

JNOC-TRC

今回のMallikプロジェクト

1. オペレーション全般

石油資源開発(株) 高橋秀明

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Operation Structure

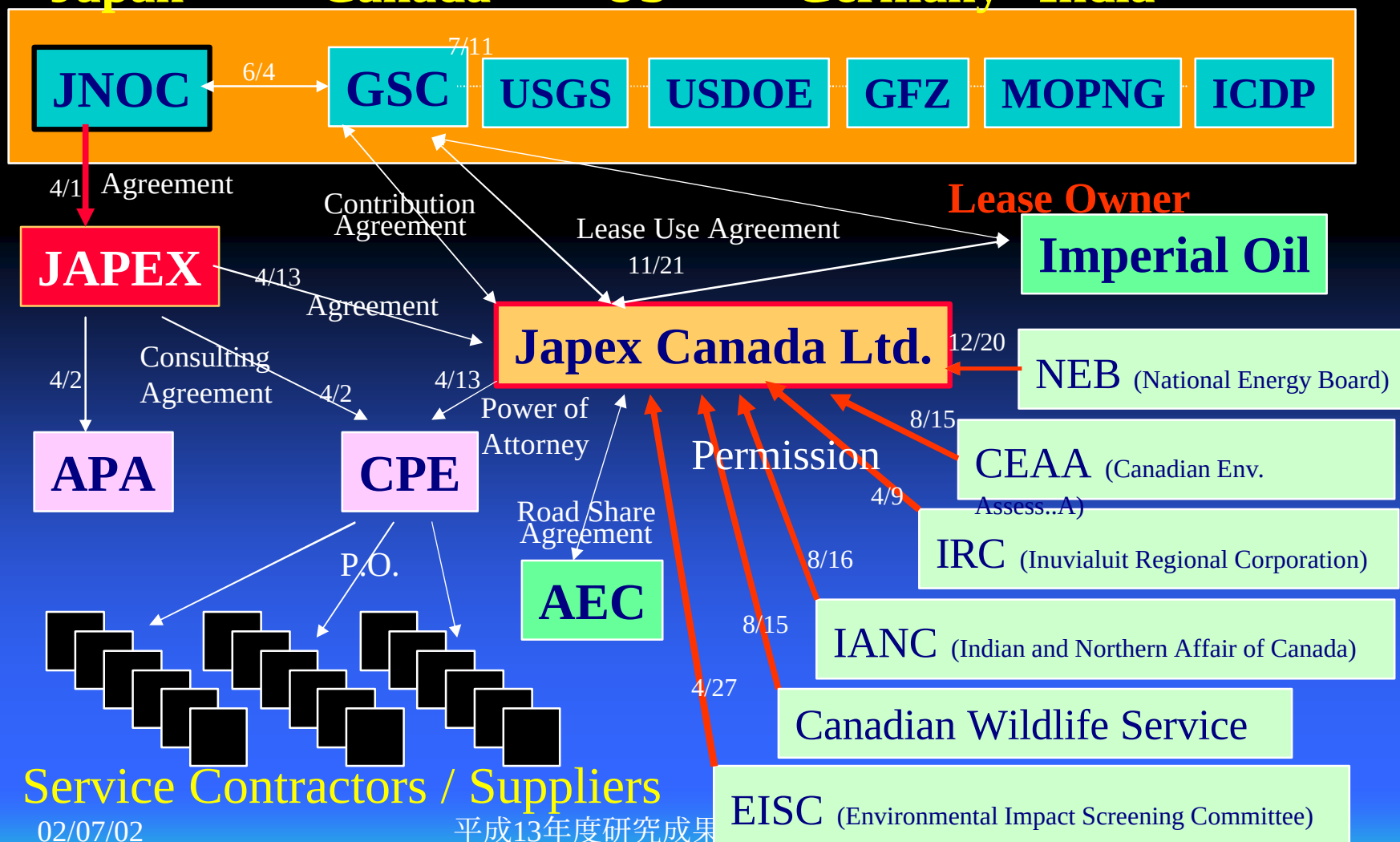
Japan

Canada

US

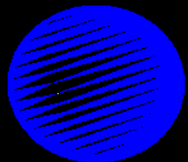
Germany India

India



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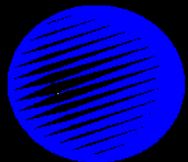
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Well Location





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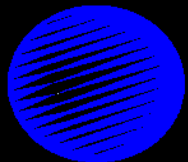
Base Town : Inuvik



Main Street

Inuvik Research Center





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Mallik Well Location (in Summer)



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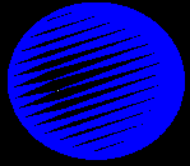
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Mallik Well Location (in Winter)

Mar. 13, 2001





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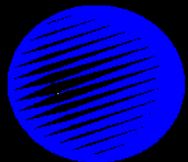
Ice Road on Mackenzie River

Between
Inuvik and Well Location



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平成

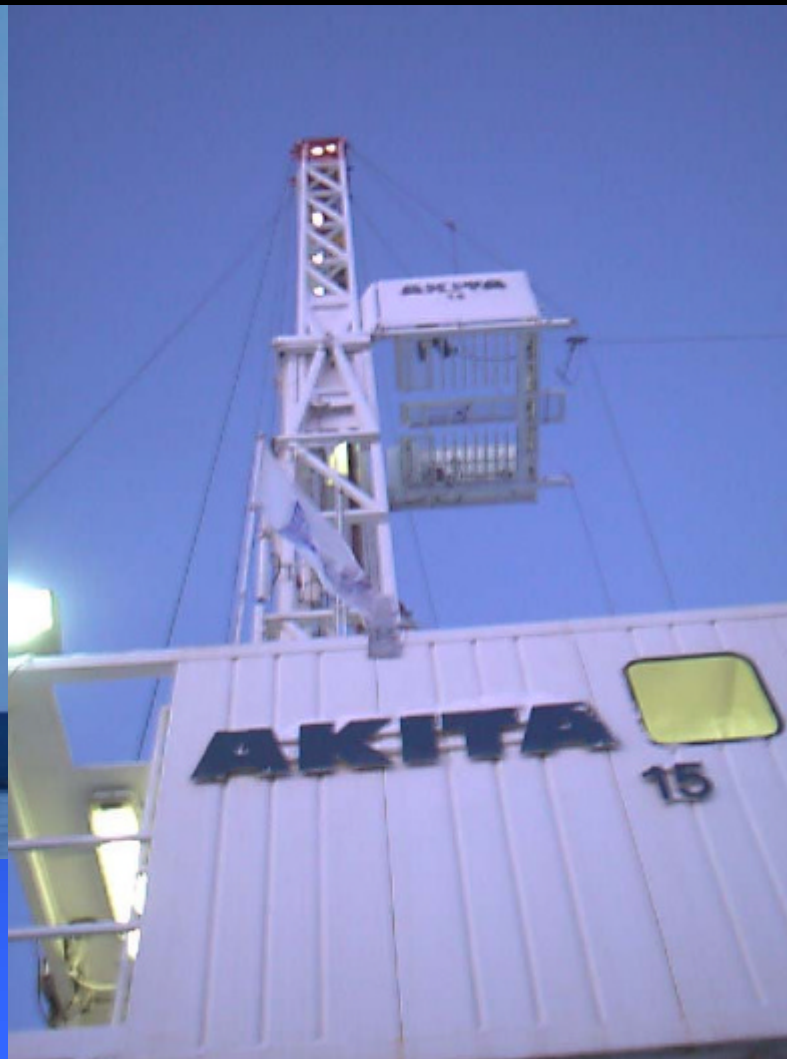


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Drilling Rig



AKITA Rig 15



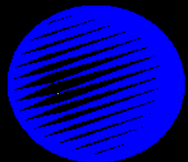
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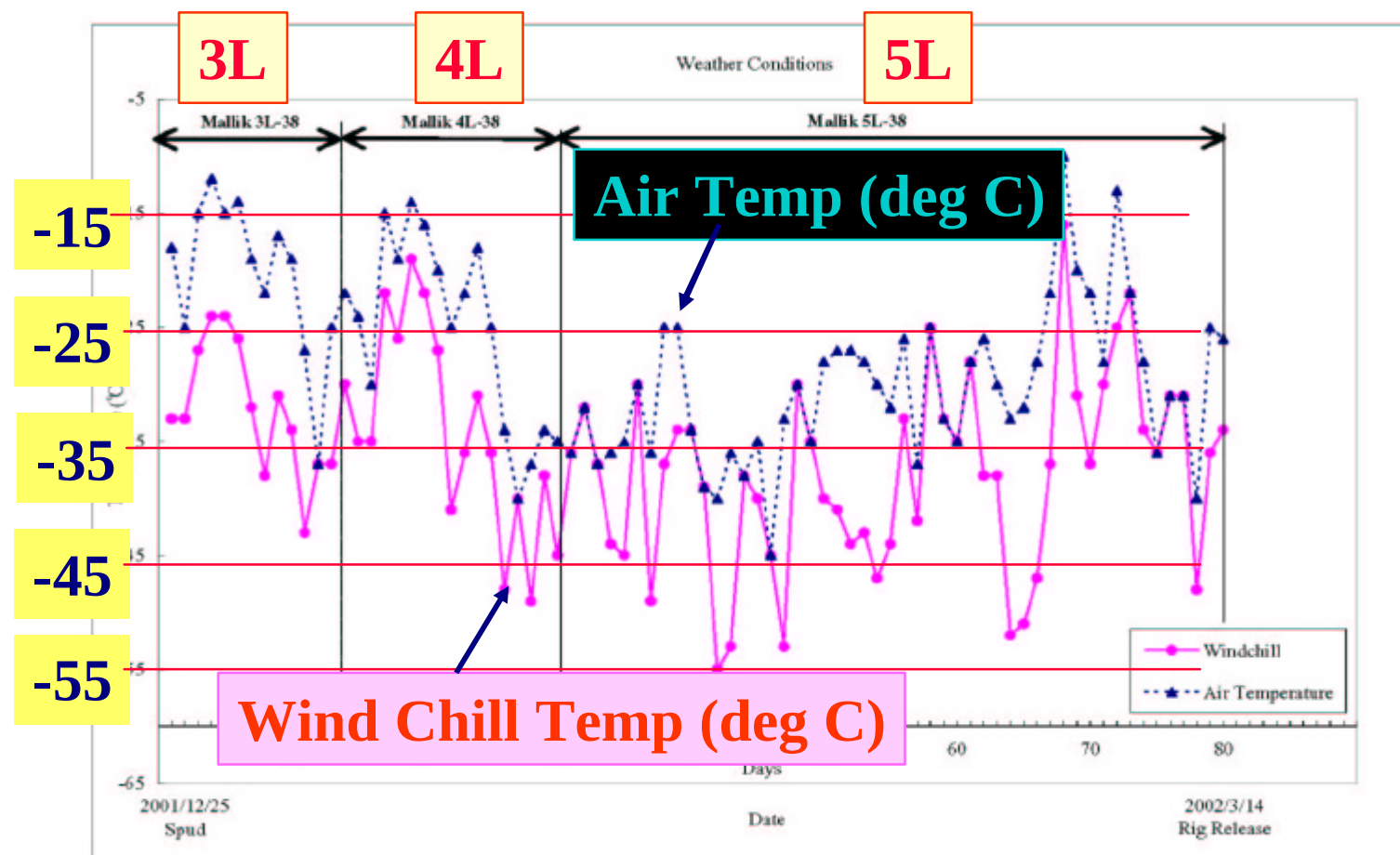
Wellsite Camp





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Air Temperature at Location



Dec.

January

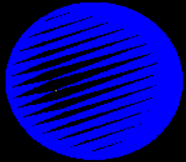
February

March

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Well Profile

JNOC-TRObs.well #1

(Dec.25, 01 – Jan.7, 02)

Mallik 3L-38

Test Well

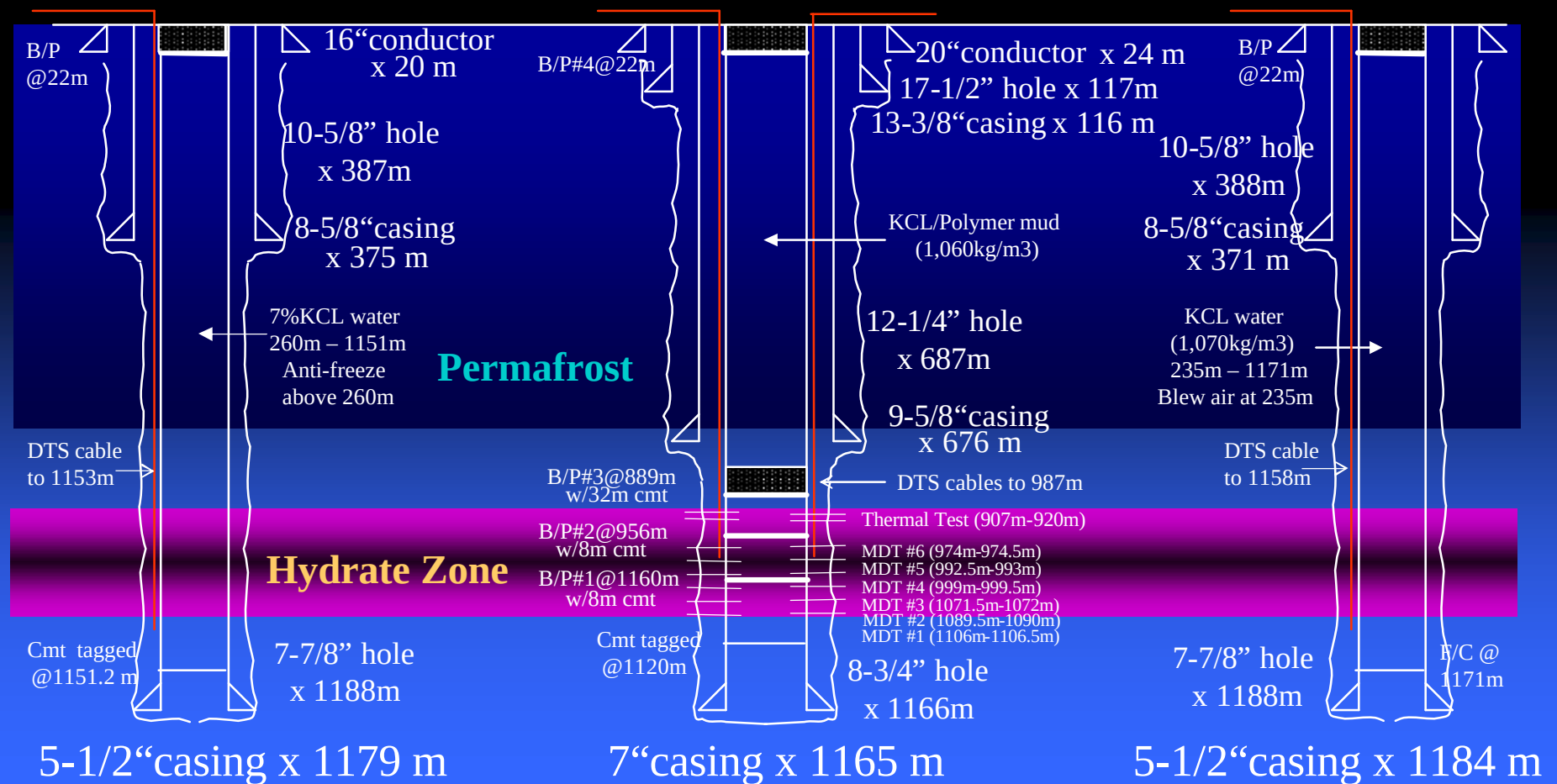
(Jan.25, 02 – Mar.14, 02)

Mallik 5L-38

Obs.Well #2

(Jan.11, 02 - Jan.23, 02)

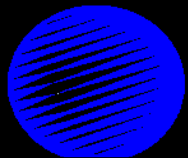
Mallik 4L-38



02/07/02

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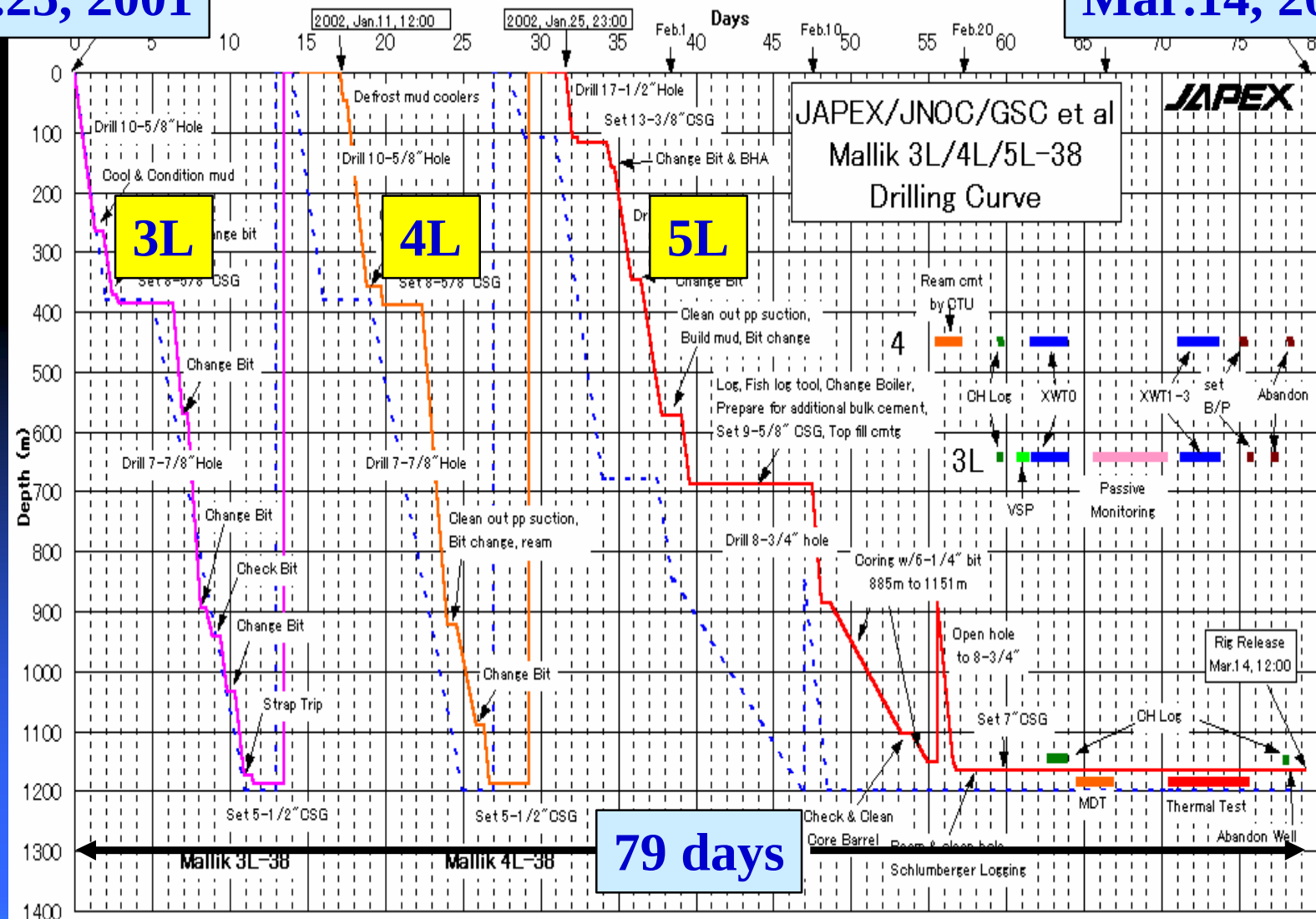


JN

Dec.25, 2001

Drilling Curve

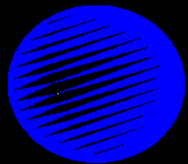
Mar.14, 2002



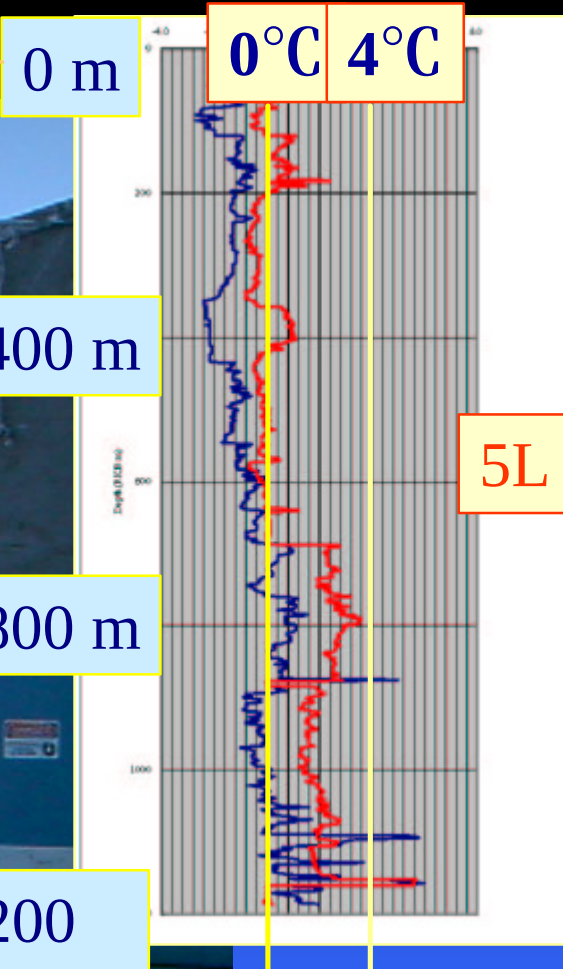
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JNOC-TRC Mud Temperature Control



1200
m

400 m

800 m

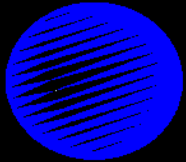
0 m

Temp.in

Temp.out

5L

0°C 4°C



Well Profile

JNOC-TRObs.well #1

(Dec.25, 01 – Jan.7, 02)

Mallik 3L-38

Test Well

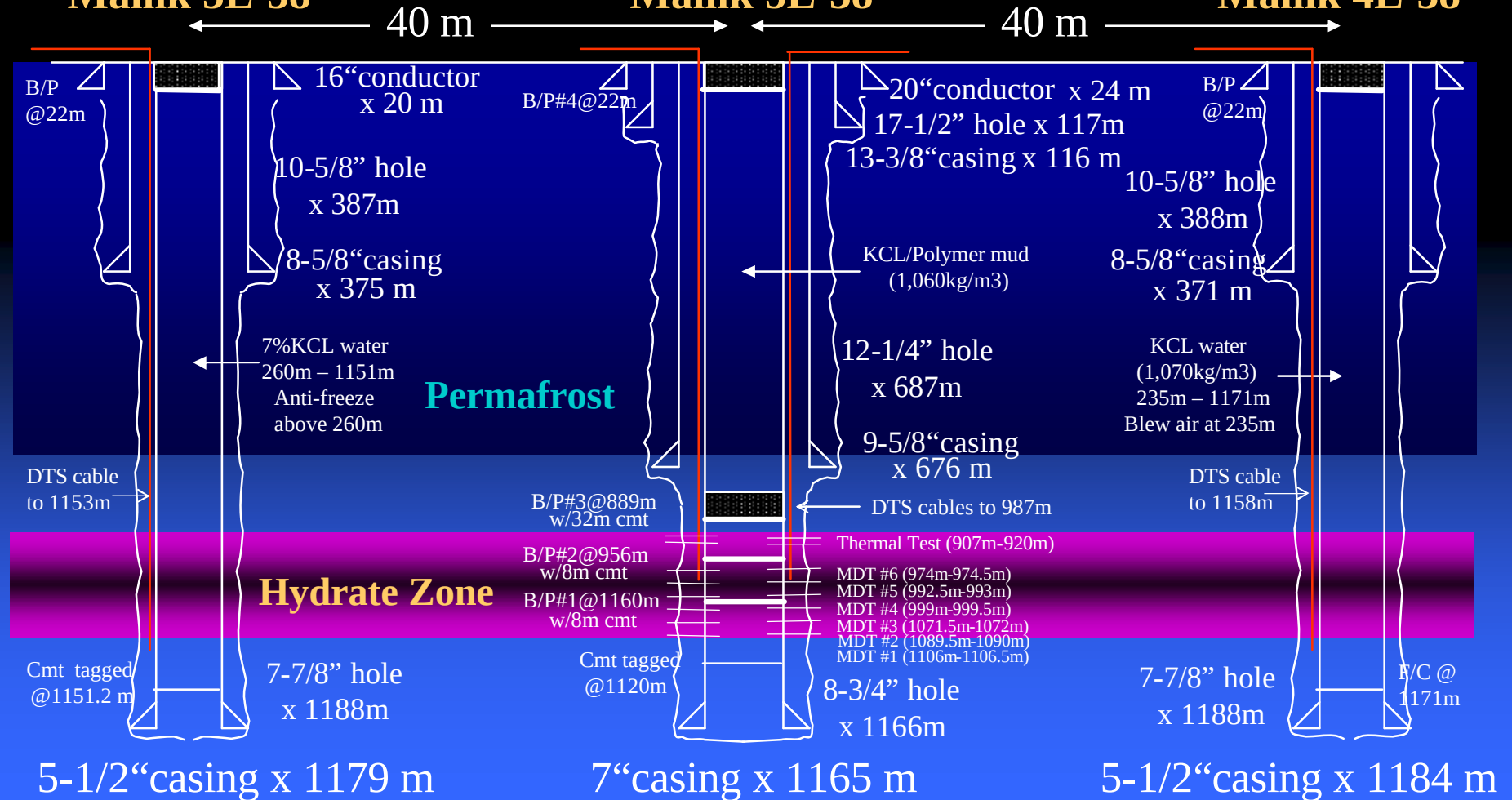
(Jan.25, 02 – Mar.14, 02)

Mallik 5L-38

Obs.Well #2

(Jan.11, 02 - Jan.23, 02)

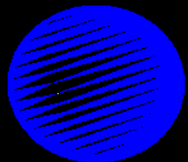
Mallik 4L-38



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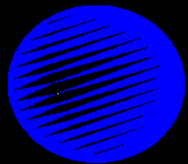
Installation of the Fiber–Optic Cable



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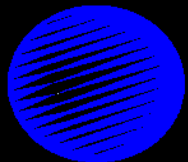


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Temperature Measuring Device

at end of cable





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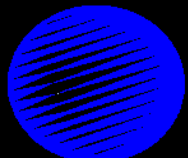
Mud Gas Analysis



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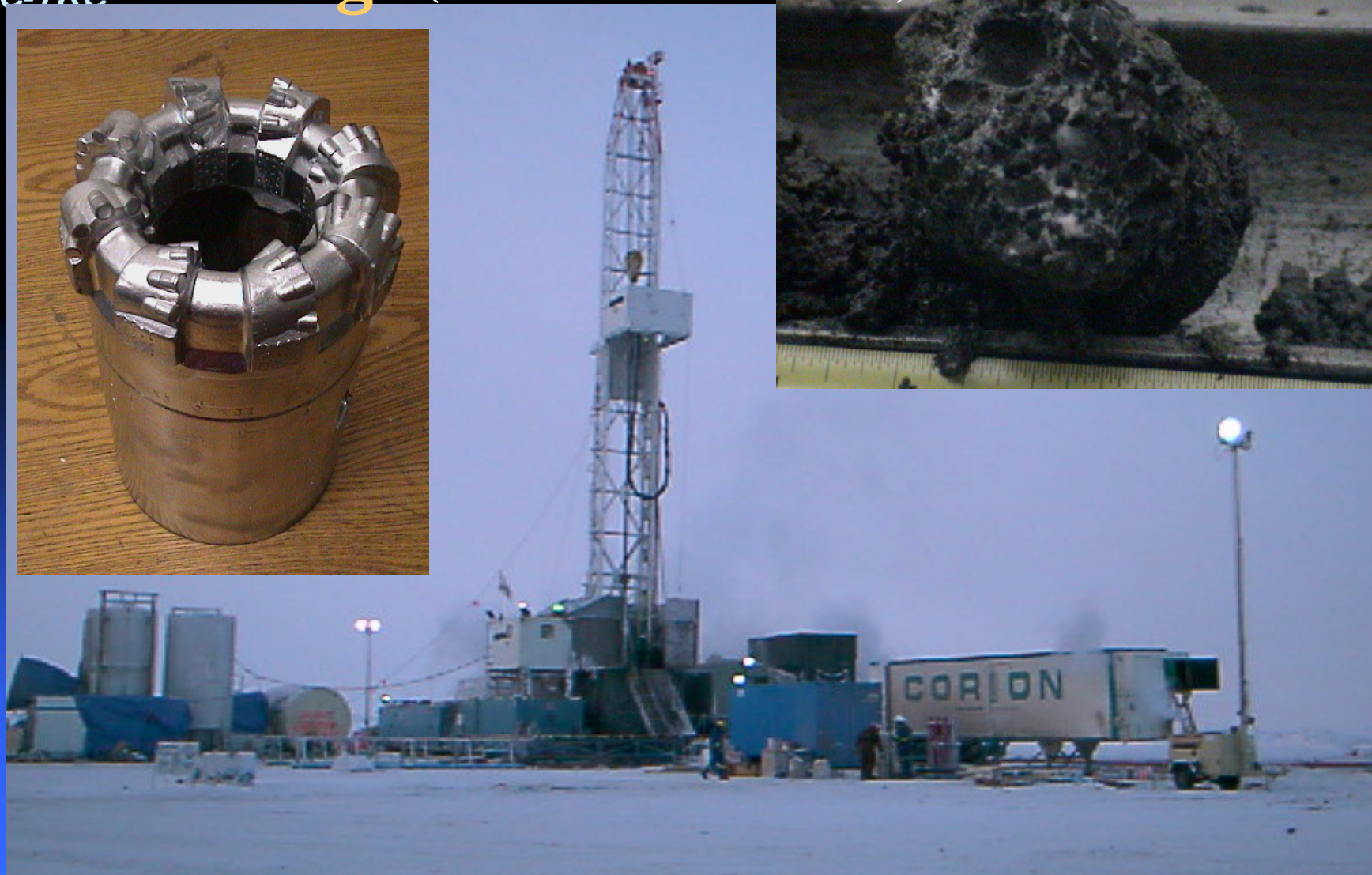
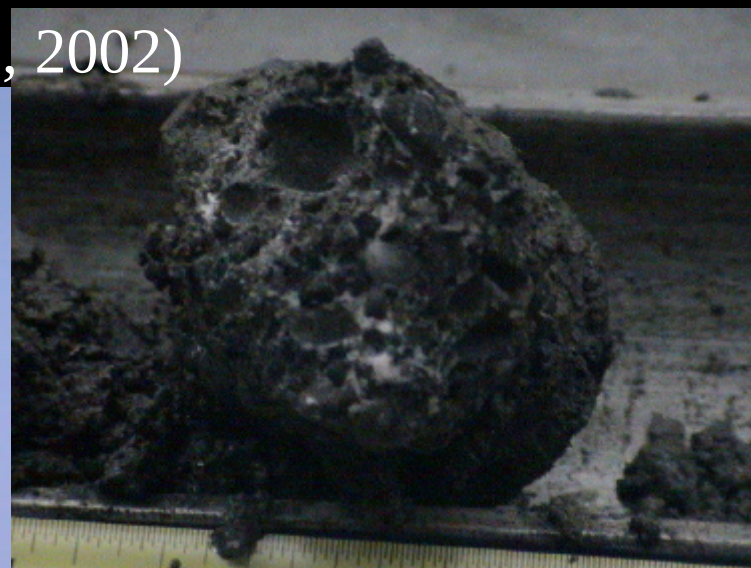
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Coring (Feb.11 – Feb.18, 2002)



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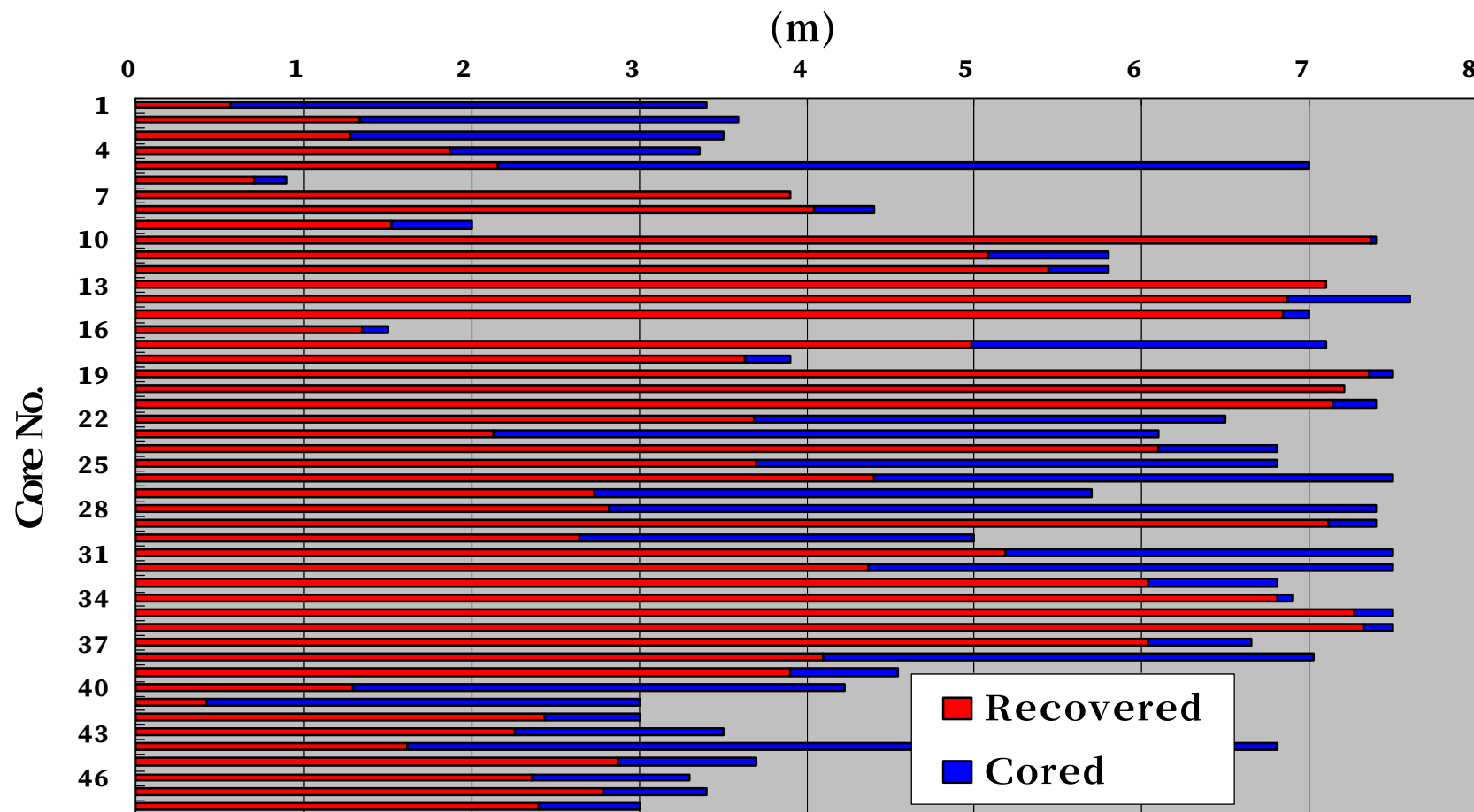
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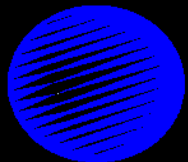
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Coring Performance

885m~1148m (48 runs, 263m),

Recovered = 192.5m, average recovery = 73.5 %





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Handling Inner Barrel

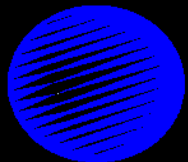


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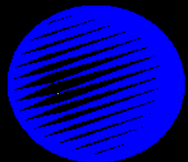
Handling Core



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P-T Data Logger built in CoreMarker

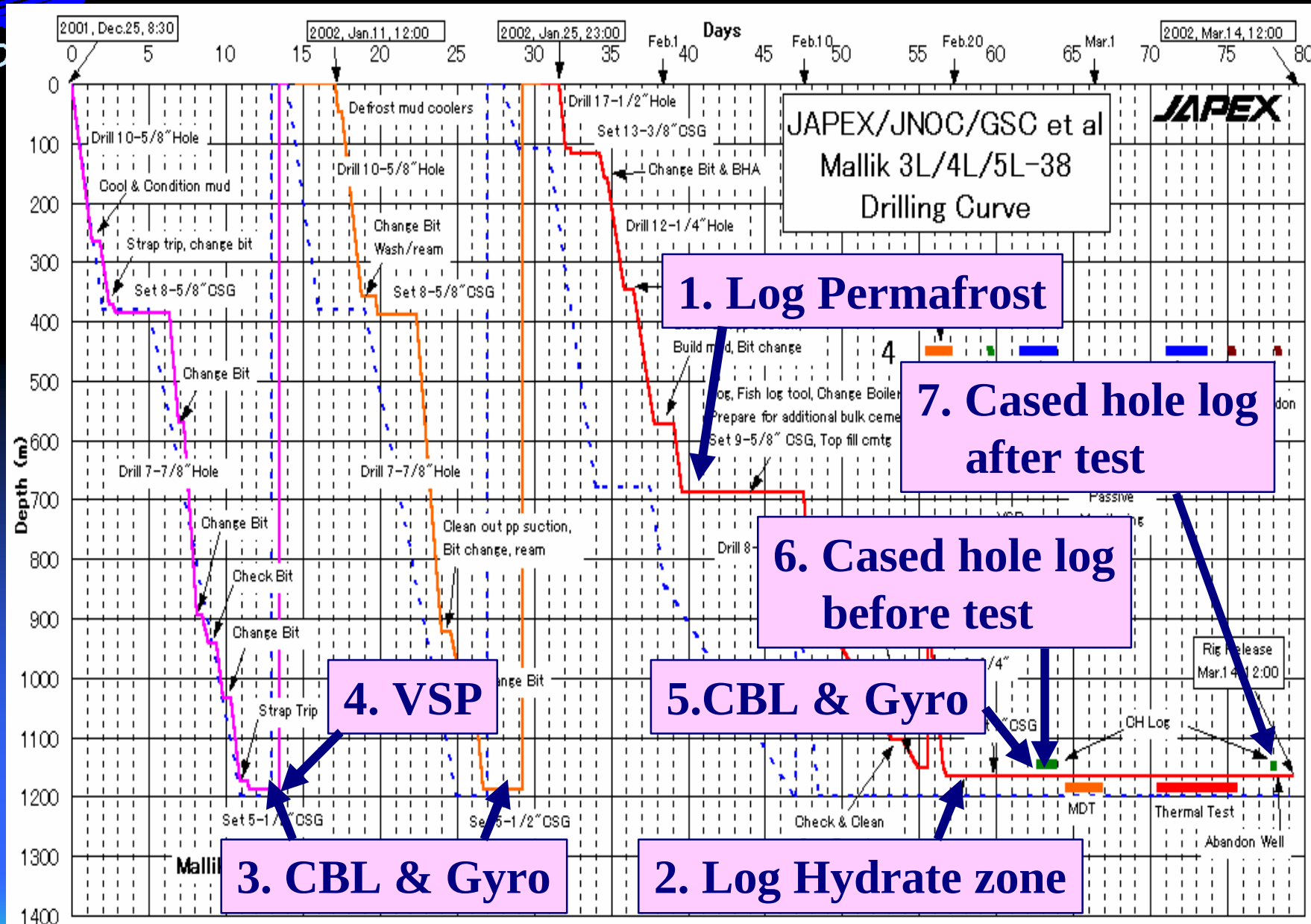


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Schlumberger Wireline Logging





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Production Test from Hydrate Formation

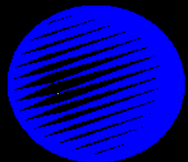
(Feb.28 – Mar.10, 2002)



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Cross Well Tomography Survey

(Feb.25 – Mar.8, 2002)

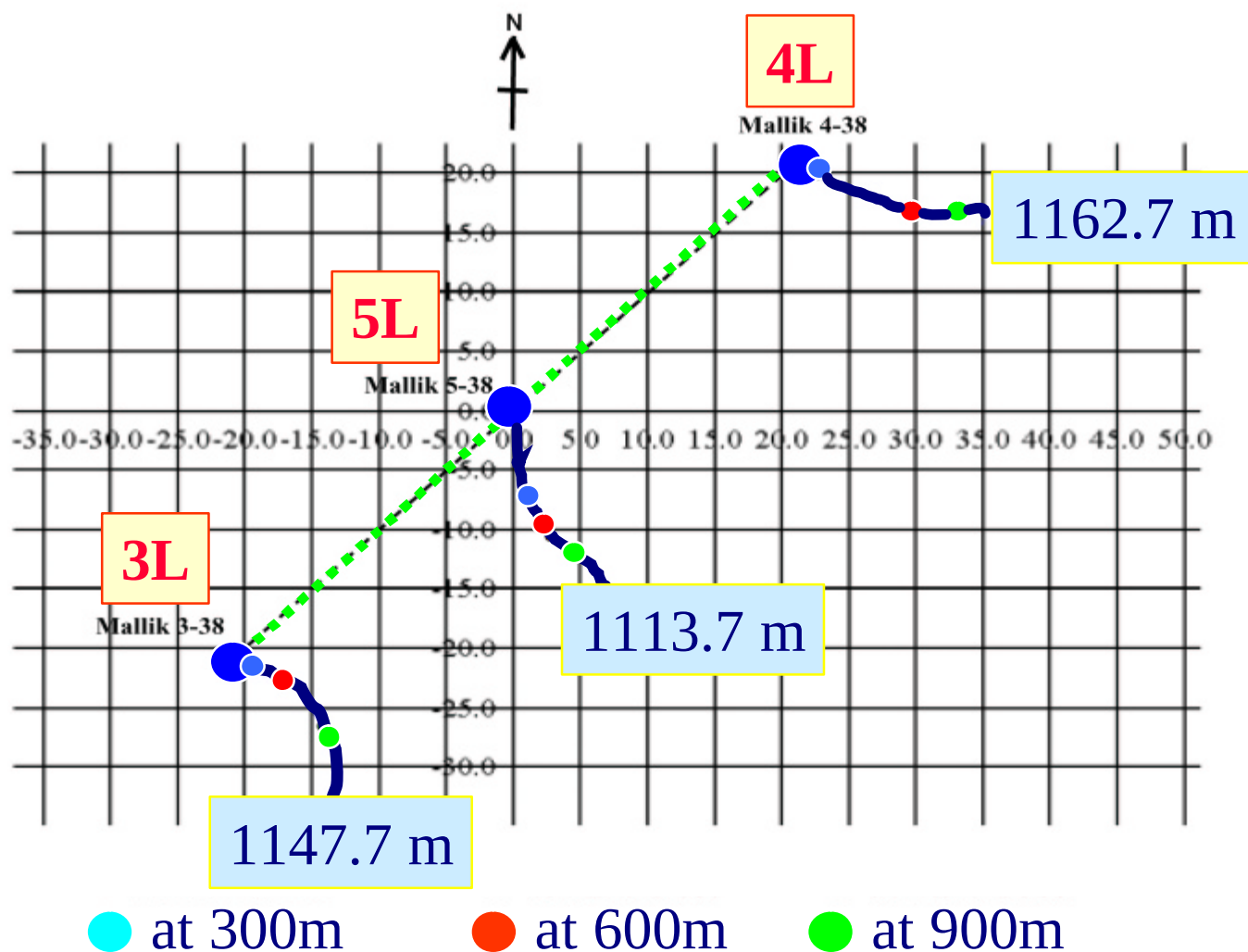


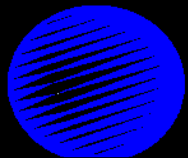
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Well Trajectory : Gyro Survey Result



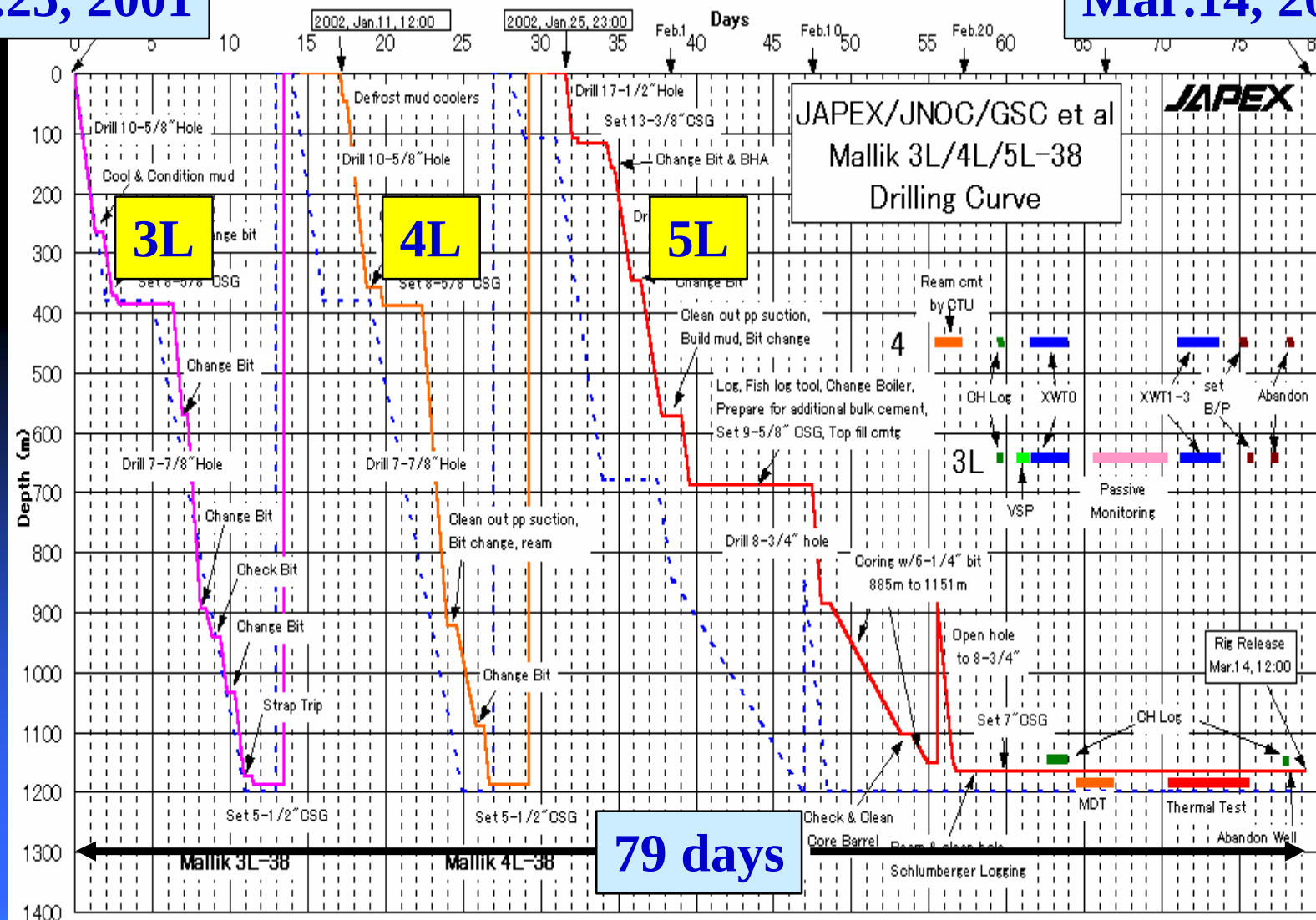


JN

Dec.25, 2001

Drilling Curve

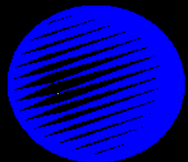
Mar.14, 2002



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Stage Heavy Equipment

Staging Point

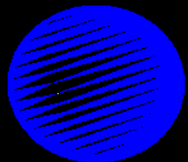


in Summer

by Burge at 25km
from the location
in summer



in Winter



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Ice Road Construction

Nov.17, 2001～



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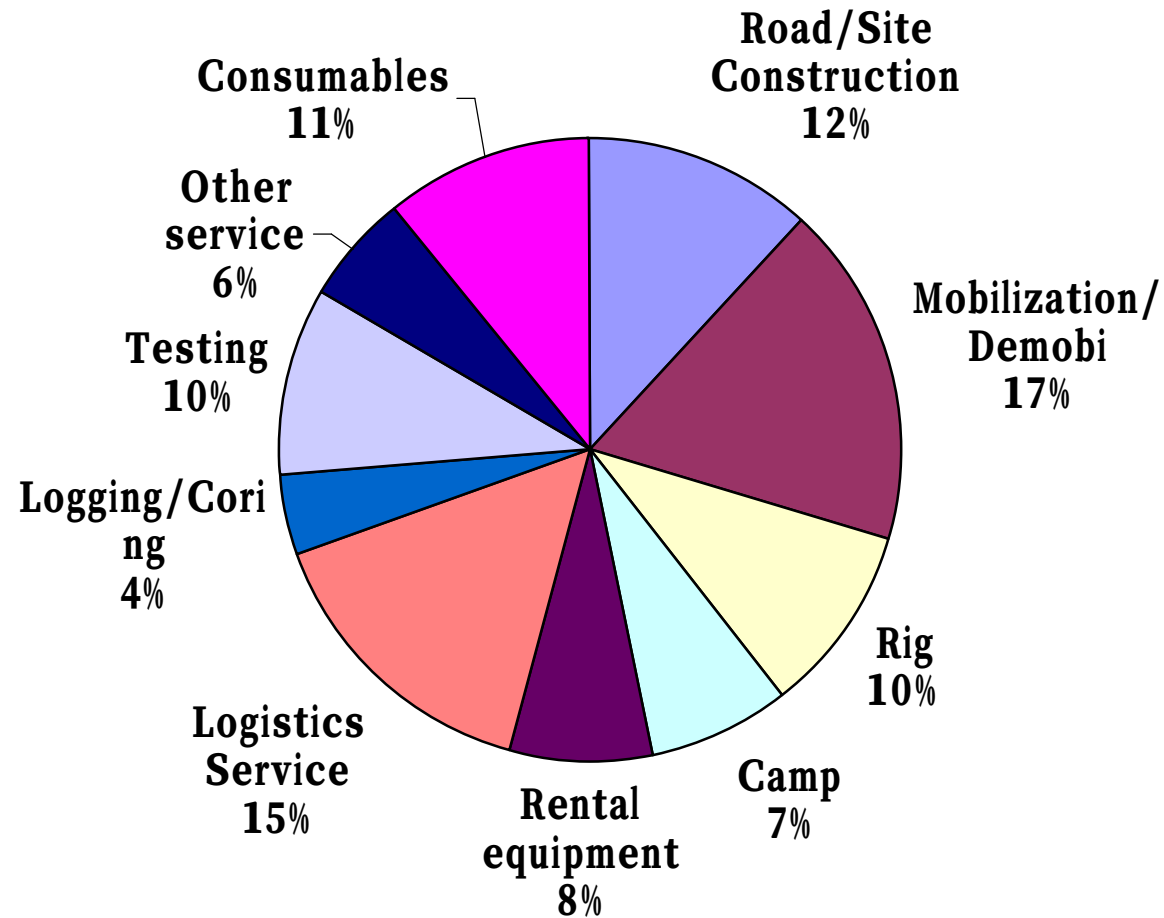
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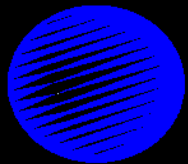
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Total Operation Cost

Total Operation Cost = Cdn \$ 16 MM

Cdn \$ 15MM (=US\$ 10MM)





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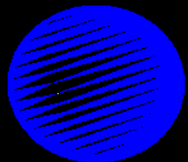
Logistics Service at Site



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Ice Road Maintenance



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オペレーションのまとめ

計画された全作業を、限られた時間と資金内で終了させることができた。

