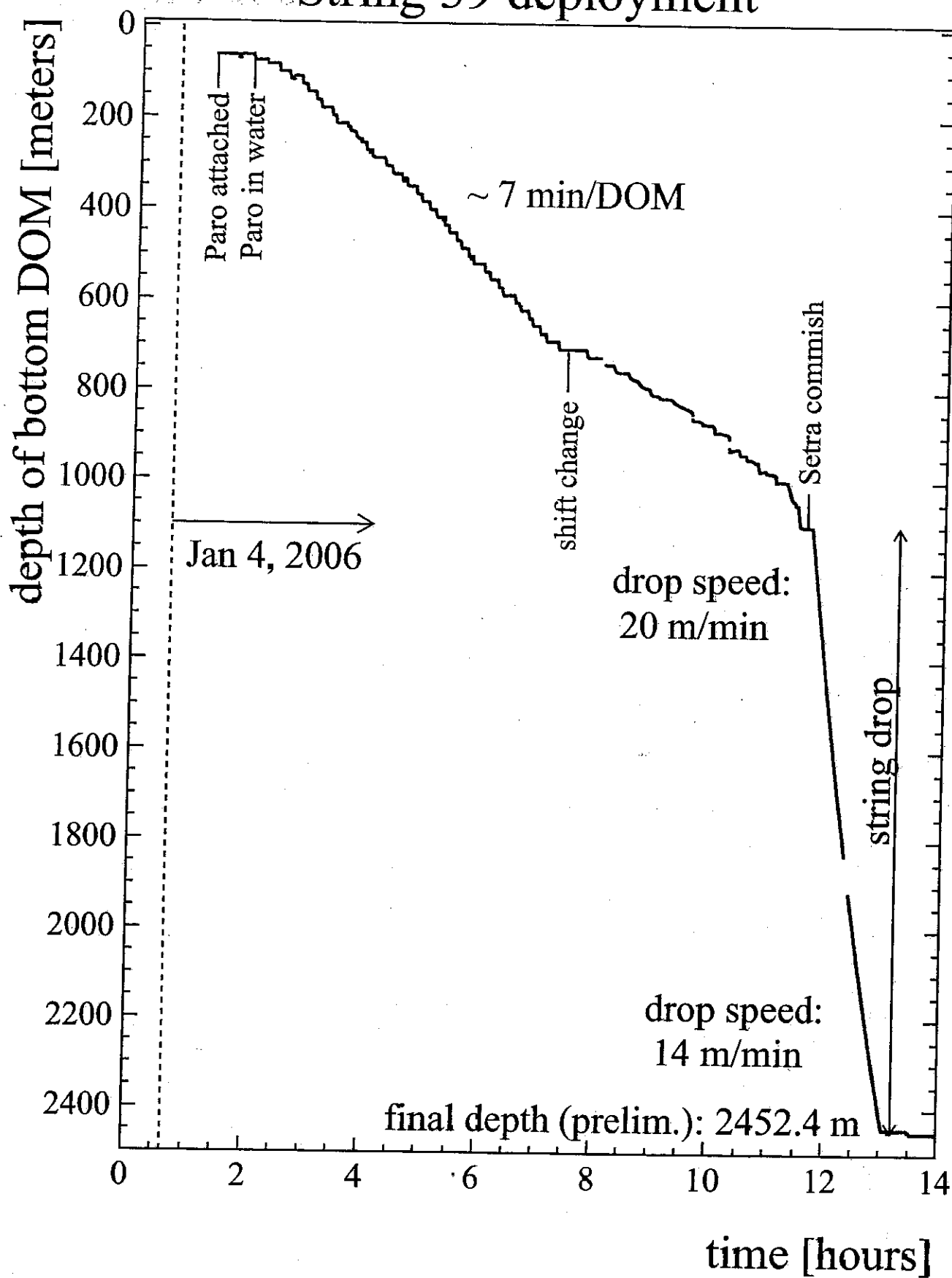
1944-1945

1944-1945

1944-1945

1944-1945

String 39 deployment



1. *Staphylococcus aureus* (1000)
 2. *Staphylococcus aureus* (1000)
 3. *Staphylococcus aureus* (1000)

1. *Journal of the American Medical Association*, 1997; 277: 1033-1038.

1644

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1601 UV-Visible Spectrophotometer. The concentration of chlorophyll was expressed in $\mu\text{g mL}^{-1}$.

George North
1920-191

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

[illegible]

Solarz, Michael(Misha) (Event: A-333-S)

From: Karle, Albrecht (Event: A-333-S)
Sent: Wednesday, January 04, 2006 8:57 PM
To: icecube-c@icecube.wisc.edu
Cc: POL-IceCube; Grant, BK; Marty, Jerry; Lightbody, Jack
Subject: string 39 deployed

IceCube,

string 39, the second string of this season was deployed on January 4. Both drilling and string installation went rather smoothly. A logging run to 1500m after drilling should provide us with additional data on the hole and possibly freeze parameters.

Here is the time line:

1-1, 21:04 h: start drilling
1-3, 5:00h reach depth of 2560m
1-3, 1700h: drill reaches surface
1-3, 19:00h: start logging run
1-3, 23:30: end logging run
1-3, 23:27: start string deployment
1-3, 23:40 first DOM installation
1-4, 10:10h: last DOM installation
1-4, 12:30h: reached 2450m
1-4, 13:02h: string secured

Thanks to the drill team for delivering a very good hole. Good data were available about the size of the hole immediately after drilling. The deployment went very well. Both, day and night shift worked on this deployment. It took about 13 hours from beginning to reaching depth, and 14 hours including the closeout and startup.

Best regards,

albrecht

Page 10

The following information was obtained from the records of the
Department of the Interior, Bureau of Land Management, and the
Bureau of Reclamation, regarding the land owned by the
United States in the State of California.

Page 11

Page 12

Solarz, Michael(Misha) (Event: A-333-S)

From: Krasberg, Mark (Event: A-333-S)
Sent: Thursday, January 05, 2006 10:35 PM
To: Woschnagg, Kurt (Event: A-333-S); POL-IceCube
Subject: RE: String 39 deployment plot

we have 56 doms communicating on string 39 (in water)

one quad is not plugged in - there is a no-connect on one of the wire pairs, which is usually something that can be fixed by replacing the right connector.

mark

-----Original Message-----

From: Woschnagg, Kurt (Event: A-333-S)
Sent: Thu 1/5/2006 9:34 PM
To: POL-IceCube
Subject: String 39 deployment plot

Hi everybody,

Attached is a plot of the string 39 deployment.

I am outta here. Enjoy the rest of the season.

Kurt

