

**DEPLOYMENT LOG for IceCube STRING # 66**Deployment Start: at 9:32 am on Dec 23, 2006Deployment End: at 3:00 am on Dec 24, 2006Target depth (DOM60): **2450 m** Final depth: 2450**Deployment Crew**

Position	First Shift	Second Shift
Shift lead		
DOM install 1 (high)		
DOM install 2 (low)		
DOM supply 1 / DOM install 3		
DOM supply 2 / floater		
Winch operator (cable & tower)		
Notary (logbook & photos)		
PTS (monitoring / sensors)	<u>Andres</u>	
Support (optional)		

Time of shift change:

Summary/Comments:

KELLAR**Ø5Ø3999****Slope = 231.74256****int = -929.46336**

**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 / dateDeployment Lead: _____
name / signature / date☐ Handover complete**Hole Logging**

(skip if not applicable)

☐ Logger drop started Time: _____ Speed: _____☐ Logging started Time: _____ Speed: _____☐ Logging ended Time: _____☐ Estimated hole lifetime: _____

► Must reach target depth by _____ on _____

**Deployment Startup**Time: 9h32

- ☒ 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 and Keller, with backups
 - ☒ Laser ranger, tape measure (metric) on hand
 - ☒ Bleeder string installed (on quad connectors inside cable reel drum)
 - ☒ Uphole pressure system on hand: Setra sensor and cable *→ laser measurements*
 - ☒ DOMs placed in racks
 - ☒ Weight stack on hand: weights (5) and 2 m cable
 - ☒ 17 m string extension steel cable on hand
- 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): All
 - ☐ ☒ CPR trained: a lot of people
 - ☐ ☒ Food runners: NI
- call galley at 65521
- ☒ End of Main Cable brought into TOS and secured

Cable end attachments

- ☒ Measure well depth: 51.058
- ☒ Weights (5) attached
- ☒ Weight cable attached (weight stack complete) Time: 10h15



IceCube String Deployment Log

String 66

cable end 0 m

Photos: DOM ids (☒ long ☒ short); connectors (☐ long ☐ short)**DOM position 60**

(T, Long)

DOM id: TP 4P0079

In "special one!"

☒ Bottom shackle connected to weight stack☒ Top shackle connected to 17 m steel cablePhotos: ☒ whole viewPayout: 16.13 an equalizer
passes to 5 floor**DOM position 59**

(U, Short)

Cable mark: 2DOM id: UP 5P0750☒ Bottom shackle connected to 17 m cable☒ Top shackle connected to Yale grip☒ Main cable end taped to 17 m steel cablePhotos: ☐ phi orientation ☐ whole view $\Delta(59-60)$: 17.080
(use laser ranger)**Breakout 30**Time: 11:15 AM

12/23/06

- LongDOM

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

- ShortDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cableDepth:
Payout 13.28**Paro**Serial #: 10422 Nipple ☒ on ☐ off☐ Connected ☒ Operational ☐ Air pressure [PSI]: 9.65☐ Cable mark: 2.60 ☐ Distance to DOM59: 0.534☐ All clear to lower cable ☺

Photos: DOM ids (☒ long ☐ short); connectors (☒ long ☐ short)**DOM position 58**DOM id: TP 5P0567

(T, Long)

Cable mark: 19☒ Bottom shackle connected☒ Top clutch connected at link # 18 $\Delta(58-59)$: 16.854☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 57**DOM id: UP 5P0536

(U, Short)

Cable mark: 36☒ Bottom shackle connected☒ Top clutch connected at link # ~~18~~ 20 $\Delta(57-58)$: 16.906☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ phi orientation ☒ whole view**Breakout 29****- LongDOM**☒ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Time:

Now 11:40 ALast b/o 11:15 Δt [min] 25

Depth:

Paro 68.71Payout 64.92

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 56**DOM id: TP AP4P0064

(T, Long)

Cable mark: 53☒ Bottom shackle connected☐ Top clutch connected at link # 19☒ Bow OK → ☐ clutch zip tiedPhotos: ☒ phi orientation ☐ whole view $\Delta(56-57)$: 16.942
~~60.79~~**DOM position 55**DOM id: UP UP5P0766

(U, Short)

Cable mark: 70☒ Bottom shackle connected☐ Top clutch connected at link # 19☒ Bow OK → ☒ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(55-56)$: 16.976**Breakout 28**

Time:

- LongDOM☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connectedNow 11:57Last b/o 11:40 Δt [min] 17

Depth:

Paro 84.30Payout 82. —**- ShortDOM**☒ connector O-ring in place and ☐ lubed☒ breakout O-ring in place and ☐ lubed☒ connected☐ Loose pigtails taped to cable

LUNCH Break

11:59 AM
DEC 23, 2006☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 54**

(T, Long)

Cable mark:

87

DOM id: TP

AP4P0059☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(54-55)$: 16.885☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ phi orientation ☒ whole view**DOM position 53**

(U, Short)

Cable mark:

104

DOM id: UP

UP4P0354☒ Bottom shackle connected☒ Top clutch connected at link # 20 $\Delta(53-54)$: 16.893☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 27****- LongDOM**

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

- ShortDOM

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

☒ Loose pigtails taped to cable☐ All clear to lower cable ☺

Time:

Now 13:11Last b/o unch Δt [min]

Depth:

Paro 118.72Payout 116.43

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 52**DOM id: TP TP5P0 563

(T, Long)

Cable mark: 121☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(52-53)$: 16.921☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 51**DOM id: UP UP5P0 ~~0640~~ 0640

(U, Short)

Cable mark: 138☒ Bottom shackle connected☐ Top clutch connected at link # #121 $\Delta(51-52)$: 16.837☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 26**

Time:

- LongDOM

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

Now 13:27Last b/o 13:11 Δt [min] 16

Depth:

Paro 152.42Payout 150.4**- ShortDOM**

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 50**

(T, Long)

Cable mark:

155
1285

DOM id: TP

TP5P0873☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(50-51)$: 16.921☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view☐ Curved distance around DOM: _____ ☐ Vertical distance: _____**DOM position 49**

(U, Short)

Cable mark:

172

DOM id: UP

UP5P0646☒ Bottom shackle connected☒ Top clutch connected at link # 21 $\Delta(49-50)$: 16.933☒ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view☐ Curved distance around DOM: _____ ☐ Vertical distance: _____**Breakout 25**

Time:

- LongDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connectedNow 1340Last b/o 13:27 Δt [min] 13

Depth:

Paro 186.54Payout 184.92**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 48**DOM id: TP TP5P0635

(T, Long)

Cable mark: 190☒ Bottom shackle connected☐ Top clutch connected at link # 19 $\Delta(48-49)$: 16.925☐ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☒ phi orientation ☒ whole view**DOM position 47**DOM id: UP UP5P0950

(U, Short)

Cable mark: 206☒ Bottom shackle connected☐ Top clutch connected at link # 21 $\Delta(47-48)$: 16.936☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 24**

Time:

- LongDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connectedNow 13:52Last b/o 13:40 Δt [min] 12

Depth:

Paro 220.94Payout 219.72

- ShortDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 46**

(T, Long)

Cable mark: 224DOM id: TP TP5P

0883

☒ Bottom shackle connected☒ Top clutch connected at link # 19☐ Bow OK → ☒ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(46-47)$: 16.941
~~16.941~~**DOM position 45**

(U, Short)

Cable mark: 240DOM id: UP UP4P 0240☒ Bottom shackle connected☒ Top clutch connected at link # 20☒ Bow OK → ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(45-46)$: 16.908**Breakout 23**

Time:

- LongDOM

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

Now 14:05Last b/o 13:52 Δt [min] 13

Depth:

Paro 255.18Payout 254.04

- ShortDOM

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 44**

DOM id: TP

TP4P-0269

(T, Long)

Cable mark: 258

☒ Bottom shackle connected☐ Top clutch connected at link # 19 $\Delta(44-45)$: 16.941☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 43**

DOM id: UP

UP5P0932

(U, Short)

Cable mark: 275

☒ Bottom shackle connected☒ Top clutch connected at link # 20 $\Delta(43-44)$: 16.892☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 22**

Time:

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

Now 14:16

Last b/o 14:05

 Δt [min] 11

Depth:

Paro 288.6

Payout 288.34

- ShortDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 42**

(T, Long)

Cable mark: 292DOM id: TP TP5P

0583

☒ Bottom shackle connected☒ Top clutch connected at link # 19 $\Delta(42-43)$: 16.978☐ Bow OK $\rightarrow$ ☒ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 41**

(U, Short)

Cable mark: 309DOM id: UP UP5P

0966

☒ Bottom shackle connected☒ Top clutch connected at link # 21 $\Delta(41-42)$: 16.869☒ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 21**

Time:

Now 14:28Last b/o 14116 Δt [min] 12

Depth:

Paro 322.99Payout 322.73Real = 323**- LongDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 40**DOM id: TP TP4Y0039

(T, Long)

Cable mark: 326☐ Bottom shackle connected☐ Top clutch connected at link # 20 $\Delta(40-41)$: 16.883☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 39**DOM id: UP UP5P0696

(U, Short)

Cable mark: 343☒ Bottom shackle connected☒ Top clutch connected at link # 20 $\Delta(39-40)$: 16.931☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 20**

Time:

Now 14:42**- LongDOM**Last b/o 14:28☐ connector O-ring in place and ☐ lubed Δt [min] 14☐ breakout O-ring in place and ☐ lubed

Depth:

☐ connectedParo 357.15**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connectedPayout 357.25☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 38**

DOM id: TP

TP6Y 4471

(T, Long)

Cable mark:

360

☐ Bottom shackle connected☐ Top clutch connected at link #

19

 $\Delta(38-39)$: 16.941☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 37**

DOM id: UP

UP5P0706

(U, Short)

Cable mark:

377

☐ Bottom shackle connected☐ Top clutch connected at link #

21

 $\Delta(37-38)$: 16.961☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 19**

Time:

Now

14:53

Last b/o

14:42

 Δt [min]

11

Depth:

Paro

390.82

Payout

391.28

- LongDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 36**DOM id: TP TP 6Y 4275

(T, Long)

Cable mark: 394☒ Bottom shackle connected☐ Top clutch connected at link # 19 $\Delta(36-37)$: 17.003☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 35**DOM id: UP UP5P0820

(U, Short)

Cable mark: 411☐ Bottom shackle connected☐ Top clutch connected at link # 21 $\Delta(35-36)$: 16.913☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 18**

Time:

- LongDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connectedNow 15:10Last b/o 14:53 Δt [min] 17

Depth:

Paro 425.35Payout 426.27**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ Put two Kellers (one is for backup) in bucket of water/ice mix☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 34**

(T, Long)

Cable mark:

428

DOM id: TP

TP6Y 461☒ Bottom shackle connected☐ Top clutch connected at link # 19☒ Bow OK → ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(34-35)$: 17.003**DOM position 33**

(U, Short)

Cable mark:

445

DOM id: UP

UP5P 1032☐ Bottom shackle connected☐ Top clutch connected at link # _____☐ Bow OK → ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(33-34)$: 16.902**Breakout 17**

Time:

- LongDOM

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

- ShortDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable

Now

15:20 15:23

Last b/o

15:10 Δt [min]13

Depth:

Paro

442.71 459.77

Payout

443.56 461.00☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 32**

(T, Long)

Cable mark: 462

DOM id: TP _____

TP6Y 4353☒ Bottom shackle connected☐ Top clutch connected at link # 20☐ Bow OK → ☐ clutch zip tied $\Delta(32-33)$: 16.942Photos: ☐ phi orientation ☐ whole view**DOM position 31**

(U, Short)

Cable mark: 479DOM id: UP UP6Y 4286☐ Bottom shackle connected☐ Top clutch connected at link # 20☐ Bow OK → ☐ clutch zip tied $\Delta(31-32)$: 16.927Photos: ☐ phi orientation ☐ whole view**Breakout 16**

Time:

- LongDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connectedNow 15:49Last b/o 15:23 Δt [min] 26

Depth:

Paro 493.53Payout 494.97

- ShortDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 30**

(T, Long)

Cable mark: 497

DOM id: TP

~~UPGY 4285~~
TPGY 4285

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(30-31)$: 16.950Photos: ☐ phi orientation ☐ whole view**DOM position 29**

(U, Short)

Cable mark: 513

DOM id: UP

~~TPGY 4285~~
UPGY 4318

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 20
☐ Bow OK → ☐ clutch zip tied

 $\Delta(29-30)$: 16.918Photos: ☐ phi orientation ☐ whole view**Breakout 15**

Time:

- LongDOM

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

Now 16:25Last b/o 15:49 Δt [min] 35

Depth:

Paro 527.87Payout 529.46

- ShortDOM

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

☐ Loose pigtails taped to cable**Thermistor**☐ Present ☐ Distance to DOM29: 1 meter**Keller**☒ Connected ☒ Operational ☐ Air pressure [PSI]: 10 psi

Ser.#: _____

☐ Cable mark: 514 ☐ Distance to DOM29: 1 meter☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 28**

DOM id: TP

(T, Long)

Cable mark:

529

☐ Bottom shackle connected☐ Top clutch connected at link #

20

 $\Delta(28-29)$: 16.981☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 27**

DOM id: UP

(U, Short)

Cable mark:

548

☐ Bottom shackle connected☐ Top clutch connected at link #

20

 $\Delta(27-28)$: 17.000☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 14**

Time:

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

Now 16:55

Last b/o 16:25

 Δt [min] 30

Depth:

Paro 561.41

Keller NOT in water

578.94

Payout 563.00

- ShortDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 26**

(T, Long)

Cable mark: 565DOM id: TP TP6Y 4445

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(26-27)$: 17.028Photos: ☐ phi orientation ☐ whole view**DOM position 25**

(U, Short)

Cable mark: 581DOM id: UP UP6Y-4358

- ☐ Bottom shackle connected
☐ Top clutch connected at link # _____
☐ Bow OK → ☐ clutch zip tied

 $\Delta(25-26)$: 16.838Photos: ☐ phi orientation ☐ whole view**Breakout 13**

Time:

- LongDOM

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

Now 17:20Last b/o 16:55 Δt [min] 25

Depth:

Paro 595.45Keller 595.36Payout 597.56**- ShortDOM**

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

☐ Loose pigtails taped to cable

↳ After this,
I manually reset
the ambient pressure
for the Keller from
2.34 psi to 9.65 psi.
Frederic

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 24**

DOM id: TP

TP6Y 4323

(T, Long)

Cable mark: 599

☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(24-25)$: 17.038☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**DOM position 23**

DOM id: UP

UP-5P-0610

(U, Short)

Cable mark: 616

☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(23-24)$: 16.965☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view**Breakout 12**

Time:

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

Now 17:40

Last b/o 17:20

 Δt [min] 20

Depth:

Paro 630.53

Keller 624.88

Payout 632.54

- ShortDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable

↳ After discussion,
I've put Keller
initial values
back in! (-9.34)

qf Freya

17:41 stop for dinner

☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 22**

(T, Long)

Cable mark:

634

DOM id: TP

TP4P0329☐ Bottom shackle connected☐ Top clutch connected at link # 18☒ Bow OK → ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(22-23)$: 16.965**DOM position 21**

(U, Short)

Cable mark:

650

DOM id: UP

UP5P0784☐ Bottom shackle connected☐ Top clutch connected at link # 18☐ Bow OK → ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view $\Delta(21-22)$: 17.008**Breakout 11**

Time:

- LongDOM☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Now

Last b/o

 Δt [min]

Depth:

Paro

Keller

Payout

664.80664.67666.62

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 20**DOM id: TP TP5P-0693

(T, Long)

Cable mark: 667☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(20-21)$: 16.941☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view☐ Curved distance around DOM: _____ ☐ Vertical distance: _____**DOM position 19**DOM id: UP UPGY 4328

(U, Short)

Cable mark: 684☐ Bottom shackle connected☐ Top clutch connected at link # 18 $\Delta(19-20)$: 16.946☐ Bow OK $\rightarrow$ ☐ clutch zip tiedPhotos: ☐ phi orientation ☐ whole view☐ Curved distance around DOM: _____ ☐ Vertical distance: _____**Breakout 10**

Time:

Now 19:12

- LongDOM

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

Last b/o _____

 Δt [min] _____Depth: 63Paro 698.23Keller 698.41Payout 700.34

- ShortDOM

☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 18**

(T, Long)

Cable mark: 701DOM id: TP TP4P0319

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 18
☐ Bow OK → ☐ clutch zip tied

 $\Delta(18-19)$: 16.818Photos: ☐ phi orientation ☐ whole view**DOM position 17**

(U, Short)

Cable mark: 718DOM id: UP UP6Y4230

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(17-18)$: 16.866Photos: ☐ phi orientation ☐ whole view**Breakout 9**

Time:

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

Now ~~16:06~~ 19:26Last b/o 19:12 Δt [min] 14

Depth:

Paro 732.10Keller 733.05Payout 734.57

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Correct
check w
Mark

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 16**

(T, Long)

Cable mark: 736DOM id: TP TP6Y 4293☐ Bottom shackle connected☐ Top clutch connected at link # 18☐ Bow OK → ☐ clutch zip tied $\Delta(16-17)$: 16.971Photos: ☐ phi orientation ☐ whole view**DOM position 15**

(U, Short)

Cable mark: 753DOM id: UP UP6Y 4414☐ Bottom shackle connected☐ Top clutch connected at link # 18☐ Bow OK → ☐ clutch zip tied $\Delta(15-16)$: 16.942Photos: ☐ phi orientation ☐ whole view**Breakout 8****- LongDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected**- ShortDOM**☐ connector O-ring in place and ☐ lubed☐ breakout O-ring in place and ☐ lubed☐ connected☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Time:

Now 19:50Last b/o 19:26 Δt [min] 24

Depth:

Paro 765.67Keller 765.86Payout 767.38



IceCube String Deployment Log

String 66

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 14**

(T, Long)

Cable mark: 770

DOM id: TP

~~UP6Y 4374~~
TP6Y-4379

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 18
☐ Bow OK → ☐ clutch zip tied

 $\Delta(14-15)$: 16.958Photos: ☐ phi orientation ☐ whole view**DOM position 13**

(U, Short)

Cable mark: 787

DOM id: UP

~~TP6Y 4379~~
UP6Y 4372

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 18
☐ Bow OK → ☐ clutch zip tied

 $\Delta(13-14)$: 16.959Photos: ☐ phi orientation ☐ whole view**Breakout 7**

Time:

- LongDOM

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

Now 20:05Last b/o 19:50 Δt [min] 15

Depth:

Paro 801.30Keller 801.40Payout 802.86**- ShortDOM**

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 10**

(T, Long)

Cable mark: 838

DOM id: TP

TP6Y 4261

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 18
☐ Bow OK → ☐ clutch zip tied

 $\Delta(10-11)$: 16.967Photos: ☐ phi orientation ☐ whole view**DOM position 9**

(U, Short)

Cable mark: 855

DOM id: UP

UP6Y 4388

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(9-10)$: 16.994Photos: ☐ phi orientation ☐ whole view**Breakout 5**

Time:

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

Now

Last b/o 20:35 Δt [min]

Depth:

Paro 870.0Keller 871.54Payout 871.53

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 8**

DOM id: TP

TP64 4228

(T, Long)

Cable mark: 872

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 18
☐ Bow OK → ☐ clutch zip tied

 $\Delta(8-9)$: 16.960Photos: ☐ phi orientation ☐ whole view**DOM position 7**

DOM id: UP

UP40 0338

(U, Short)

Cable mark: 889

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 20
☐ Bow OK → ☐ clutch zip tied

 $\Delta(7-8)$: 16.952Photos: ☐ phi orientation ☐ whole view**Breakout 4**

Time:

- LongDOM

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

Now

21:11

Last b/o

 Δt [min]

Depth:

Paro

904.81

Keller

906.15

Payout

906.56

- ShortDOM

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

☐ Loose pigtails taped to cable☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 6**

(T, Long)

Cable mark: 907DOM id: TP TP5P 0627

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 20
☐ Bow OK → ☐ clutch zip tied

 $\Delta(6-7)$: 17.033Photos: ☐ phi orientation ☐ whole view**DOM position 5**

(U, Short)

Cable mark: 924DOM id: UP UP6Y 4338

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 20
☐ Bow OK → ☐ clutch zip tied

 $\Delta(5-6)$: 16.961Photos: ☐ phi orientation ☐ whole view**Breakout 3****- LongDOM**

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

- ShortDOM

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

☐ Loose pigtails taped to cable

Time:

Now 21:31Last b/o ~~21:31~~ 21:11 Δt [min] 20

Depth:

Paro 938.74Keller 940.75Payout 940.54☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 4**

(T, Long)

Cable mark: 940DOM id: TP TP5P0755

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(4-5)$: 16.989Photos: ☐ phi orientation ☐ whole view**DOM position 3**

(U, Short)

Cable mark: 958DOM id: UP UP684348

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(3-4)$: 17.003Photos: ☐ phi orientation ☐ whole view**Breakout 2****- LongDOM**

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

- ShortDOM

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

☐ Loose pigtails taped to cable

Time:

Now 21:52Last b/o 21:31 Δt [min] 21

Depth:

Paro 972.62Keller 974.44Payout 974.05☐ All clear to lower cable ☺

Photos: DOM ids (☐ long ☐ short); connectors (☐ long ☐ short)**DOM position 2**

DOM id: TP _____

(T, Long)

Cable mark: 975

TP 5P0751

- ☐ Bottom shackle connected
☐ Top clutch connected at link # 19
☐ Bow OK → ☐ clutch zip tied

 $\Delta(2-3)$: 16.979Photos: ☐ phi orientation ☐ whole view**DOM position 1**DOM id: UP UP5X0086

(U, Short)

Cable mark: 992

- ☐ Bottom shackle connected
☐ Top clutch connected at link # _____
☐ Bow OK → ☐ clutch zip tied

 $\Delta(1-2)$: 16.991Photos: ☐ phi orientation ☐ whole view**Breakout 1***No upper yale grip*

Time:

- LongDOM

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

Now 22:38Last b/o 21:52 Δt [min] _____

Depth:

Paro 1005.19Keller 1007.21Payout 1007.92

- ShortDOM

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

☐ Loose pigtails taped to cable**No second Paro no more...**☐ Group photo☐ All clear to lower cable ☺SAT
12/23/06



Uphole Pressure Sensor (Setra)

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

Time: _____

- ☐ Stop the cable winch
- ☐ Lower Setra pressure sensor into hole
- ☐ Distance to Setra from floor: _____
- ☐ Setra readout verified with monitoring system
- ☐ Well depth from Setra: _____
- ☐ Well depth from laser: _____

If the two well depth measurements agree:

- ☐ Switch to Setra well depth in monitoring system

Time: _____

Now the String Drop begins

**String Drop****The target depth is 2450 m**☐ Switch cable winch to computer control☐ Speed: _____ Time: _____ Depth: _____☐ Speed: _____ Time: _____ Depth: _____☐ Speed: _____ Time: _____ Depth: _____☐ Speed: _____ Time: _____ Depth: _____☐ Speed: _____ Time: _____ Depth: _____☐ Speed: _____ Time: _____ Depth: _____**Depth Monitoring** (log on the fly – do not stop for this)

Depth by Paro ¹	Time	Well depth ¹	Depth by cable marks ²	Depth by Payout ¹	Δdepth P-K ¹
1000 m					
1500 m					
2000 m					
2100 m					
2200 m					
2300 m					
2385 2400 m	00:57	47.668	2369	2401	Keller 2401

¹Read off monitoring screen²Cable mark offset = _____ (at DOM59) – 17 m = _____ (at DOM60)
(from p.4)☐ Switch to manual control @ 2400 m☐ Well depth

@ 2420: _____

@ 2440: _____

☐ Position string at target depth of **2450 m** Time: _____☐ String secured with Yale grip and anchor chain Time: _____2784 + 15
2399(50 m)
2440



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

☐ Distance from Paro to DOM60:

$$d_{\text{Paro-DOM59}} = \underline{0.614} \text{ (from p. 4)}$$

$$d_{\text{Paro-DOM60}} = (d_{\text{Paro-DOM59}} + 17) \text{ m} = \underline{17.614} \leftarrow \text{insert below}$$

☐ Convert Paro pressure to string depth:

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

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

$$\begin{aligned} \text{Subtract exponentials} &\rightarrow = \underline{\hspace{2cm}} \\ &\times 1.85947 \cdot 10^5 \end{aligned}$$

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

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

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

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

Final depth estimates *(after tie-off)*

◀----- read off deployment screen -----▶

Time:	Paro m	Keller m	Payout	Cable marks
Reading	<u>2443.14</u> PSI	<u>2459.02</u> PSI	<u>2458.98</u> m	<u>2426</u> m
Offset	PSI	PSI	m	m
Well depth	<u>47.668</u> m		This space is intentionally left blank	
Dist. to DOM60	m	m		
DEPTH (DOM60)	<u>2443.14</u>	<u>2459.02</u>		

Time: 1830

Final depth (DOM60): 2450 m *(avg)*



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

Time: 3am

Date: 12/24/06

Shift Lead: _____

name / signature

Logger: _____

name / signature

PTS Lead: _____

name / signature

Deployment Manager: _____

name / signature

Safety Officer: _____

name / signature

IceCube On-ice Lead: _____

name / signature



IceCube Deployment Monitoring Check Sheet (IDMCS)

Version 4.0

December 12, 2006

Kurt Woschnagg, UCB

General instructions

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

Measurement instructions

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

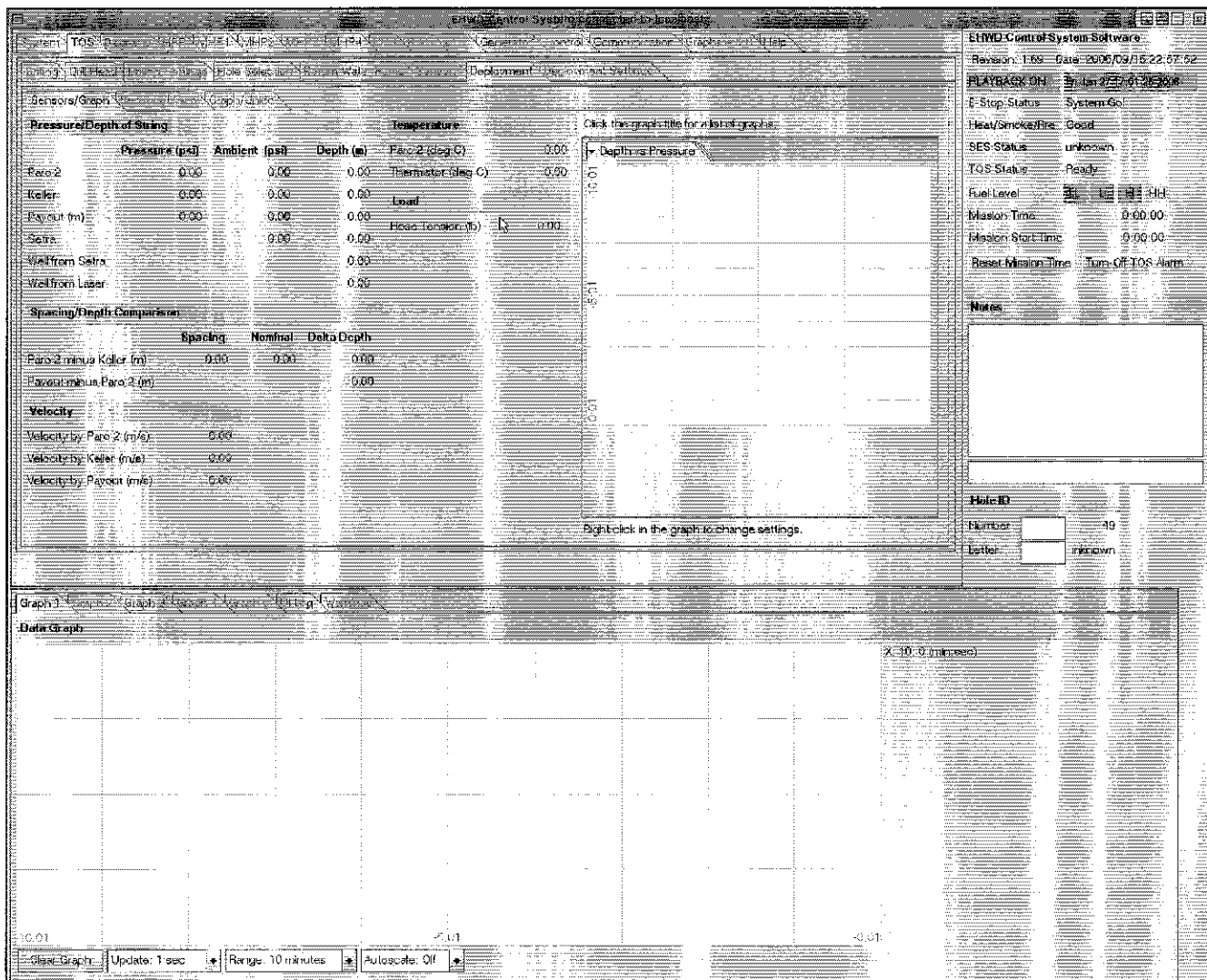


Screen Tab: TOS ► Deployment

► Sensors/Graph

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

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

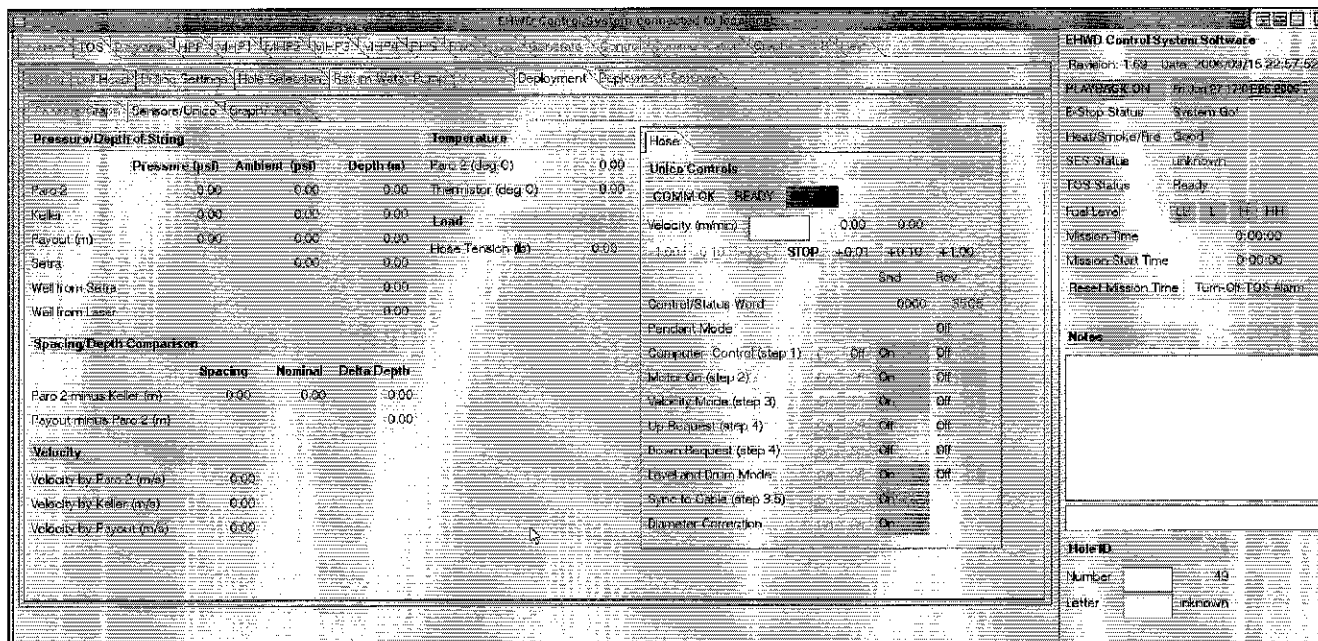




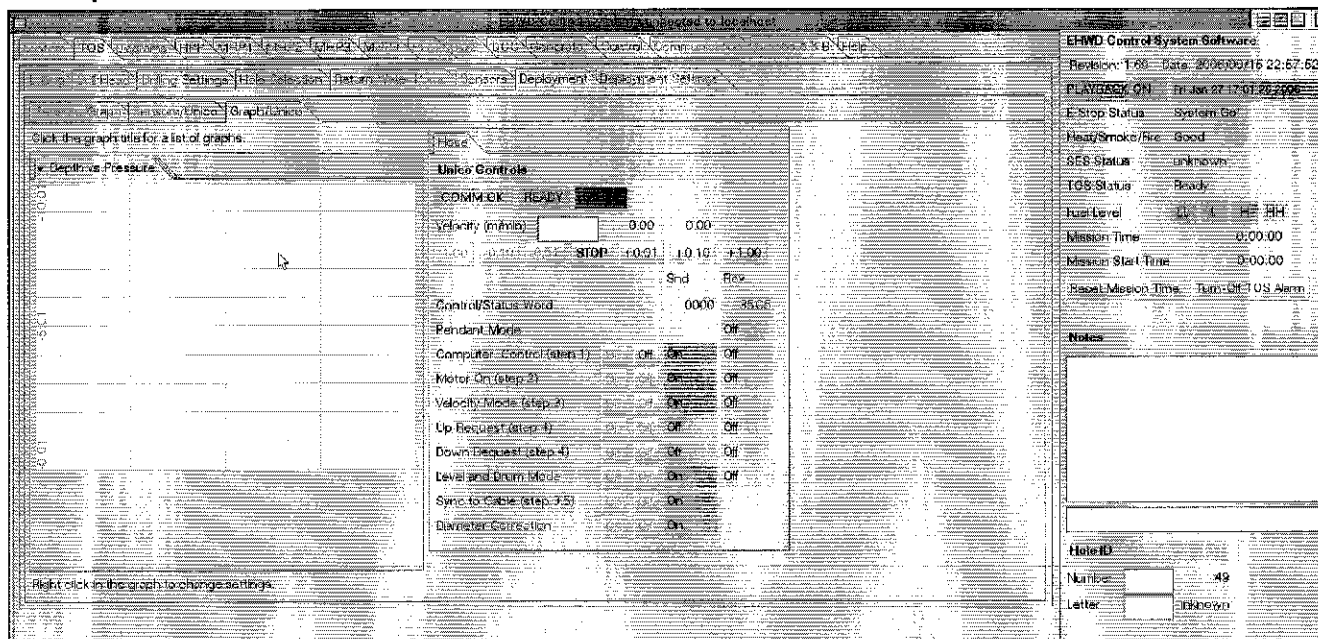
Screen Tab: TOS ► Deployment

► Sensors/Unico

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



► Graph/Unico





► Settings

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

Deployment Events

- 4 of 11



Screen Tab: TOS ► Deployment Settings

► Keller Calibration

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

The screenshot shows the 'Keller Calibration' tab in the TOS software. The main window has a title bar 'TOS - Deployment Settings' and a menu bar with 'File', 'Edit', 'View', 'Tools', 'Help'. The 'Keller Calibration' tab is active, showing a 'Keller Selection' section with a list of buttons for selecting a Keller ID. Below this, there are input fields for 'Serial Number', 'Offset', and 'Scale'. The 'Serial Number' field contains '0', 'Offset' contains '4.02', and 'Scale' contains '162.33'. To the right of these fields, there is a 'Keller Selection: Instructions' section with text: 'Select a Serial Number from the list or enter the data directly. Pre-enter the calibrations into config/deploy_keller_calib.cfg.' On the right side of the screen, there is a sidebar with 'EIMD Control System Software' information, including 'Revision: 1.69', 'Date: 2006/09/15 22:57:52', 'PLAYBACK ON: Fri Sep 22 17:01:28 2006', 'E-Stop Status: System Go!', 'Heat/Smoke/Fire: Good', 'SES Status: Unknown', 'TOS Status: Ready', 'Fuel Level: 11.33% (11.33% HH)', 'Mission Time: 0:00:00', 'Mission Start Time: 0:00:00', and 'Reset Mission Time: Turn-Off TOS Alarm'. Below this is a 'Notes' section with a text area.

Screen Tab: TOS ► Hole Selection

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

The screenshot shows the 'Hole Selection' tab in the TOS software. The main window has a title bar 'TOS - Hole Selection' and a menu bar with 'File', 'Edit', 'View', 'Tools', 'Help'. The 'Hole Selection' tab is active, showing a list of hole numbers on the left. The list is as follows:

Order	Number
1	58
2	67
3	66
4	65
5	73
6	74
7	82
8	79
9	98
10	57
11	47
12	46
13	50
14	72

To the right of the list, there is a 'Hole Selection: Instructions' section with text: 'Select a Hole Number from the list or enter it directly. Pre-enter the hole numbers into config/drilling_hole.cfg. The holes are listed in the anticipated order.' On the right side of the screen, there is a sidebar with 'EIMD Control System Software' information, including 'Revision: 1.69', 'Date: 2006/09/15 22:57:52', 'PLAYBACK ON: Fri Sep 22 17:01:28 2006', 'E-Stop Status: System Go!', 'Heat/Smoke/Fire: Good', 'SES Status: Unknown', 'TOS Status: Ready', 'Fuel Level: 11.33% (11.33% HH)', 'Mission Time: 0:00:00', 'Mission Start Time: 0:00:00', and 'Reset Mission Time: Turn-Off TOS Alarm'. Below this is a 'Notes' section with a text area. At the bottom right, there is a 'Hole ID' section with input fields for 'Number' (containing '42') and 'Letter' (containing 'unknown').



Distances between devices

calculate manually and enter on Deployment Settings tab

Distance between Paro and DOM60: _____ = _____

Distance between Keller and DOM60: _____ = _____

Distance between Paro and Keller: _____ = _____

Notes:

There are 60 DOMs on every string.

The nominal spacing between DOMs is 17 m.

The nominal spacing between breakouts is 34 m.

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

The Keller is at breakout 15, just above DOM29.

The Paro is at breakout 30, just above DOM59.

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

Pressure conversions

		PSI	mH ₂ O	Atm
1 PSI	=	1	0.70	0.07
1 mH ₂ O	=	1.4	1	0.1
1 atm	=	14.7	10.3	1



Check Sheet

STRING # 66

DATE: 23/12/2006

Before Deployment

- ☒ Action: Locate laser ranger for well depth measurements.
- ☒ Action: Locate metric tape measure.
- ☒ Action: Locate ^{OK} ~~one~~ Paro and one Keller, ^{OK for PARO} _{OK} plus spares of each.
- ☒ Action: Locate bucket (for cooling of Keller sensor with water/ice mix).
- ☒ Action: Fill bucket with snow and place in heated area to make slush.
- ☒ ^{not done} Action: Locate Setra uphole pressure assembly (sensor + cable).

Deployment Startup

- ☒ Action: Click "Deployment" button under "Tower Mode" on Deployment Settings tab.
 - ☒ Action: Select string (=hole) number on Hole Selection tab.
 - ☒ Action: Note deployment start time. ^{9 h 30 → started on weights}
- Logbook: Time
- ☒ Action: Click "Reset Mission Time" on the right panel on the deployment screen.
 - ☒ Action: Click "Startup" under Deployment Events.



IceCube String Deployment Monitoring



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

ENTER: DDB# (select button)

Logbook: DDB# 3



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

ENTER: Well depth [m] *51.058*

Logbook: Well depth

Start values:

{ Load: → working - 99.4
End of cable is marked 0m,



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

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

Logbook: Payout Start value ~ ~~megadon~~ → 0.13



Action: Get cable mark reading at DOM59.

payout ~ 13m

Logbook: Cable mark [m]



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

Logbook: Paro serial number #109222



Action: Click "Paro Attached" under Deployment Events.



Action: Measure distance between Paro location and nearest DOM. *0.534 up + 17.020*

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

ENTER: Distance [m] from Paro to *bottom* DOM (#60) *0.7*

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



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

Logbook: Cable mark [m] *2.60*



IceCube String Deployment Monitoring

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

ENTER: Ambient pressure [PSI] for Paro 9.65 on top of water.

Logbook: Paro2 air pressure

During Deployment

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

PARO 12, 42 °C @ DOM 57m

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

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

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

Logbook: DOM#'s, distance

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

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

- ☒ **Action:** Attach Keller at breakout #15.

ENTER: Keller serial number 0503999

Logbook: Keller serial number

- ☒ **Action:** Click "Keller Attached" under Deployment Events.

- ☒ **Action:** Measure distance between Keller and nearest DOM.

0, 880

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

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

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



IceCube String Deployment Monitoring

- ☐ **Action:** Get cable mark reading at Keller.

Logbook: Cable mark [m] for Keller

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

ENTER: Ambient pressure [PSI] for Keller

Logbook: Ambient Keller pressure

Nov 28 17

- ☒ **Action:** Click "Keller In Water" under Deployment Events.

→ manually set the ambient pressure to 9.65

- ☐ **Action:** Get cable mark reading at top DOM.

Logbook: Cable mark [m]

just testing !!!

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

ENTER: Well depth [m]

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

Between DOM attachment and String Drop

48,701

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

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

ENTER: Distance Setra to floor [m]

Logbook: Distance Setra to floor

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

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

- ☒ **Action:** If the two well depth measurements agree, switch from laser to Setra in monitoring system.

2369 / 2386 / 2386
2386 / 2386 / 2386
2386 / 2386 / 2386

Point to 41 / 41



During String Drop

- ☐ **Action:** Click "String Drop" under Deployment Events.
- ☐ **Action:** Measure well depth manually (with laser ranger and/or tape measure).

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

ENTER: Well depth [m]

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

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

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

2421

End of Deployment

- ☐ **Action:** Get final pressure readings from Paro and Keller when final depth has been reached. (after die-off!)

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

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

HAS TO BE SIMULTANEOUS WITH FINAL PRESSURE READINGS!

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

↳ 97.668

- ☐ **Action:** Note deployment end time.

Logbook: Time

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

String 66

*Location
Droopy*

Name	Domid	Special	Comment
Ah_Mucen_Cab	UP6Y4318		
Ajbit	UP6Y4286		
Quetzalcoatl	UP6Y4358		
Bryology	UP5P0784	Droopy	
Ahau_Kin	TP6Y4333		
New_York	UP5P1032	Droopy	
Thermophobia	TP5P0583	Droopy	
Kentucky	UP5P0932	Droopy	
	TP6Y4461		Instead of TP6Y4331
Mushroom	TP4P0209	Droopy	
Ixtab	TP6Y4285		
Dentophobia	UP5P0646	Droopy	
Hou_I	UP6Y4470		
Poki	TP5P0567	Droopy	
Hui_Lu	TP6Y4353		
Tekka	AP4P0064	FAT 1 - deploy in position 51-60 only ! ice-top Droopy	Important !!!!
Ometeotl	UP6Y4348		
Jaguarnacht	TP6Y4229		
			Just 63 doms out
Alpaca	UP4P0240	Droopy	
Tohil	TP6Y4293		
Yali	TP5P0563	Droopy	
Craniology	UP5P0820	Droopy	
Cang_Jie	UP6Y4456		
Denver	TP5P0873	Droopy	
Llama	UP4P0354	Droopy	
Lemon	TP4P0079	FAT 1 - deploy in position 51-60 only ! Droopy	Important !!!!
Kosmikophobia	UP5P0696	Droopy	
Algophobia	UP5P0640	Droopy	
Tzinteotl	UP6Y4338		
Teratology	TP5P0755	Droopy	
Archeology	UP5P0750	Droopy	
Chubasco	UP5P0536	Droopy	
Apotemnophilia	UP5P0860	Droopy	
	TP6Y4275		Instead of TP5P0579
Axiology	UP5P0766	Droopy	
Draupadi	UP6Y4290		
Romulus	AP4P0059	FAT 1 - deploy in position 51-60 only ! ice-top Droopy	Important !!!!
Rama	TP6Y4379		
Avatara	UP6Y4388		

one found

String 66

Name	Domid	Special	Comment
Rat	TP4P0269	Droopy	
	TP6Y4445		Instead of TP6Y4287
Ferrari_Berlinetta	UP5Y0086	Droopy	
Weldebreu	TP4Y0039	Droopy	
Ab_Kin_Xoc	UP6Y4328		
Idaho	UP5P0950	Droopy	
Parvati	TP6Y4371		
Tomophobia	TP5P0635	Droopy	
Huashan	TP6Y4471		
Ah_Kinchil	TP6Y4323		
Virology	TP5P0751	Droopy	
Utah	UP5P0960	Droopy	
Whale	TP4P0319	Droopy	
Tallahassee	TP5P0883	Droopy	
Rukmini	UP6Y4372		
Hobbit	UP5P0610	Droopy	
Krischna	TP6Y4261		
Agliophobia	UP5P0706	Droopy	
Maine	UP5P0966	Droopy	
Raktavija	UP6Y4414		
Zebra	TP4P0329	Droopy	
Scoleciphobia	TP5P0693	Droopy	
Werewolf	TP5P0627	Droopy	
Impala	UP4P0338	Droopy	



String Installation Traveler

Surface Cable# : 66	Start date: / /
Length (m) : 691 m	
Surface to DOM Cable# : C11	Start date: 12 / 22 / 06

	Process Step	Doc. no. reference	Tech initials	Date Completed	Comments
1	Visual Inspection of Cables at Pole	9400-0006-QLP	MC		not present

Surface Cable Assembly Inspection

Pass



Fail



By:

Surface to DOM Cable Assembly Inspection

Pass



Fail



By:

2	Trench Surface Cable Assembly (SCA)	9400-0006-QLP	MC		trenched during 05-06 season
3	Install SCA into Surface Junction Box (SJB)	9400-0006-QLP	MC		installed during 05-06 season
4	Install SCA into ICL	9400-0075-PLN	MC	1/4/07	TICL to ICL conversion
5	Complete IceTop FCU Power and Data Installation Procedure	9400-005-QLP			05-06 season
6	Verify Connectivity of IceTop DOMs with Quad Connectivity Tester (QCT)		MC	1/8/07	
7	Pre-deployment Inspection Procedure		MC		not present
8	S2D Cable into SJB installation	9400-0007-QLP	MC	1/3/07	
9	Wet Connector Testing of Quads		MR	1/8/07	
10	QCT Testing of Quads		MC	1/8/07	
11	SJB Final Inspection Complete (Ok to Bury)	9400-0007-FRM	MC	1/28/07	
12	Handoff to IceCube C & V Team		MR	1/28/07	



String Installation Traveler

String QCT and Wet Connector Test Form

String #

66

Name of Tester:

Mike Kleist

QCT Results

of DOMs (0, 1, 2)

Wet Connector Test Results (micro Amps)

Quad name	# of DOMs WP0	# of DOMs WP1	Pass/Fail	J	L	M	K	Pass/Fail	Recheck Pass/Fail
Q2	2	2	P					P	
Q3	2	2	P					P	
Q4 - bad patch cable	2	2	P					P	
Q5	2	2	P					P	
Q6 - bad patch cable	2	2	P					P	
Q7	2	2	P					P	
Q8	2	2	P					P	
Q9	2	2	P					P	
Q10	2X	2	P <i>OK</i>					P	
Q11	2	2	P					P	
Q12	2	2	P					P	
Q13	2	2	P					P	
Q14	2	2	P					P	
Q15	2	2	P					P	
Q16	2	2	P					P	
IceTop Quads									
ITQ1	1	1	P						
ITQ2	1	1	P						

Service Quads Device Connected Verified on Tech Initials Comments

Q1				
Q17				
Q18				
Q19				
Q20				



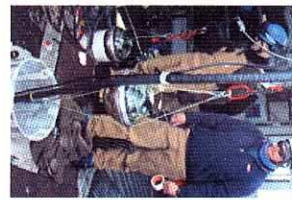
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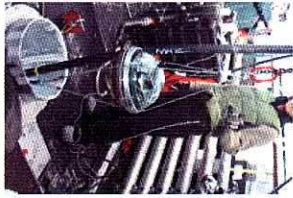
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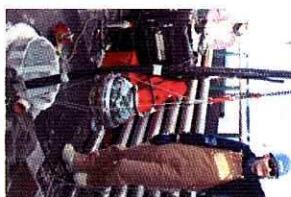
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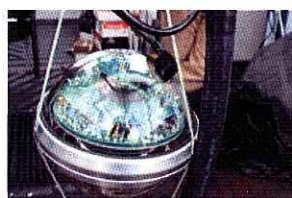
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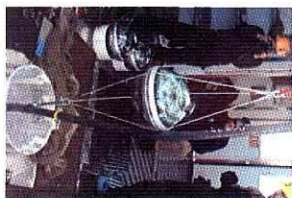
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Hole 600 adjusted: position 39 - 10

142 Cor on 1-3



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IMG_4254 TP6Y4323.JPG



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IMG_4257 UP5P0610.JPG



IMG_4259 TP4P0329.JPG



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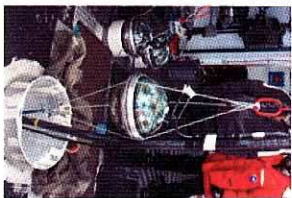
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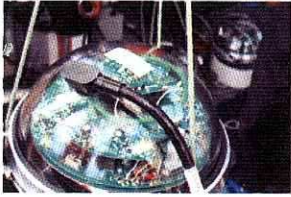
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POSITION 11.JPG



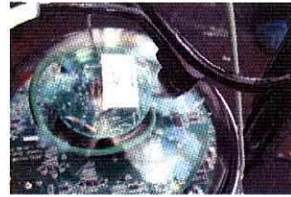
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POSITION 13.JPG



POSITION 14.JPG



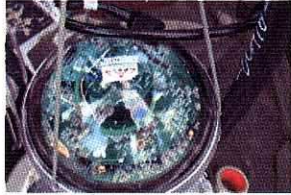
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POSITION 16.JPG



POSITION 17.JPG



POSITION 18.JPG



POSITION 19.JPG



POSITION 20.JPG



POSITION 21.JPG



POSITION 22.JPG



POSITION 23.JPG



POSITION 24.JPG



POSITION 25.JPG



POSITION 26.JPG



POSITION 27.JPG



POSITION 28.JPG



POSITION 29.JPG



POSITION 30.JPG



POSITION 31.JPG



POSITION 32.JPG



POSITION 33.JPG



POSITION 34.JPG



POSITION 35.JPG



POSITION 36.JPG



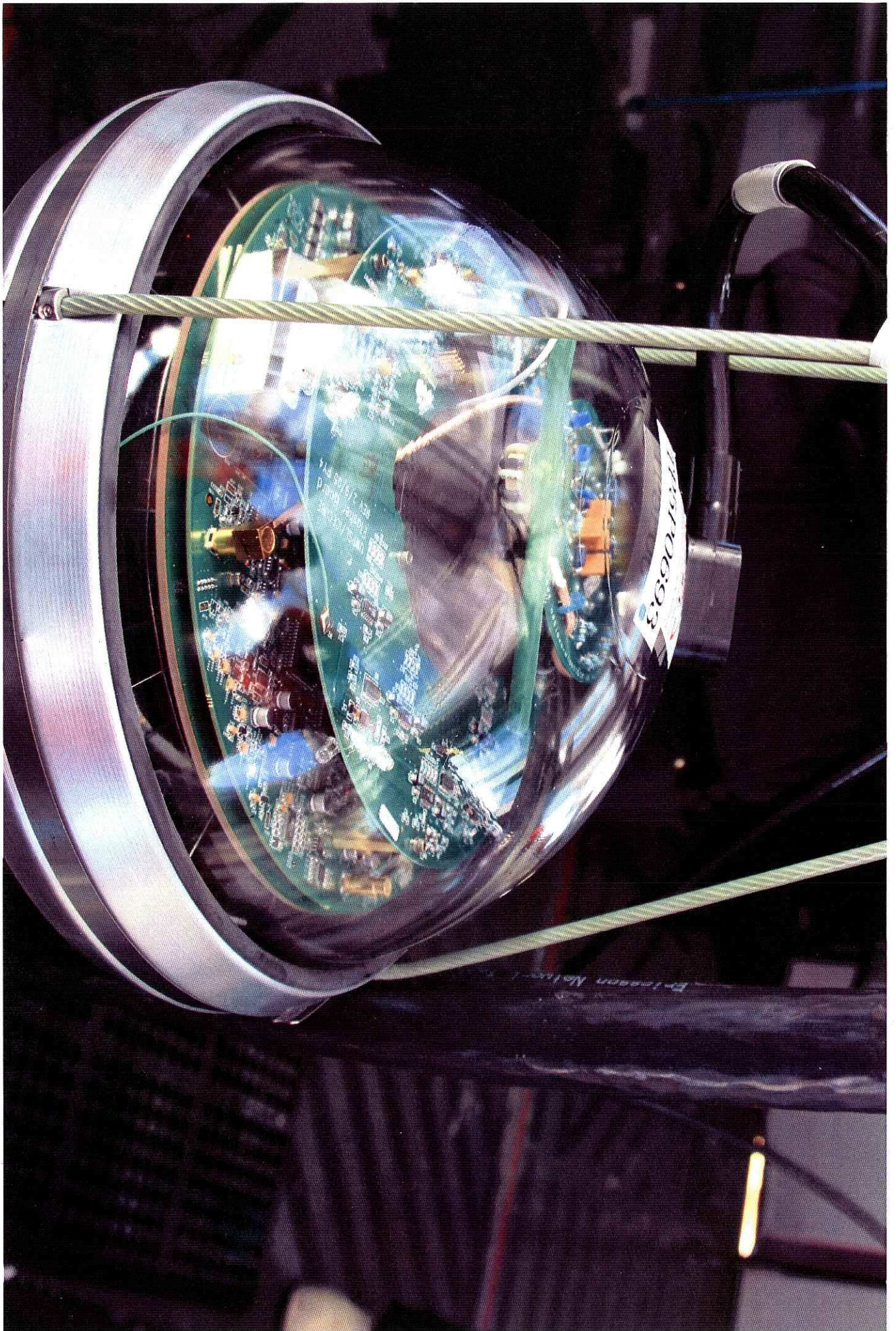
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POSITION 38.JPG



POSITION 39.JPG





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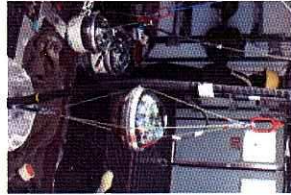
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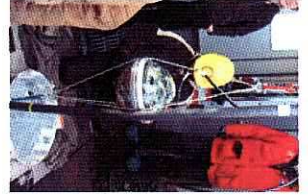
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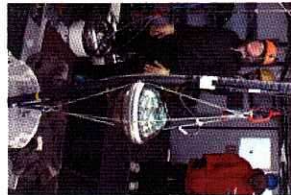
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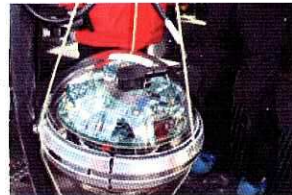
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IMG_4334.JPG



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IMG_4336 UP5Y0086.JPG



POSITION 2.JPG



POSITION 3.JPG



POSITION 5.JPG



POSITION 6.JPG



POSITION 8.JPG



POSITION 9.JPG



POSITION 1.JPG

Have all adjusted positions 9-1

14 Canon 1-2



POSITION 4.JPG



IMG_4119.JPG



IMG_4120.JPG



IMG_4121.JPG



IMG_4122.JPG



IMG_4123.JPG



IMG_4124.JPG



IMG_4125.JPG



IMG_4126.JPG



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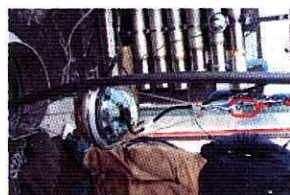
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IMG_4163 UP5P0640.JPG

Hole Cole adjusted; positions 60-40.

141 Corner 1-3



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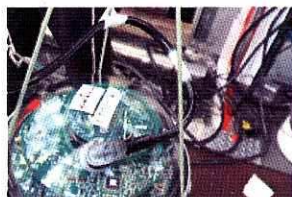
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POSITION 40.JPG



POSITION 41.JPG



POSITION 42.JPG



POSITION 43.JPG



POSITION 44.JPG



POSITION 45.JPG



POSITION 46.JPG



POSITION 47.JPG



POSITION 48.JPG



POSITION 49.JPG



POSITION 50.JPG



POSITION 51.JPG



POSITION 52.JPG



POSITION 53.JPG



POSITION 54.JPG



POSITION 55.JPG



POSITION 56.JPG



POSITION 57.JPG



POSITION 58.JPG



POSITION 59.JPG



POSITION 60.JPG



IMG_4119.JPG



IMG_4120.JPG



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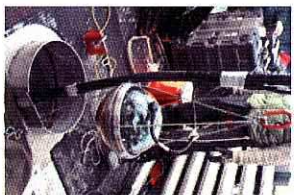
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Heli Lab

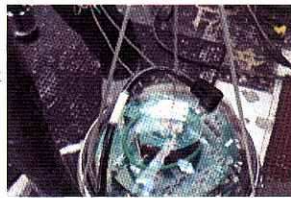
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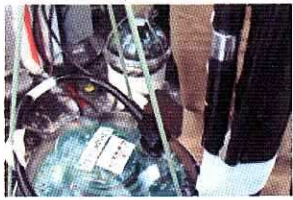


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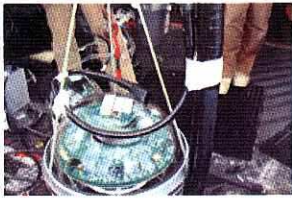
Hall 44

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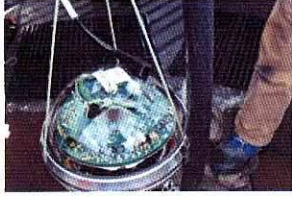
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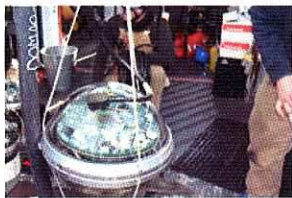


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Hole C4

141

3-3



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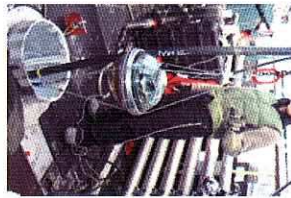
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IMG_4217.JPG



IMG_4218.JPG



IMG_4219.JPG



IMG_4220.JPG



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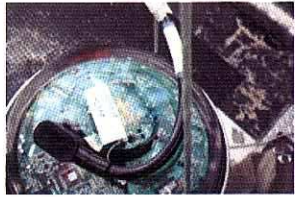
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Hall Lab

142 Canon 1-3



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IMG_4237.JPG



IMG_4238.JPG



IMG_4239.JPG



IMG_4240.JPG



IMG_4241.JPG



IMG_4242.JPG



IMG_4243.JPG



IMG_4244.JPG



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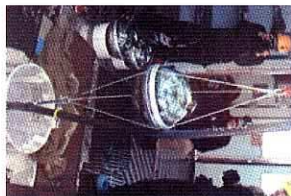
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IMG_4258.JPG



IMG_4259.JPG



IMG_4260.JPG



IMG_4261.JPG



IMG_4262.JPG



IMG_4263.JPG



IMG_4264.JPG



IMG_4265.JPG



IMG_4266.JPG



IMG_4267.JPG



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IMG_4269.JPG



IMG_4270.JPG

Hale 6/14

142

2-3



IMG_4271.JPG



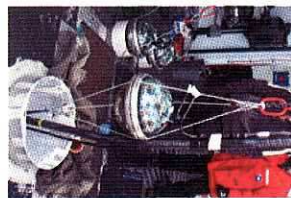
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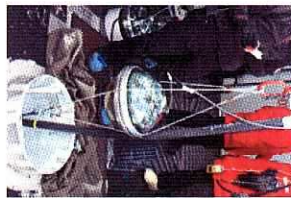
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IMG_4282.JPG



IMG_4283.JPG



IMG_4284.JPG



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IMG_4286.JPG



IMG_4287.JPG



IMG_4288.JPG



IMG_4289.JPG



IMG_4290.JPG



IMG_4291.JPG



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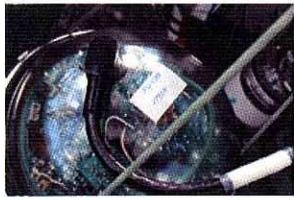


IMG_4300.JPG

Hole 64

142

3-3



IMG_4301.JPG



IMG_4302.JPG



IMG_4303.JPG



IMG_4304.JPG



IMG_4305.JPG



IMG_4306.JPG



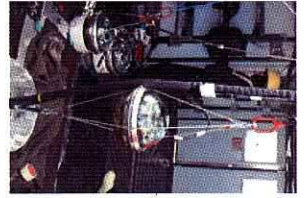
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IMG_4308.JPG



IMG_4309.JPG



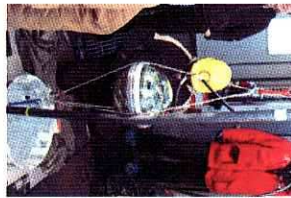
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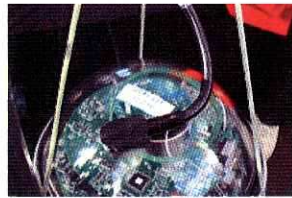
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IMG_4315.JPG



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IMG_4317.JPG



IMG_4318.JPG



IMG_4319.JPG



IMG_4320.JPG



IMG_4321.JPG



IMG_4322.JPG



IMG_4323.JPG



IMG_4324.JPG



IMG_4325.JPG



IMG_4326.JPG



IMG_4327.JPG



IMG_4328.JPG



IMG_4329.JPG



IMG_4330.JPG



IMG_4331.JPG



IMG_4332.JPG



IMG_4333.JPG



IMG_4334.JPG



IMG_4335.JPG

Holo 164

143 Canon 1-2



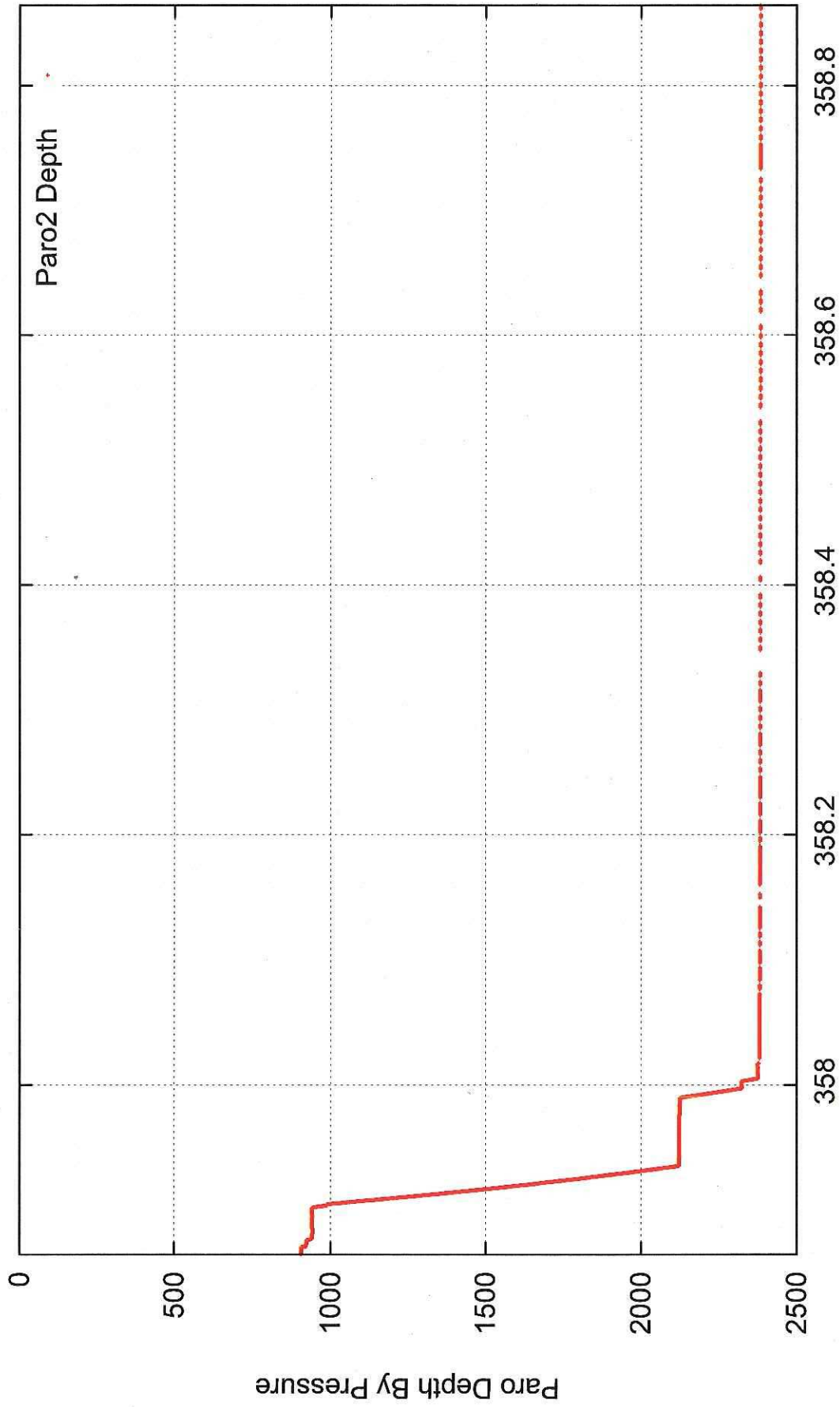
IMG_4336.JPG

Hale City

143

2-2

Paro Depth By Pressure Vs. Time
From 12/23/2006 20:44:59 to 12/24/2006 20:44:59



Created by pjlots Sun Dec 24 21:52:10 2006 day 358

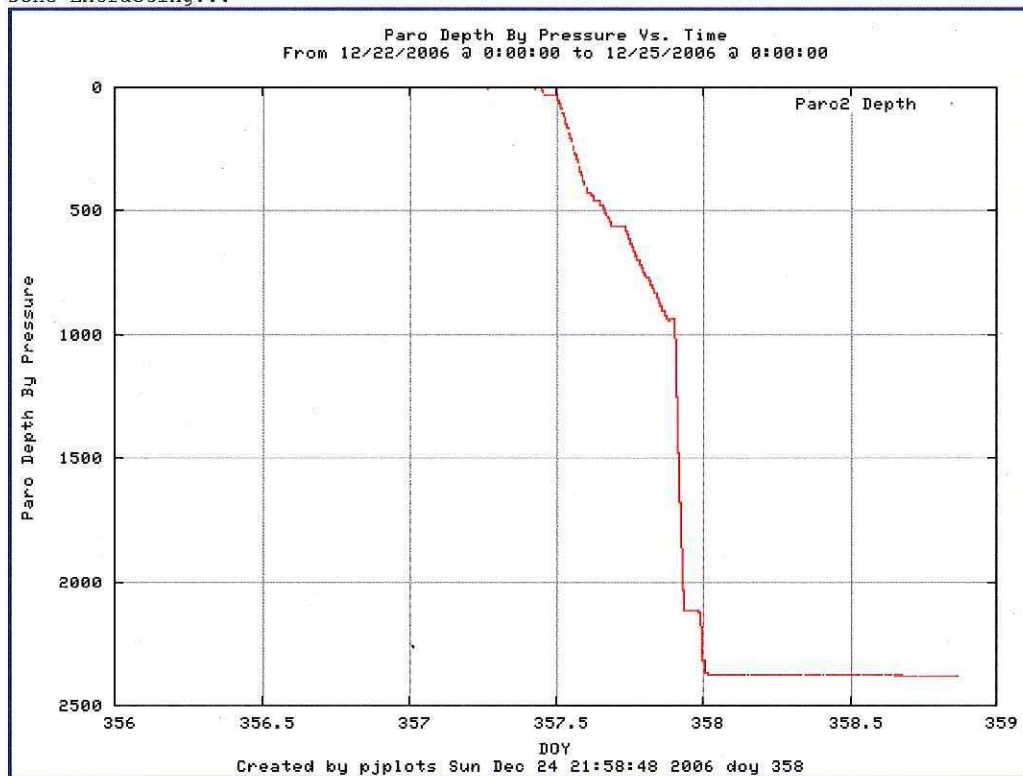
Generating a 'Paro Depth By Pressure Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs, it is your responsibility to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-KUHDvZ-TEMPD
Failed to remove: 1166938201-Xy3GvB-TEMPD
Failed to remove: 1166938801-gu36hx-TEMPD
Failed to remove: 1166940728-q3m9zr-TEMPD
Failed to remove: 1166938929-Qzy_67-TEMPD
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Extracting data...
Done Extracting...



[Raw Data For Above Plot](#)

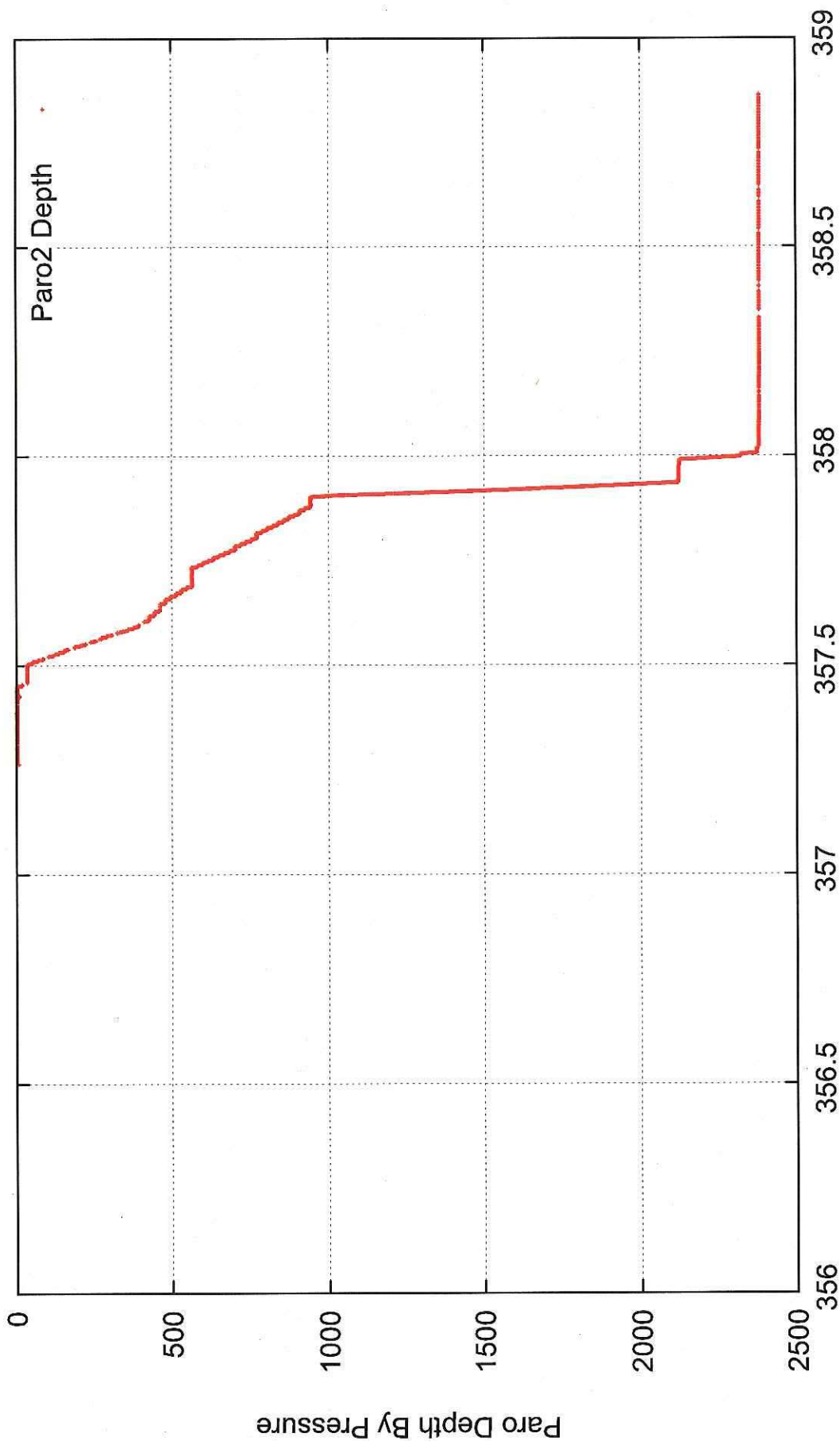
Modify Plot Time Range (Day Of Year)

Left: Right:

Modify Y Axis

YRange: to

Paro Depth By Pressure Vs. Time
From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



Created by pjlots Sun Dec 24 21:58:48 2006 day 358

Generating a 'Keller Depth By Pressure Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs,
it is your responsibility to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-kUHDvZ-TEMPD
Failed to remove: 1166938201-Xy3GvB-TEMPD
Failed to remove: 1166938801-gu36hx-TEMPD
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Failed to remove: 1166938329-abAEFK-TEMPD
Extracting data...
Done Extracting...



[Raw Data For Above Plot](#)

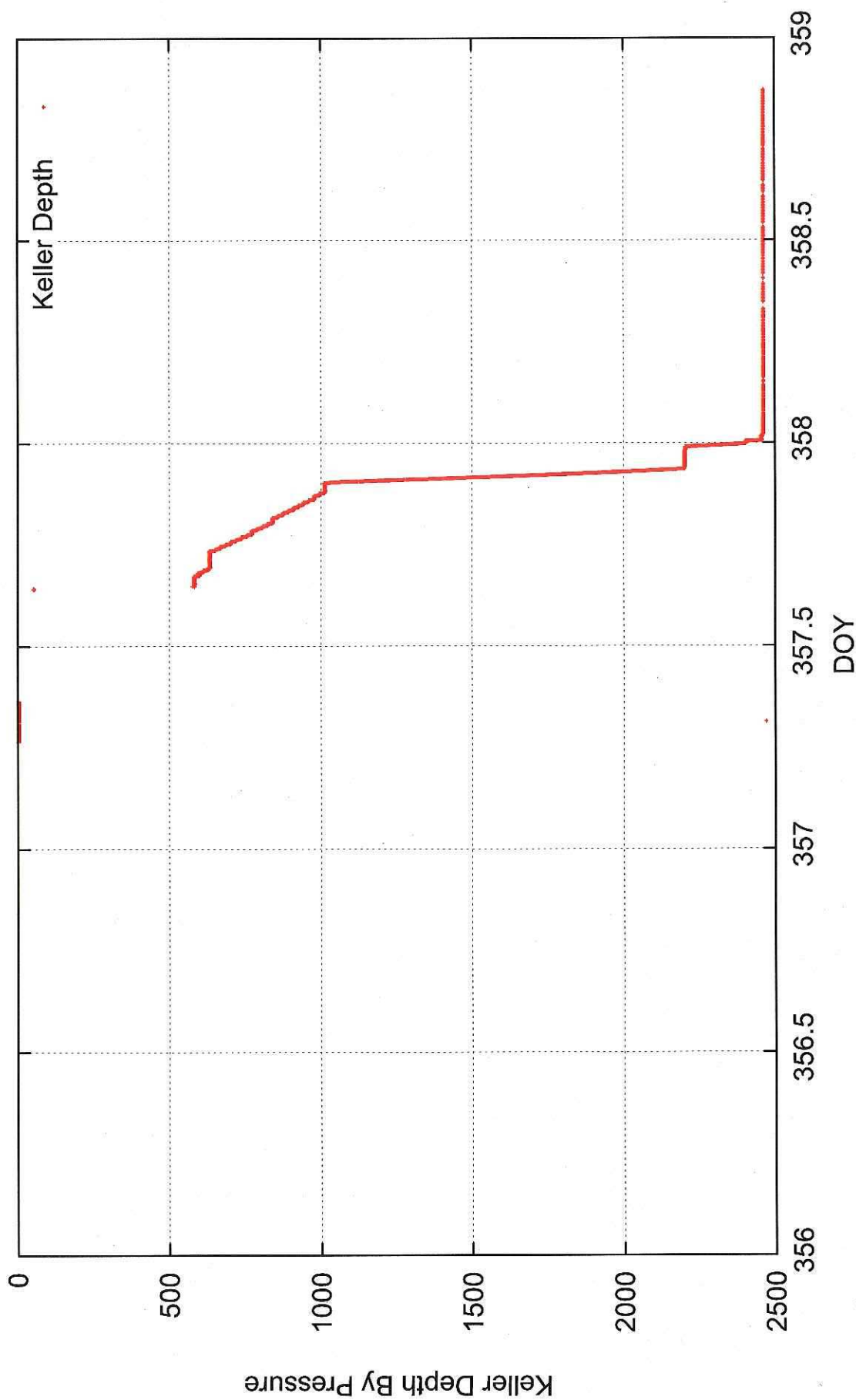
Modify Plot Time Range (Day Of Year)

Left: 356.000000 Right: 359.000000

Modify Y Axis

YRange: 0 to 2500

Keller Depth By Pressure Vs. Time
From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



Created by pjplots Sun Dec 24 22:00:50 2006 day 358

Mod_python error: "PythonHandler mod_python.publisher"

Traceback (most recent call last):

File "/usr/lib/python2.3/site-packages/mod_python/apache.py", line 299, in HandlerDispatch
result = object(req)

File "/usr/lib/python2.3/site-packages/mod_python/publisher.py", line 136, in handler
result = util.apply_fs_data(object, req.form, req=req)

File "/usr/lib/python2.3/site-packages/mod_python/util.py", line 361, in apply_fs_data
return object(**args)

File "/mnt/wangok/httpd/htdocs/ehwd/plots/static.py", line 264, in generateCannedHistorical
startEpoch = epochUtils.yyyy_mm_dd_To_Epoch("%d_%d_%d" % (year, month, day))

File "/mnt/wangok/httpd/htdocs/ehwd/plots/epochUtils.py", line 21, in yyyy_mm_dd_To_Epoch
date_epoch=time.mktime(time.strptime(yyyy_mm_dd_time,'%Y_%m_%d'))

OverflowError: mktime argument out of range

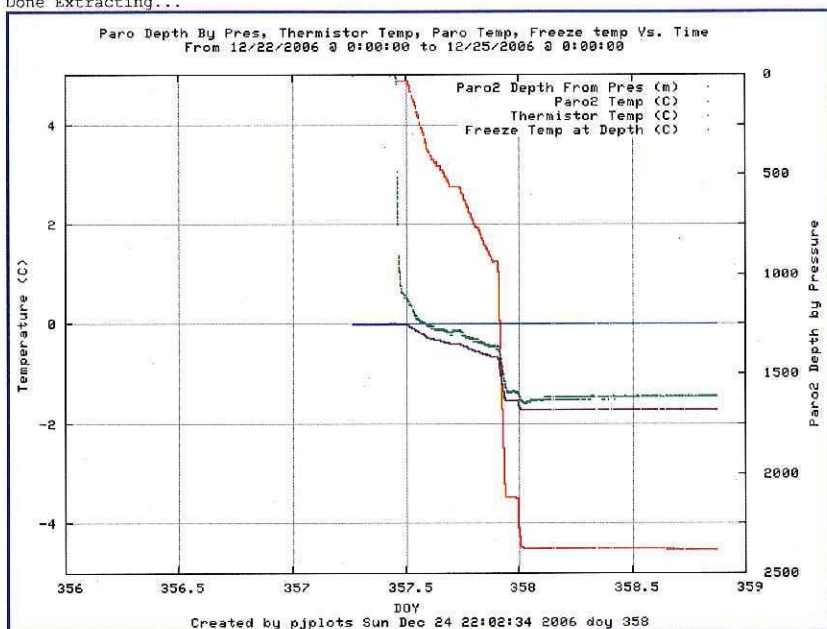
Generating a 'Paro Depth By Pres, Thermistor Temp, Paro Temp, Freeze temp Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs, it is your responsibility to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-KUHDvZ-TEMPD
Failed to remove: 1166938201-Xy3GvB-TEMPD
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Failed to remove: 1166938329-abAEFK-TEMPD
Extracting data...
Done Extracting...



[Raw Data For Above Plot](#)

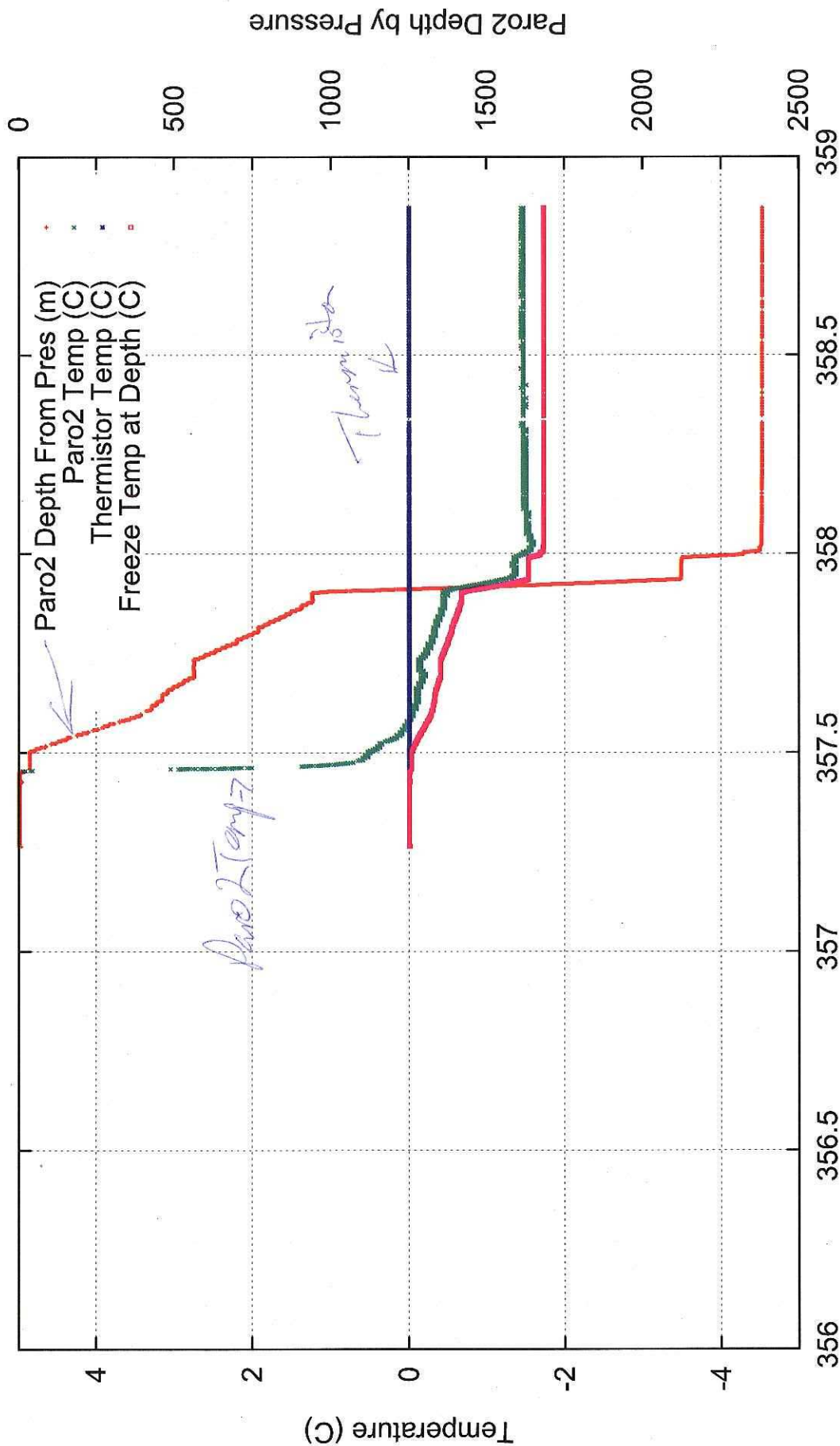
Modify Plot Time Range (Day Of Year)

Left: 356.000000 Right: 359.000000

Modify Y Axis

YRange: -5 to 5

Paro Depth By Pres, Thermistor Temp, Paro Temp, Freeze temp Vs. Time
 From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



Generating a 'Paro, Keller Depth By Pres Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs, it is your responsibility to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-kUHDvZ-TEMPD

Failed to remove: 1166938201-Xy3GvB-TEMPD

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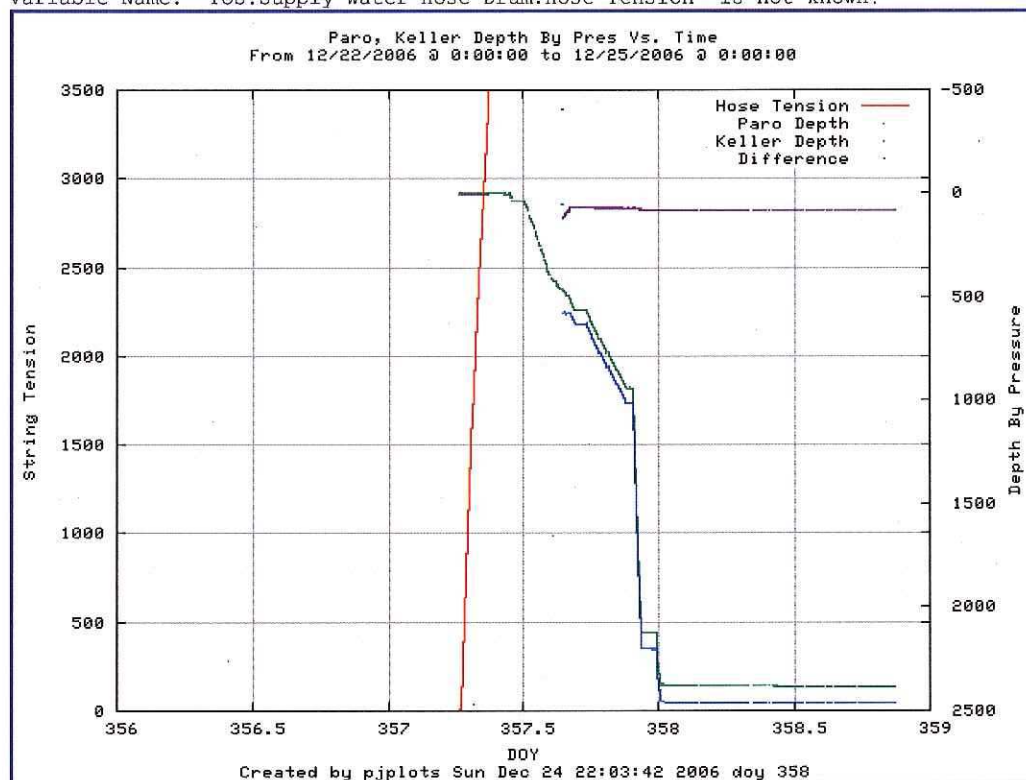
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Extracting data...

Done Extracting...

Variable Name: 'TOS.Supply Water Hose Drum.Hose Tension' is not known!



Raw Data For Above Plot

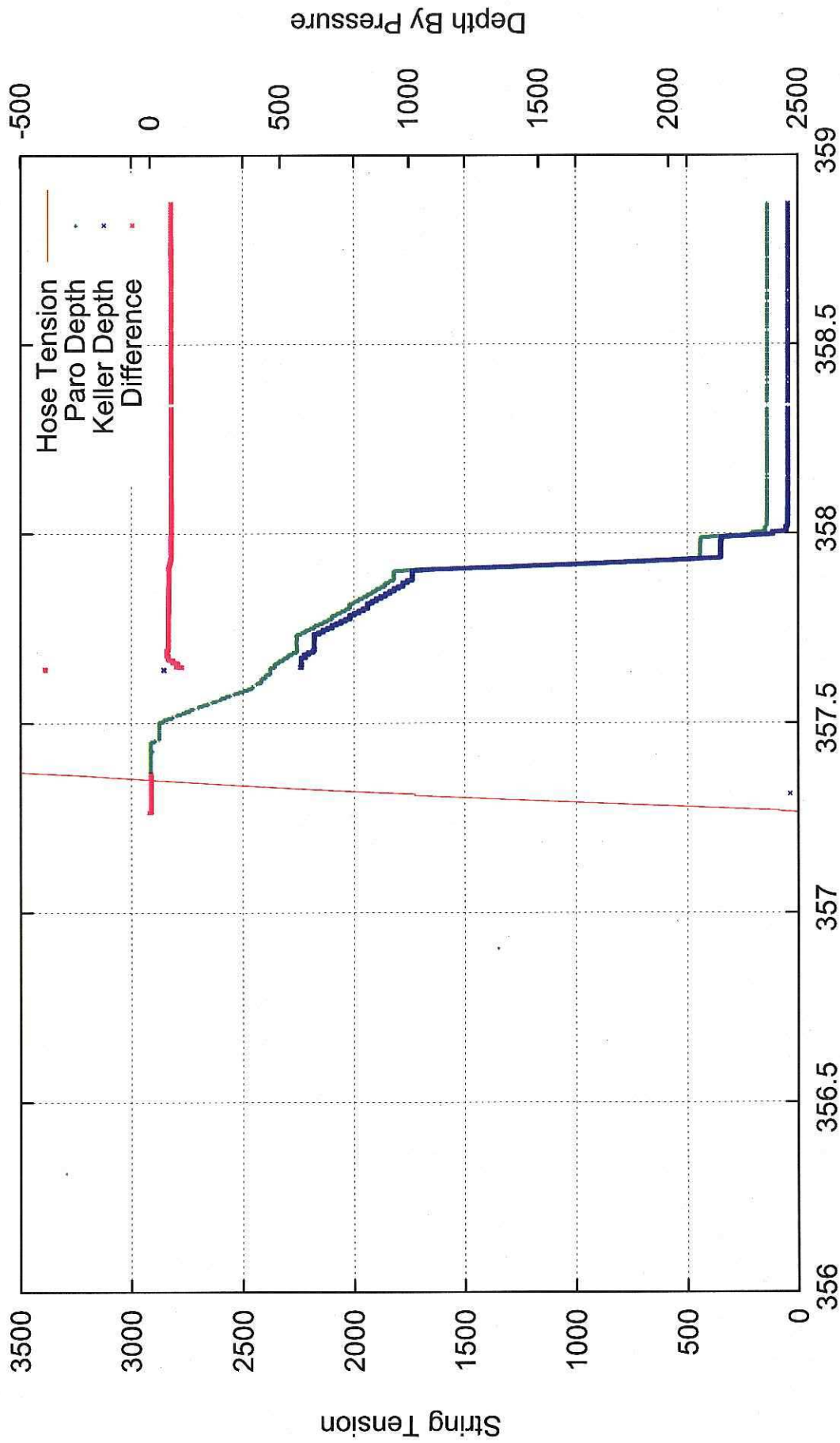
Modify Plot Time Range (Day Of Year)

Left: 356.000000 Right: 359.000000

Modify Y Axis

YRange: 0 to 3500

Paro, Keller Depth By Pres Vs. Time From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



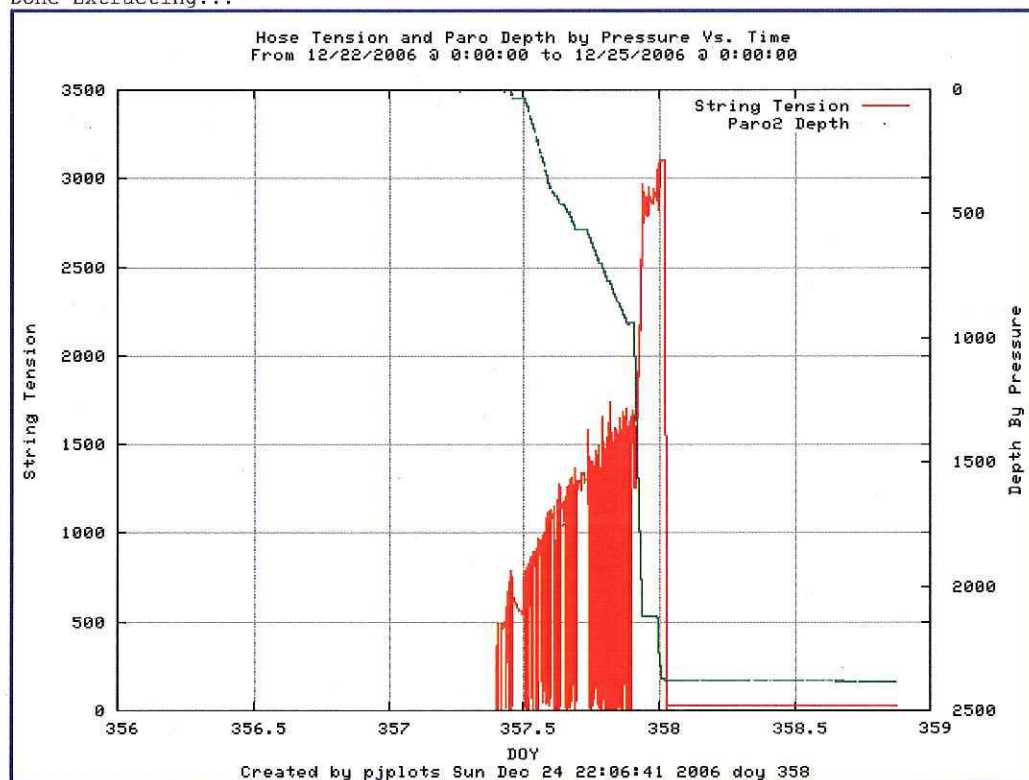
Generating a 'Hose Tension and Paro Depth by Pressure Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs, it is your responsibility to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-kUHDvZ-TEMPD
Failed to remove: 1166938201-Xy3GvB-TEMPD
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Extracting data...
Done Extracting...



[Raw Data For Above Plot](#)

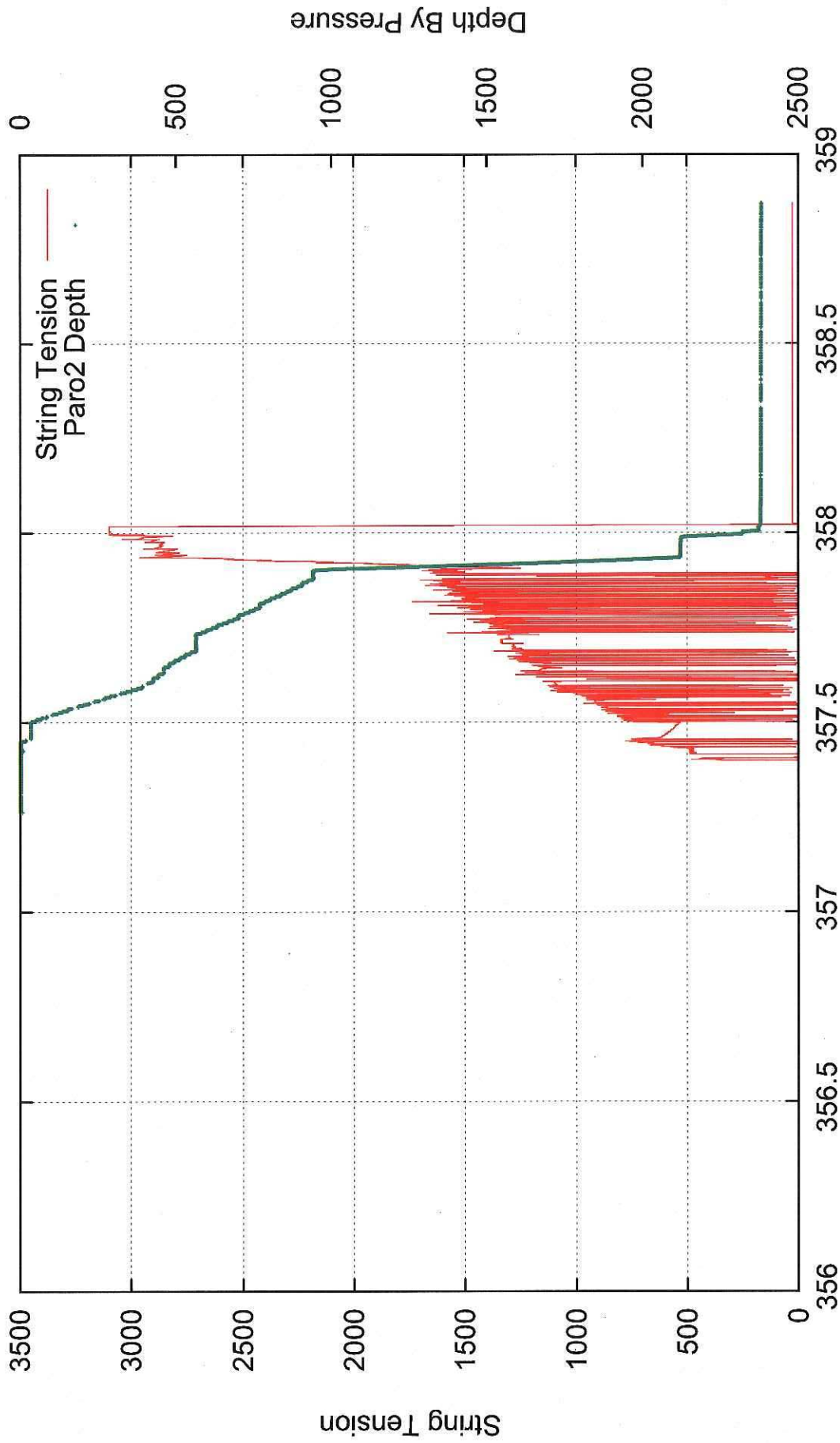
Modify Plot Time Range (Day Of Year)

Left: Right:

Modify Y Axis

YRange: to

Hose Tension and Paro Depth by Pressure Vs. Time
From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



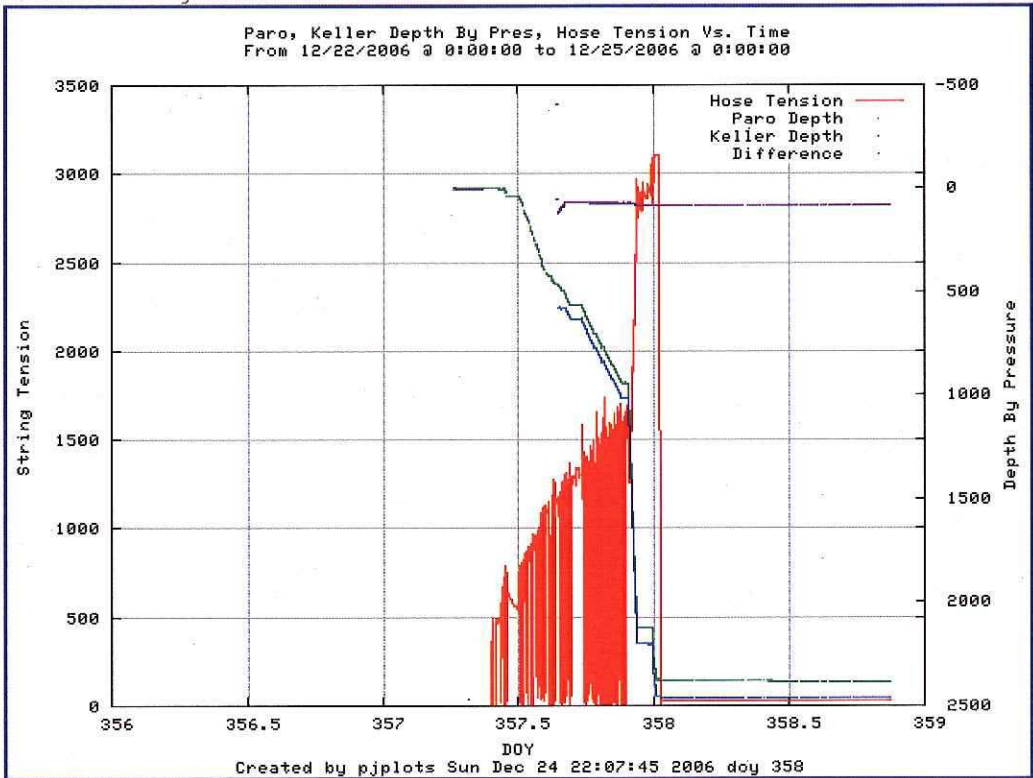
Generating a 'Paro, Keller Depth By Pres, Hose Tension Vs. Time' Plot...

Note this may take a while, so please have patience!

Note: Files generated on this page are TEMPORARY, if you want the graphs,
it is your responsibly to save the file to your computer for future use!

Click on the plot when it appears for a PDF of that plot.

Failed to remove: 1166940601-kUHDvZ-TEMPD
Failed to remove: 1166938201-Xy3GvB-TEMPD
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Extracting data...
Done Extracting...



Raw Data For Above Plot

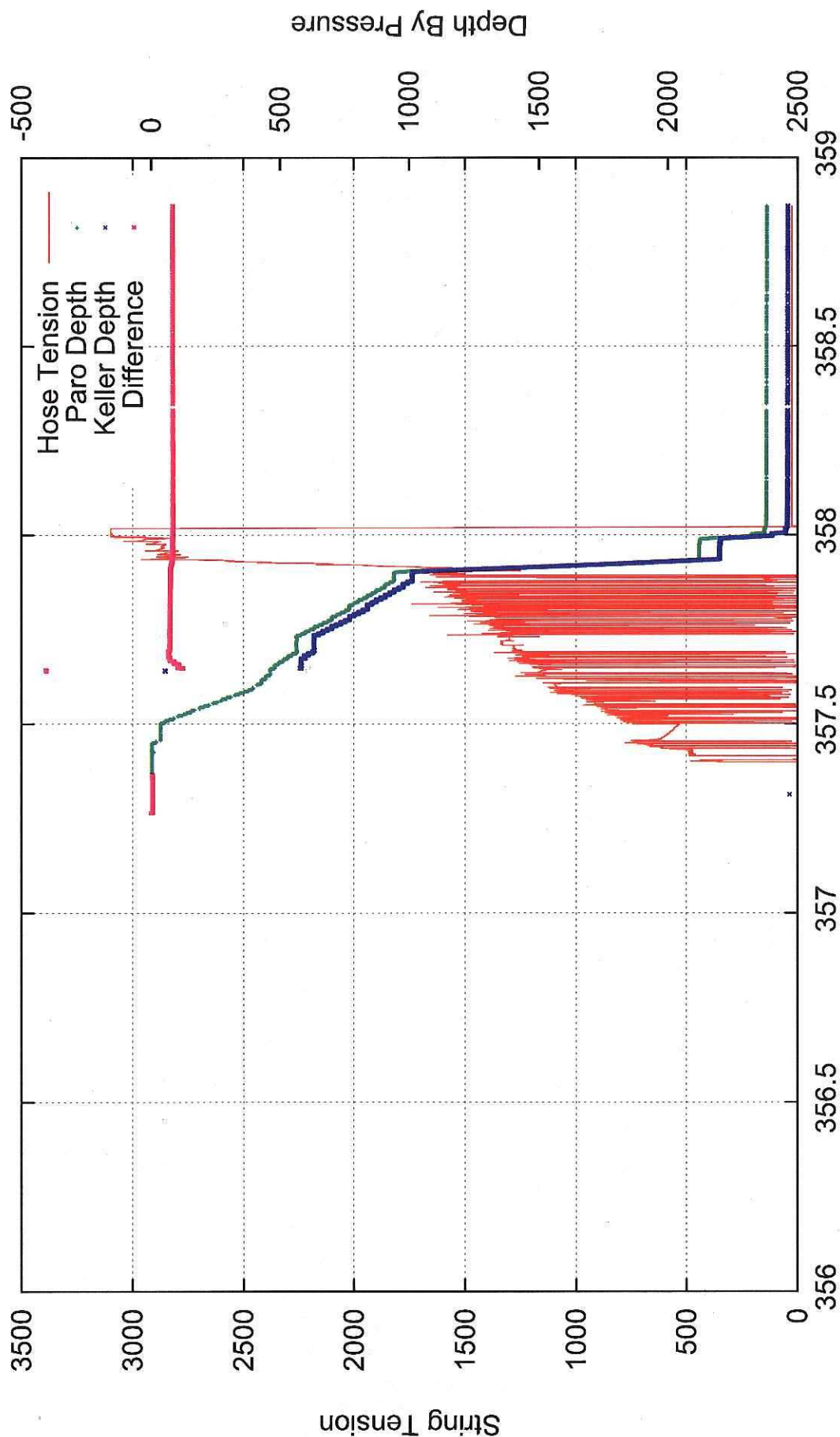
Modify Plot Time Range (Day Of Year)

Left: 356.000000 Right: 359.000000

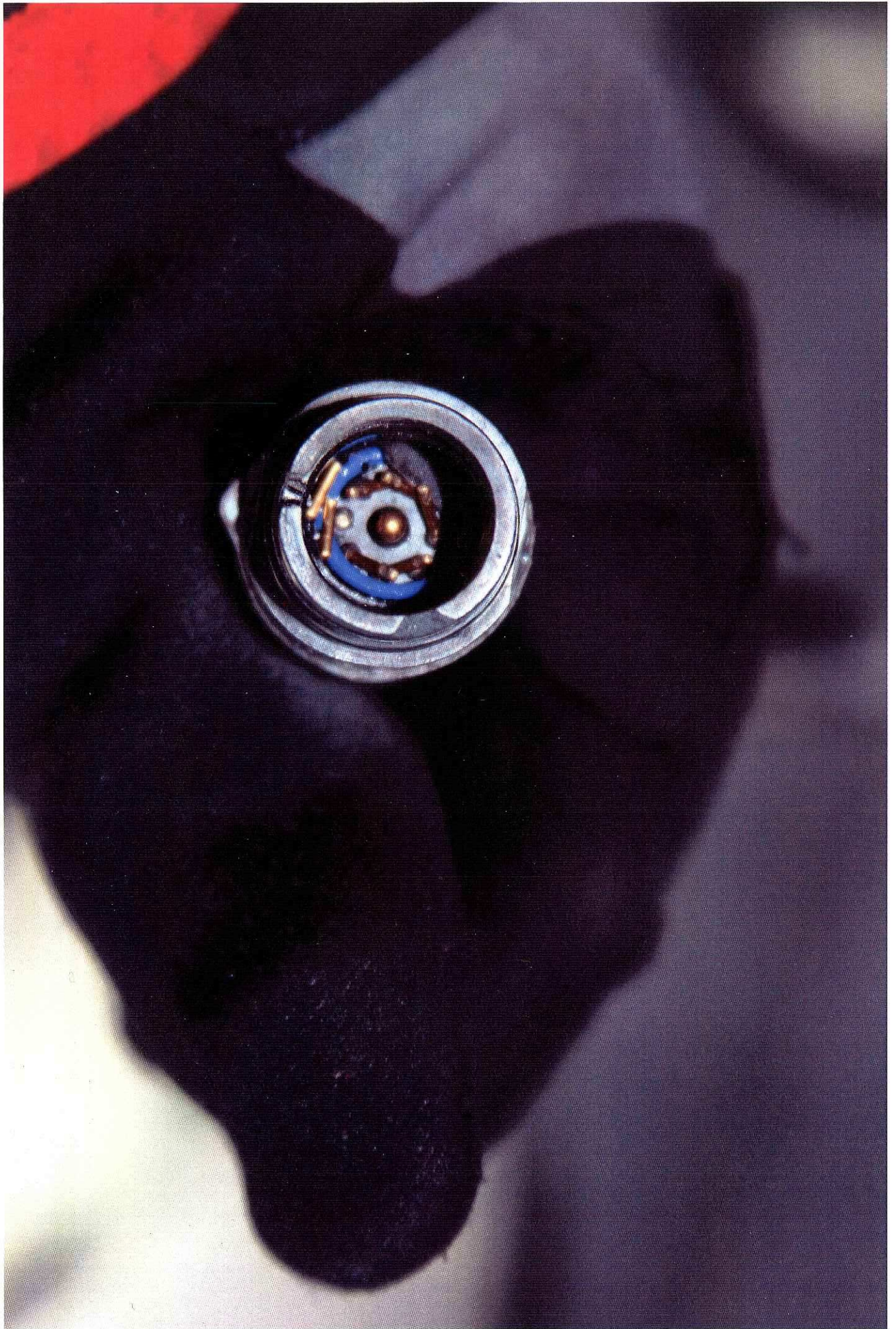
Modify Y Axis

YRange: 0 to 3500

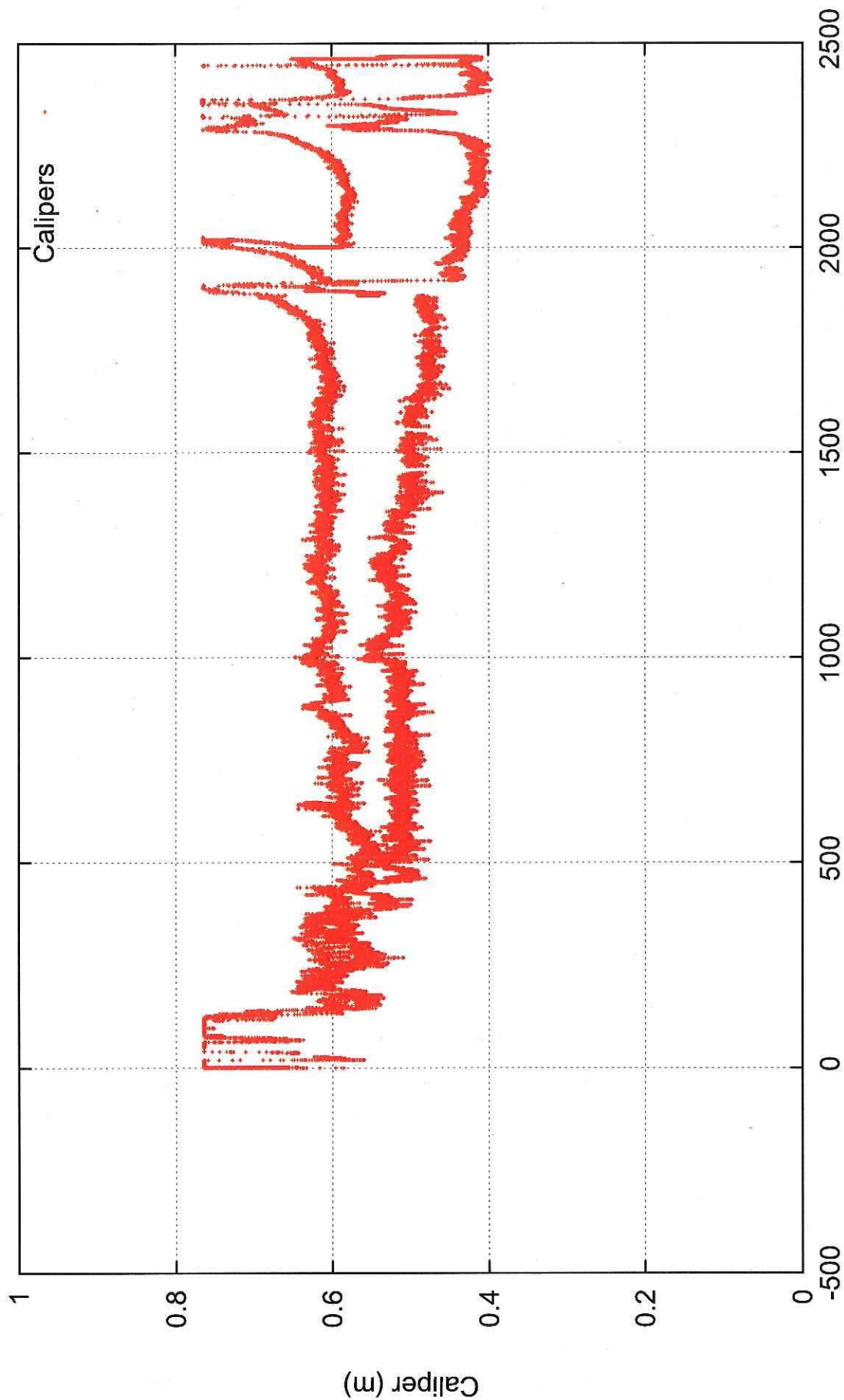
Paro, Keller Depth By Pres, Hose Tension Vs. Time
 From 12/22/2006 0:00:00 to 12/25/2006 0:00:00



Created by pjplots Sun Dec 24 22:07:45 2006 day 358

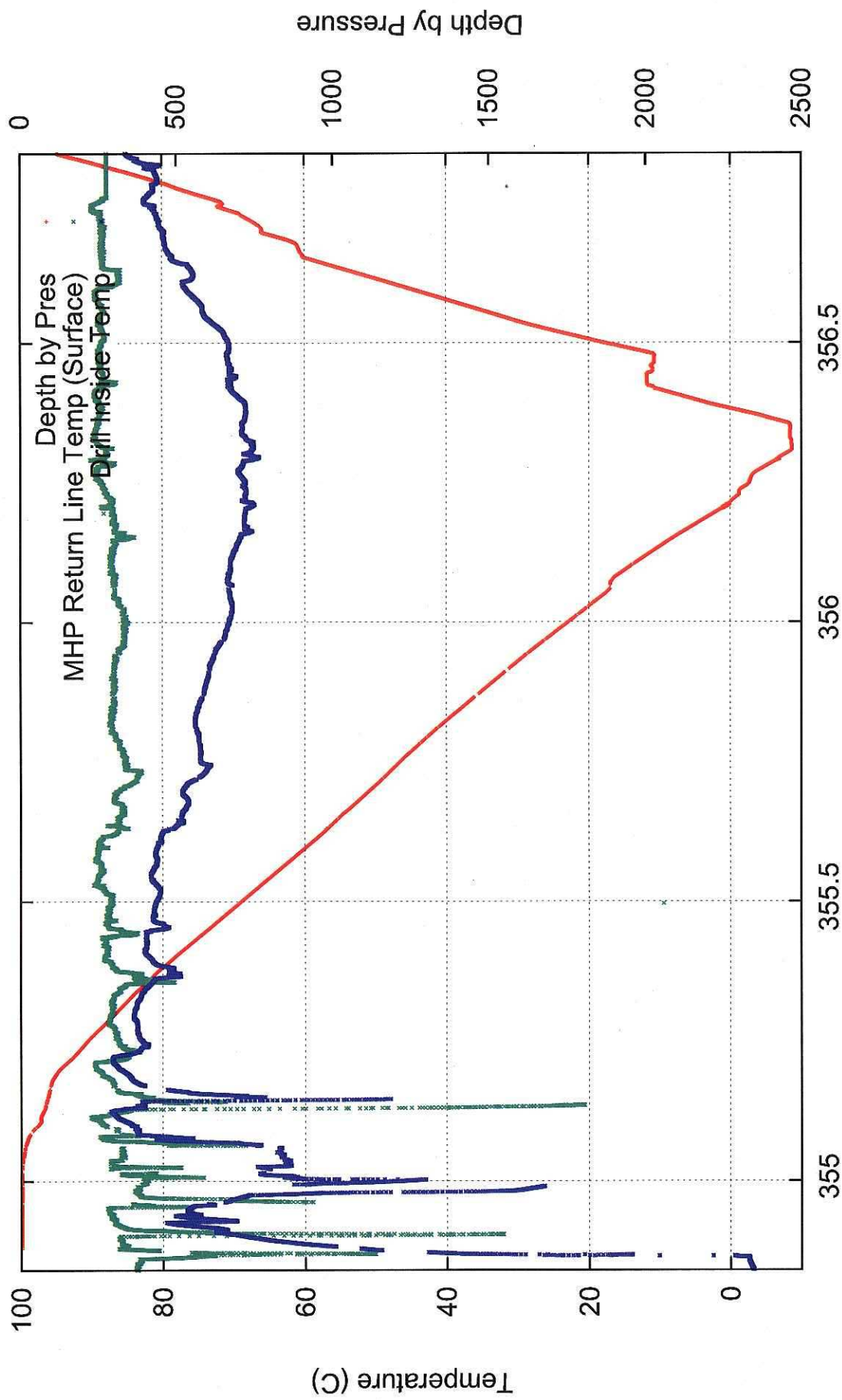


Drill Calipers Versus Depth

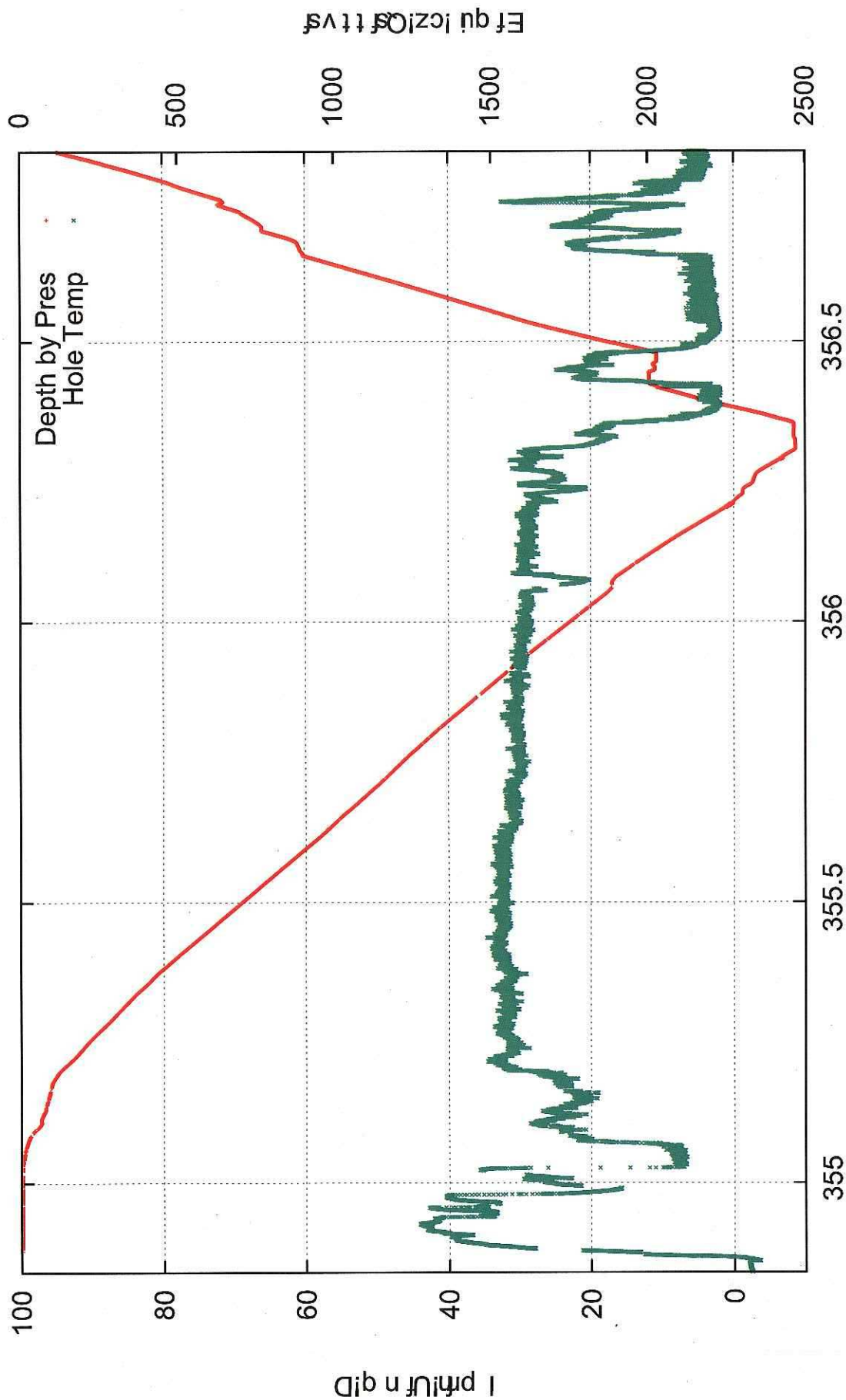


Created by pjplots Fri Dec 22 21:10:31 2006 day 356

Surface and Drill Water Temps And Depth Vs. Time

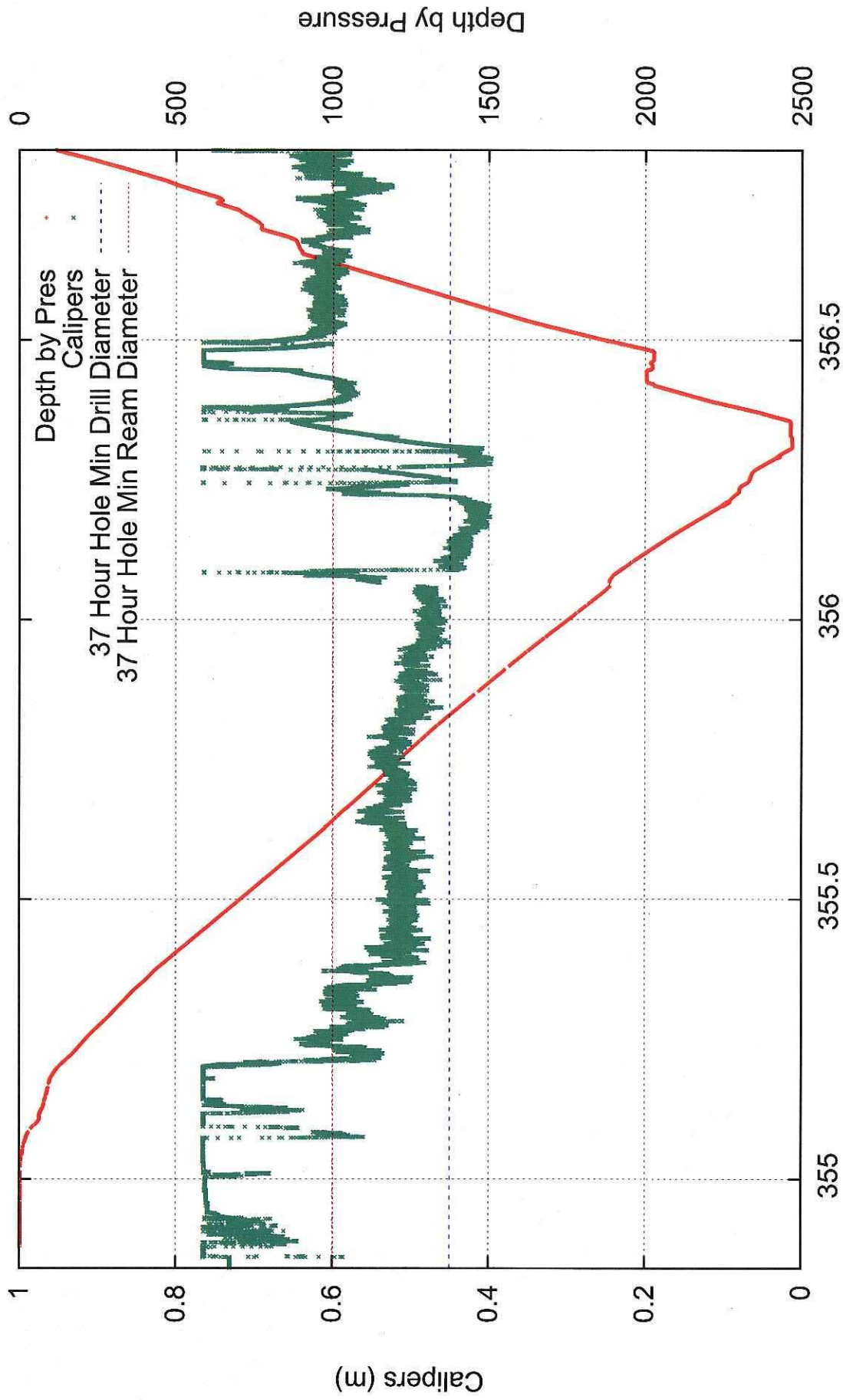


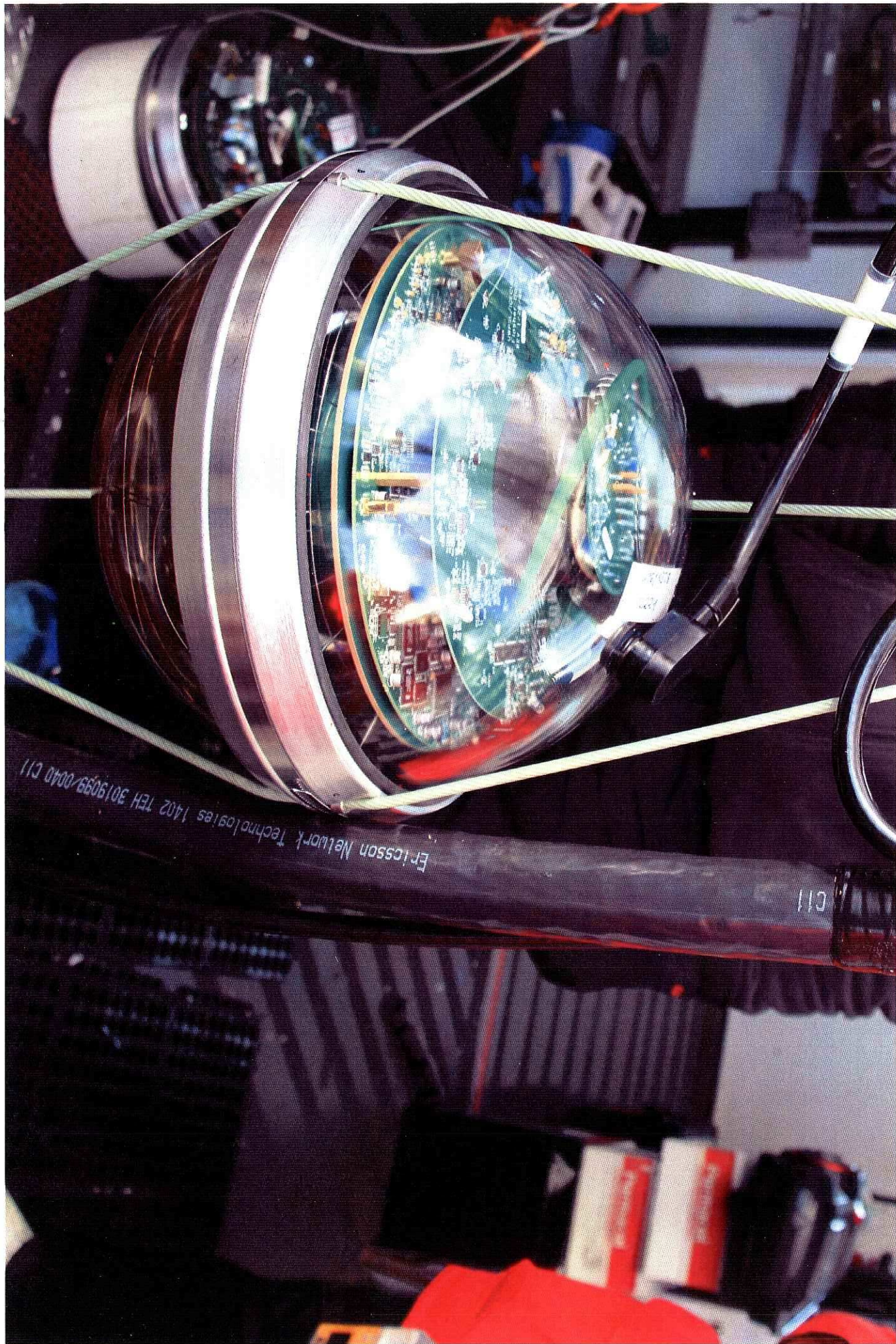
Hole Temp and Depth Vs. Time



DOY
Created by pjlots Fri Dec 22 21:10:35 2006 day 356

Calipers and Depth Vs. Time





66

Name	DOMID	Comments	Position
	UP5Y0086		1
Virology	TP5P0751	Droopy	2
Ometeotl	UP6Y4348		3
Teratology	TP5P0755	Droopy	4
Tzintetl	UP6Y4338		5
Werewolf	TP5P0627	Droopy	6
Impala	UP4P0338	Droopy	7
Jaguarnacht	TP6Y4229		8
Avatara	UP6Y4388		9
Krischna	TP6Y4261		10
Utah	UP5P0960	Droopy	11
Parvati	TP6Y4371		12
Rukmini	UP6Y4372		13
Rama	TP6Y4379		14
Raktavija	UP6Y4414		15
Tohil	TP6Y4293		16
	UP6Y4230		17??
Whale	TP4P0319	Droopy	18
Ab Kin Xoc	UP6Y4328		19
Scoleciphobia	TP5P0693	Droopy	20
Bryology	UP5P0784	Droopy	21
Zebra	TP4P0329	Droopy	22
Hobbit	UP5P0610	Droopy	23
Ah Kinchil	TP6Y4323		24
Quetzalcoatl	UP6Y4358		25
	TP6Y4445	Instead of TP6Y4287	26
Hou I	UP6Y4470		27
Ahau Kin	TP6Y4333		28
Ah Mucen Cab	UP6Y4318		29
Ixtab	TP6Y4285		30
Ferrari Berlinetta	UP5Y0086	Droopy	31
Hui Lu	TP6Y4353		32
New York	UP5P1032	Droopy	33
	TP6Y4461	Instead of TP6Y4331	34?
Craniology	UP5P0820	Droopy	35
	TP6Y4275	Instead of TP5P0579	36
Agliophobia	UP5P0706	Droopy	37
Huashan	TP6Y4471		38
Kosmikophobia	UP5P0696	Droopy	39
Weldebreu	TP4Y0039	Droopy	40
Maine	UP5P0966	Droopy	41
Thermophobia	TP5P0583	Droopy	42
Kentucky	UP5P0932	Droopy	43
Rat	TP4P0269	Droopy	44
Alpaca	UP4P0240	Droopy	45

Important !!!!
Important !!!!

Not on
list

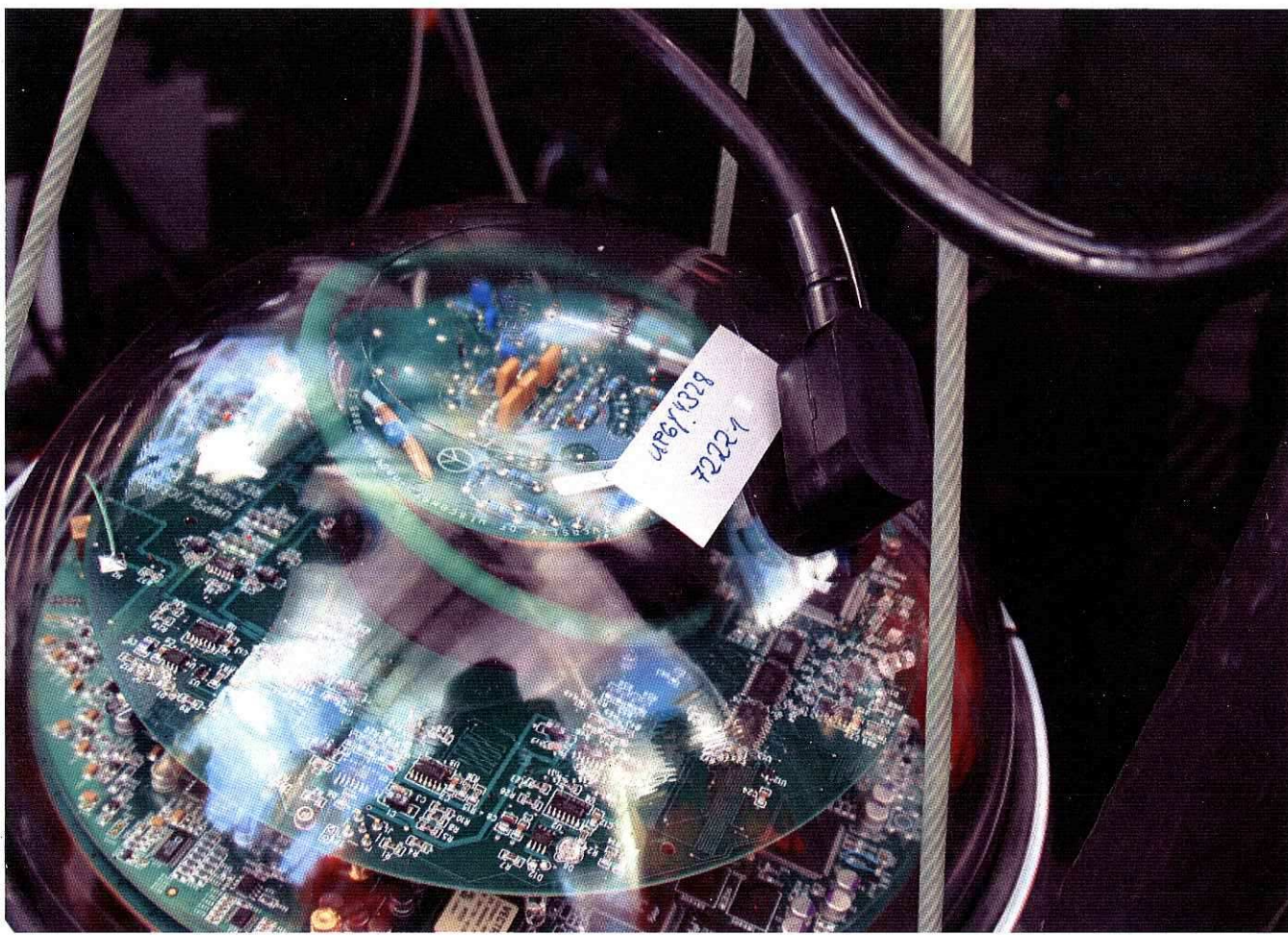
Corrected

Tallahassee	TP5P0883	Droopy	46
Idaho	UP5P0950	Droopy	47
Tomophobia	TP5P0635	Droopy	48
Dentophobia	UP5P0646	Droopy	49
Denver	TP5P0873	Droopy	50
Algophobia	UP5P0640	Droopy	51
Yali	TP5P0563	Droopy	52
Llama	UP4P0354	Droopy	53
Romulus	AP4P0059	FAT 1 - deploy in position 51-60 only ! ice-top Droopy	54
Axiology	UP5P0766	Droopy	55
Tekka	AP4P0064	FAT 1 - deploy in position 51-60 only ! ice-top Droopy	56
Chubasco	UP5P0536	Droopy	57
Poki	TP5P0567	Droopy	58
Archeology	UP5P0750	Droopy	59
Lemon	TP4P0079	FAT 1 - deploy in position 51-60 only ! Droopy	60
Mushroom	TP4P0209	Droopy	
Apotemnophilia	UP5P0860	Droopy	
Ajbit	UP6Y4286		
Draupadi	UP6Y4290		
Cang Jie	UP6Y4456		

Important !!!!

31 Corrected

#9



#20



Col
Brake
10



