65 GAZPROM / GSP OFFSHORE / NAVYMAR – OLYMPIA PROJECT BLACK SEA – RUSSIA

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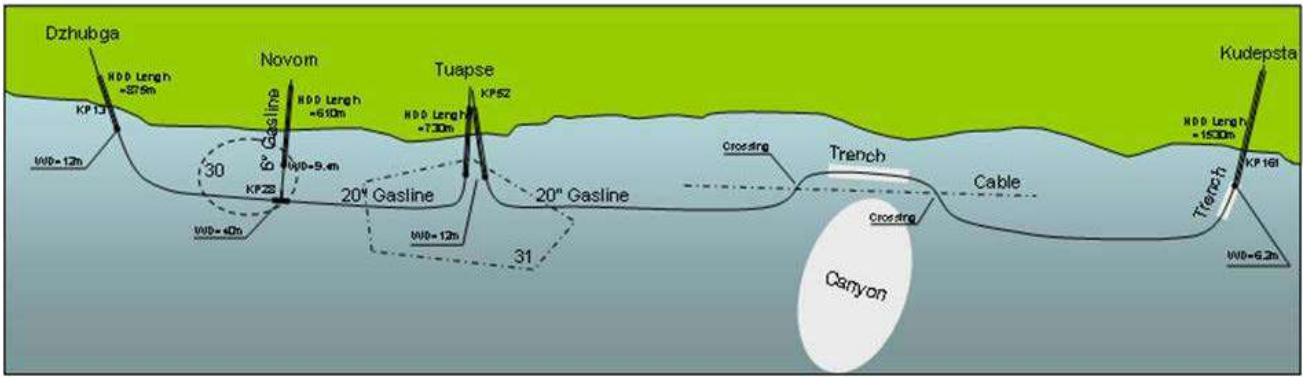
1 General project Overview and Reference

GRUP SERVICII PETROLIERE S.A. (GSP) was awarded the execution of the Olympia Projectin Russian Black Sea.
The project consisted in the installation of a 20inch and a 6inch gas pipeline on the east side of the Black Sea, for a total length of 147,68 km, from Dzhubga – Lazarevskoye – Sochi.

20-inch / 6-inch Olympia Pipeline Project – General Field Layout



2 Scope of work

SEA S.r.l. was subcontracted by NAVYMAR SHIPPING COMPANY LTD (GSP Group) to perform the post-trenching operations by means of the Post-Lay Trenching Machine – PIPER PTM, along the following two route sections:

- 3,161 km from the offshore end of the Kudepsta HDD section , with water depths from a minimum of 6,2 m at the start of the HDD section to approximately 20 m
  (SECTION 1 from KP 142.473 to KP 145.634);
- 6,904 Km above the Shakhe Canyon area, in water depths between approximately 12 m and 25 m
- (SECTION 2 from KP 86.826 to KP 93.715).

The Pipeline was buried at a depth of at least 1.0 m TOP

The shallow water barge Bigfoot 1, provided by GSP, was used as a trenching support Vessel

SEA trenched the following sections

Product	Zone	Section (m)	Burial depth ToP (m)	Water Depth start (m)	Water Depth end (m)
20" gas pipeline	Kudepsta	2.351	1	-6,2	-25
	Shakhe Canyon	6.889			
	TOTAL trenched meters	**9.240 + additional transitions**			

Trenched section

3 Encountered Soil condition

The soils along the two sections of the route where trenching is required were soft and loose / unconsolidated material.
The soil conditions along the section at Shakhe Canyon were:

- a soil characterized by the presence of a surficial fine silty sand layer with shells and of a pebbly sand layer near the bottom of trench in the northern section;
- the silty sand layer is replaced by a surficial pebbly sand layer with shells towards the central part of the section with silty sand near the bottom of trench;
- the southern part is characterized by the presence of a fluid sandy loam veneer over a thin layer of shelly soil and fluid sandy loam.

The soil conditions along Kudepsta shore approach were:

- a soil characterized by the presence of a surficial fine silty sand layer with shells and of a silty sand layer near the bottom of trench in the western end of the trenching section;
- the silty sand layer is replaced by a surficial pebbly sand layer with shells towards the central part of the section with silty sand and shells near the bottom of trench;
- the eastern part (close to the HDD end) is characterized by the presence of a pebbly sand layer with shells over a fine silty shelly sand layer at base of the trench.

4 Photos at worksite

Piper PTM

Piper PTM

5 Reference

GRUP SERVICII PETROLIERE
member of UPETROM GROUP

18th April 2011

COMPLETION CERTIFICATE

Grup Servicii Petroliere SA hereby confirms that:

SEA S.r.l., registered address Via Mariani 44-46 – 48121 Ravenna (RA) Italy, was awarded contract with Navymar Shipping Company Limited, which covered the post lay trenching works of approximately 10,065 km of 20" gas pipeline for the Olympia Project, Russia.

The works have been performed and completed in full compliance with the final provision of the abovementioned scope of work and to the complete satisfaction of Grup Servicii Petroliere SA and Navymar Shipping Co. Ltd

GRUP SERVICII PETROLIERE SA

FANEL HAHUI

NAVYMAR SHIPPING COMPANY LTD

EMIL MILITARU

SC GRUP SERVICII PETROLIERE SA
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GRUP SERVICII PETROLIERE
member of UPETROM GROUP

FIELD MEMO

GSP-FM-BF1-GSP001-094

PROJECT: Dzhubga – Lazarevskoye – Sochi (DLS) Pipeline

Vessel : GSP BIGFOOT 1 **Date:** 13th November 2010

Subject : Trenching Completion at Canyon Sakhe

GSP Trenching Scope of Work for Canyon Sakhe section has been completed today, 13th November between Kp 86.826 and Kp 93.715 for an overall length of 6.889 km.

Trenched depths measured by diving surveys are shown in Appendix 1.

Trench Cross Section is shown in Appendix 2.

Issued by	Checked by	Approved by
Mihai Nanu, Field Engineer GSP BIGFOOT 1	Alexander Dolgovykh Party Chief GSP BIGFOOT 1	Ted Wolford, Superintendent GSP BIGFOOT 1
Confirmed by	**Confirmed by**	**Aknowledged by**
Yevgheniy Zubashevskiy, Diver Supervisor YUG-GIDROSTROY	Stefano Merlo Trenching Supervisor SEA	Eugeniy Zaikin LLC "SGM" Representative

Appendix 1 to GSP-FM-BF1-GSP001-094

Table 1 As-Trenched depths Canyon Sakhe Section

Section No	Kp	D_1	PIPELINE OD	PIPELINE (ESTIMATED) FINAL COVER $B=D_1$-OD
		[m]	[m]	[m]
1.	93.237	2.20	0.662	1.538
2.	92.709	2.20		1.538
3.	92.213	2.20		1.538
4.	91.769	2.20		1.538
5.	91.191	2.20		1.538
6.	90.142	2.50		1.838
7.	89.132	2.20		1.538
8.	88.755	2.10		1.438
9.	86.826	2.20		1.538

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Field Engineer
GSP BIGFOOT 1

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Alexander Dolgovykh
Party Chief
GSP BIGFOOT 1

Approved by

GSP BIGFOOT 1 VALLETTA

Ted Wolford,
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YUG-GIDROSTROY

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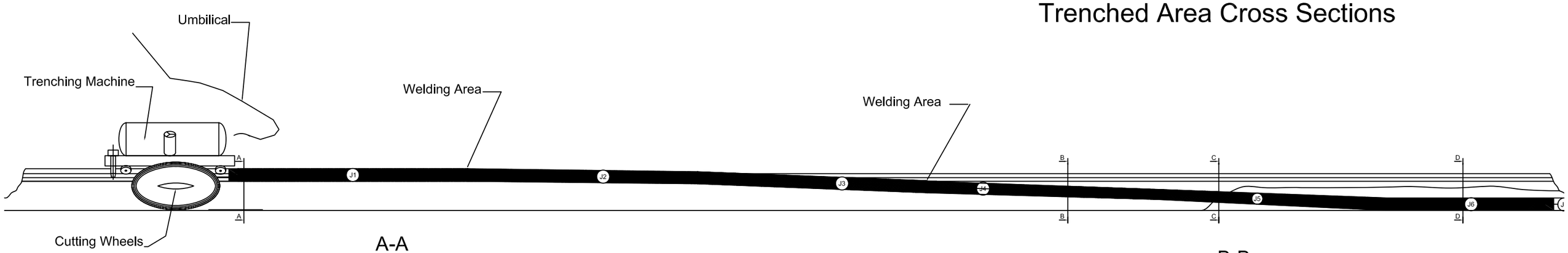
Trenching Supervisor
SEA

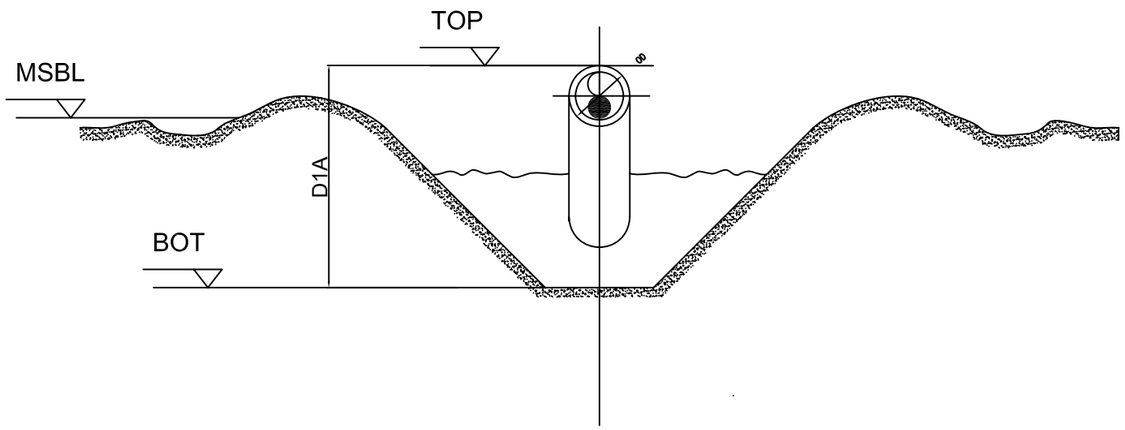
Aknowledged by

Eugeniy Zaikin
LLC "SGM" Representative

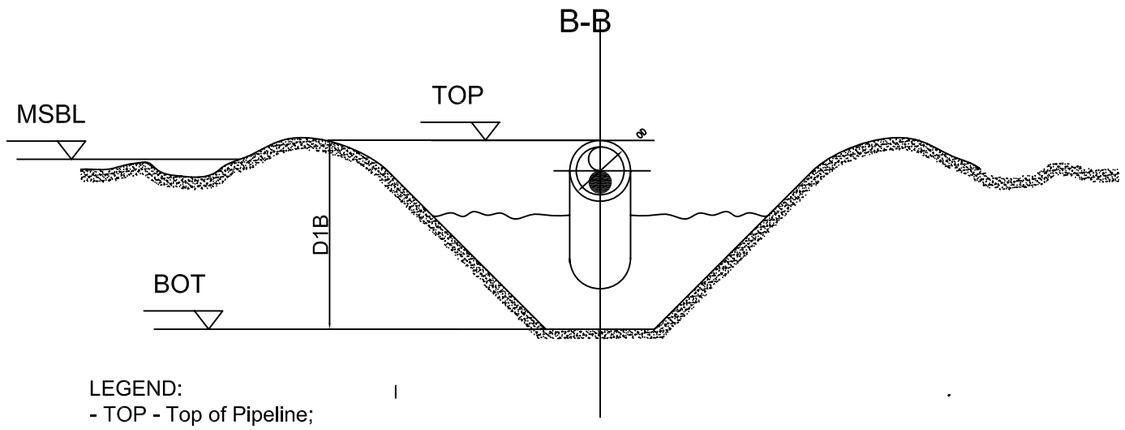
APPENDIX 2 TO GSP-FM-BF1-GSP001-094
Trenched Area Cross Sections



A-A

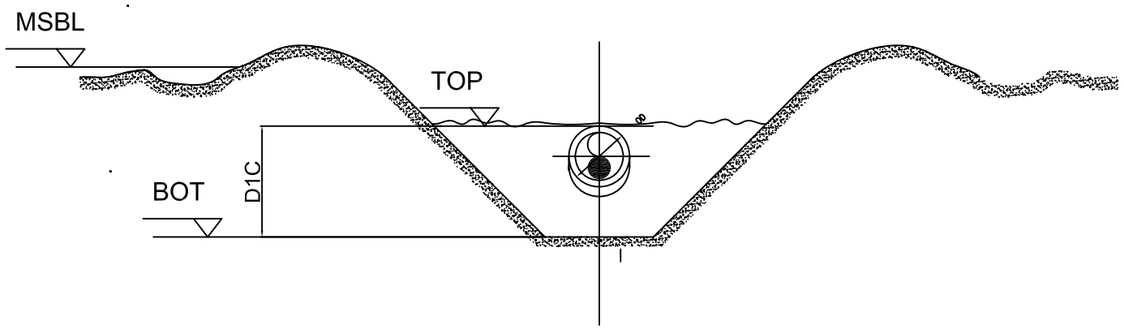


B-B

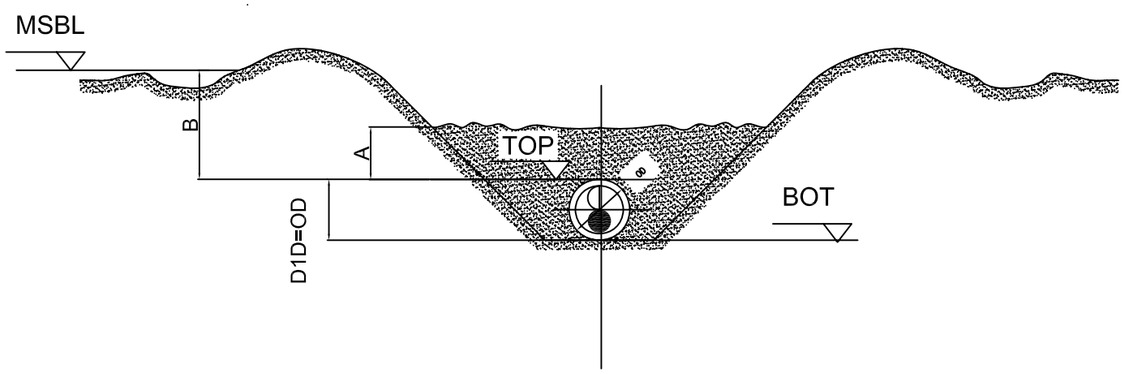


LEGEND:
- TOP - Top of Pipeline;
- BOT - Bottom of Trench;
- MSBL - Mean Sea Bed Level;
- OD - Pipeline Outer Diameter (including concrete cover);
- D1A - Distance measured by divers from TOP to BOT close behind the trenching machine;
- D1B- Distance TOP to BOT in section B- 2 to 4 joints behind trenching machine-measured;
- D1C- Distance TOP to BOT in section C- 3 to 5 joints behind trenching machine-measured;
- D1D- Distance TOP to BOT starting in section C- 4 to 6 joints behind trenching machine - estimated;
D1A>D1B>D1C>D1D≈OD;
- A- Pipeline cover soon after trenching - backfilling incomplete;
- B - Pipeline Final Coverage - trench completely backfilled and pipeline at burial depth; Bmin=1m;
- J1, J2, ... J5 -Joints number counted from behind trenching machine;

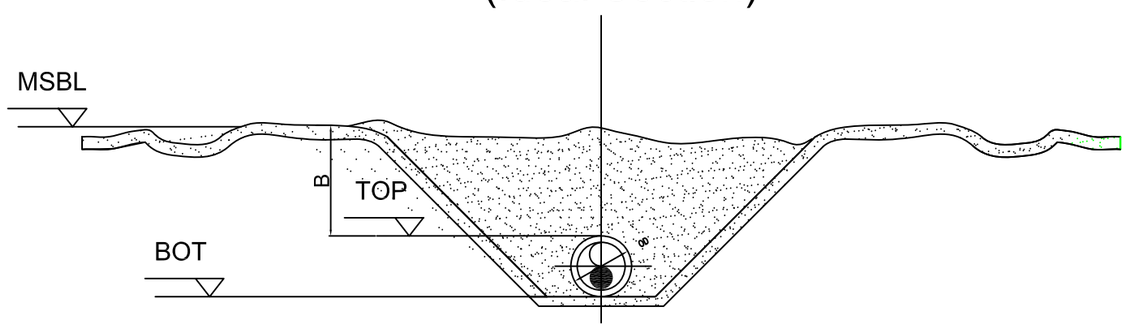
C-C



D-D



E-E
(Ideal Section)



GRUP SERVICII PETROLIERE
member of UPETROM GROUP

FIELD MEMO

GSP-FM-BF1-GSP001-092

PROJECT: Dzhubga – Lazarevskoye – Sochi (DLS) Pipeline

Vessel : GSP BIGFOOT 1 **Date:** 9th November 2010

Subject : Trenching Completion (Stage I) at Kudepsta

According to GSP Trenching Scope of Work for Kudepsta section, the works for the laid down pipeline (stage I) have been completed today, 9th November between Kp 143.283 and Kp 145.634 for an overall length of 2.351 km.

Threnched depths measured by diving surveys are shown in Appendix 1. Trench Cross Section is shown in Appendix 2.

GSP BIGFOOT 1 VALLETTA

Issued by	Checked by	Approved by
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Confirmed by	**Confirmed by**	**Aknowledged by**
Yevgheniy Zubashevskiy, Diver Supervisor YUG-GIDROSTROY	Stefano Merlo Trenching Supervisor SEA	Artem Kemenov LLC "SGM" Representative

Appendix 1 to GSP-FM-BF1-GSP001-092

Table 1 As-Trenched depths Kudepsta Section

Section No	Kp	D_1	PIPELINE OD	PIPELINE FINAL COVER $B=D_1$-OD
		[m]	[m]	[m]
1.	145.495	2.20	0.662	1.538
2.	145.335	210		1.438
3.	145.215	2.30		1.638
4.	145.135	2.30		1.638
5.	145.026	2.20		1.538
6.	144.775	2.00		1.338
7.	144.665	2.10		1.438
8.	144.535	2.20		1.538
9.	144.474	2.40		1.738
10.	144.174	2.00		1338
11.	143.875	2.00		1.338
12.	143.534	2.30		1.638
13.	143.283	2.40		1.738

Issued by

Mihai Nanu,
Field Engineer
GSP BIGFOOT 1

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Alexander Dolgovitch
Party Chief
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GSP BIGFOOT 1 VALLETTA

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Trenching Supervisor
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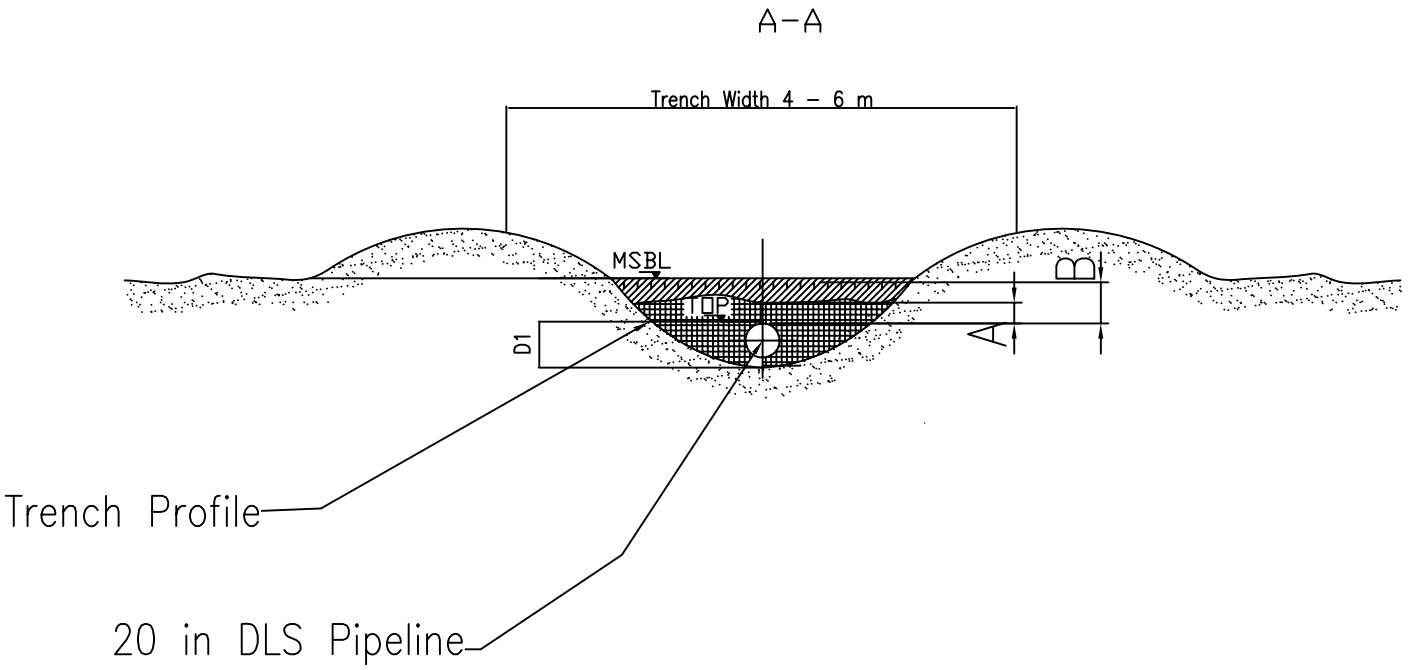
LLC "SGM" Representative

Appendix 2 to
GSP-FM-BF1-GSP001-092
Trench Cross Section



LEGEND:
D1 - Distance measured by divers from Botom of the Trench (BT) to theTop of Pipeline (TOP)
A- Pipeline Cover soon after trenching - backfilling incomplete;
B - Pipeline Final Cover - trench completely backfilled and pipeline a burial depth;
MSBL - Mean Sea Bed Level;