



**Progetto di realizzazione del nuovo sealine e del campo boe per lo scarico
di gasolio e benzina da navi petroliere al largo del Porto di Pescara**

**Relazione tecnica - Chiarimenti volontari del Proponente nell'ambito della
Procedura Istruttoria VIA**

ALLEGATO 6 – Documentazione SEA relativa a fattibilità

Marzo 2014
Id: Allegato_6



Ravenna, 02 Gennaio 2013

Abruzzo Costiero S.r.l.
Via Raiale
65128 - Pescara (PE)

Nostro Ref. 1347
Prot. 07/GB/14

OGGETTO: Interramento di due condotte da 12" nel Porto di Pescara (PE)

Gent.mo Dott. Di Properzio,

a seguito della riunione intercorsa con la 4D Engineering, durante la quale ci sono state sottoposte le principali caratteristiche tecniche del progetto, siamo a confermare la nostra capacità di esecuzione dei lavori di interrimento delle condotte da 12" gunitate, dopo la loro posa sul fondo marino, alla profondità di 4m.

Facciamo presente che la SEA S.r.l. è una ditta italiana, altamente specializzata in lavori di affossamento di condotte sottomarine e titolare del brevetto della prima macchina PTM.

SEA si distingue da altre ditte nel settore perché riesce a fornire un servizio completo ai propri Clienti, dallo studio, progettazione e costruzione delle macchine, all'esecuzione stessa dei lavori di affossamento.

L'esecuzione del post-trenching con un attrezzatura tipo PTM garantisce l'esecuzione di uno scavo regolare: la PTM si muove per mezzo di 4 ruote sulla condotta, appoggiata naturalmente sul fondo marino, e crea uno scavo regolare della profondità determinata dal setting della macchina stessa (profondità delle frese).

I lavori di affossamento vengono eseguiti tramite un insieme di movimenti meccanici, quali:

- frese – per disgregare il materiale sotto la condotta
- pompe di estrazione – per rimuovere il materiale disgregato e tenere pulito la parte inferiore dello scavo durante l'abbassamento del tubo.



RINA Certificate n. 22345/10/IS

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Tax Code n. 01206570390

Please be informed that any personal data received directly from sender or acquired by third party, will be handled by Sea Srl according to that defined in the Italian Legislation Decree 196/2003, within the principles of correctness, lawfulness, transparency and protection of sender's discretion. Furthermore, in relation to the above mentioned use, the sender may exercise the rights indicated in art. 7 of the cited Decree n. 196 and, in particular, obtain confirmation of the existence of data, its communication and indication of its logicity and the purpose of treatment. In addition to the cancellation, the atomization or the blockage of such, its updating, rectification or integration. The sender may also address any possible objections to such use. Following on from the decree reported above, I authorize the processing of my personal information.

- pompe jetting - per rimuovere il materiale ricaduto dentro lo scavo, nel caso fossero necessarie ulteriore passate.

Come si può vedere dalla project list allegata, SEA ha quasi 40 anni di esperienza in affossamento di condotte e cavi di varie dimensioni: sono state interrato condotte da 4" a 60", cavi elettrici di potenza e fibre ottiche, fino a 4m di quota di interrimento, dalla zona della battigia fino a 120m di profondità d'acqua. SEA ha lavorato per Clienti leader nel settore Oil & Gas.

Siamo quindi a confermare la piena fattibilità del progetto con la tecnica PTM e senza particolari controindicazioni sul corretto svolgimento delle opere.

Rimaniamo a disposizione per ulteriori chiarimenti.

Cordiali saluti,



Guido Ballestri
SEA S.r.l.



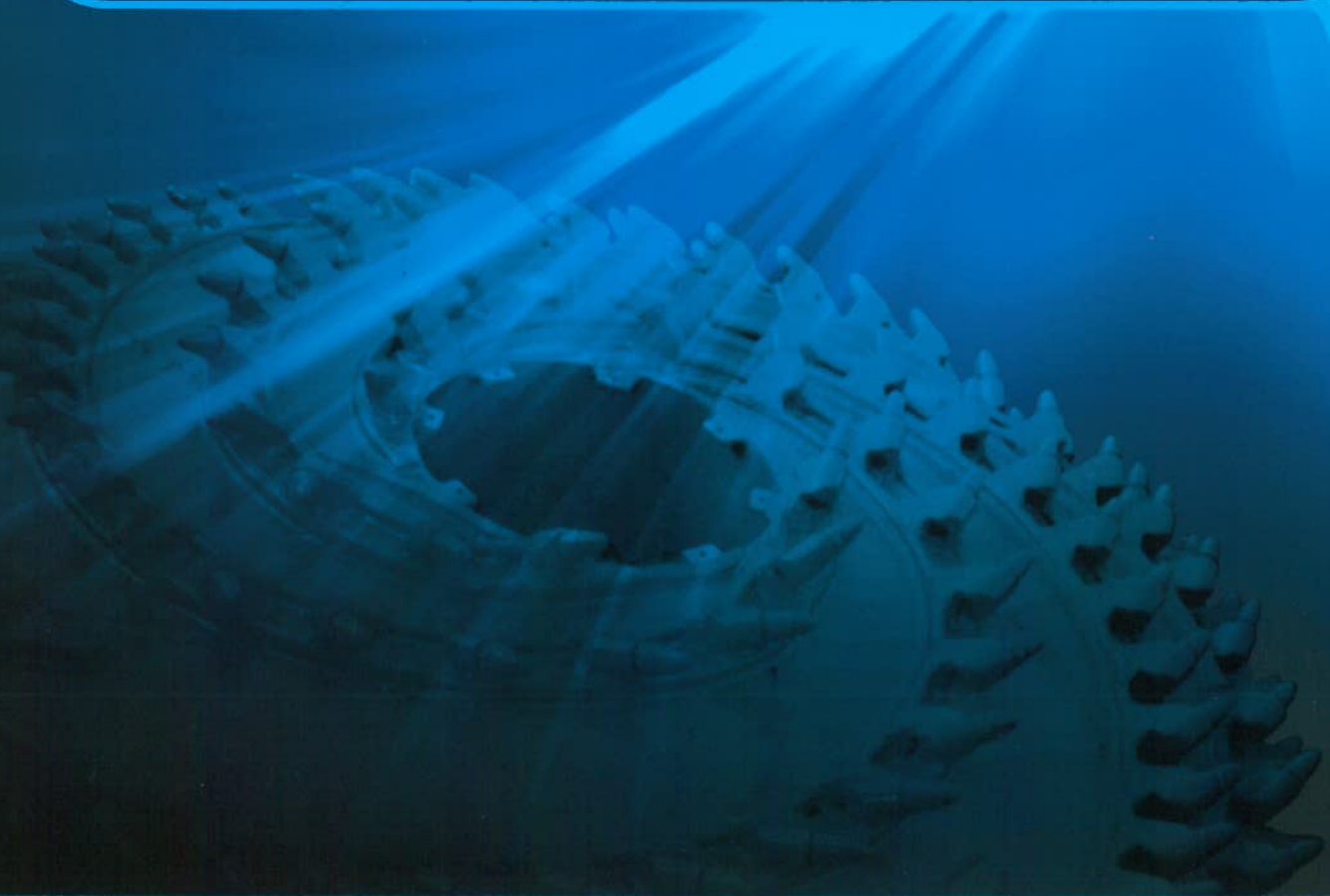
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UNDERWATER TRENCHING WORKS

SEA



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SEA

Sea Group is composed of 5 companies, which are located in Italy, Malta and Brasil, and has its headquarters in Ravenna. The position of the working structures of the Group has been chosen for strategic and business reasons: Malta plays a fundamental strategic role being in the centre of the Mediterranean sea, as it allows SEA to manage the Mediterranean Oil and Gas Industry. Furthermore, the Island has a fairly important port that enables SEA to manage its vessels accordingly. SEA's Brazilian affiliate has hosted the most important trenching projects in the last few years and from Brazil, SEA can address the Central and South American markets.

In order to comply with the Oil & Gas market requirements, in 2010, SEA S.r.l. obtained the ISO 9001:2008 Certification.

Given SEA's impressive curriculum, having completed projects successfully for the most important Oil and Gas companies in the World, the Group is well connected to the Offshore markets.





Special Equipment

RACK

The development of new technologies used to assist in shore approach activities has meant that SEA has created the RACK. This structure is capable of supporting various equipment, in particular, trenching machines, in the area closest to the beach, where traditional naval means struggle to reach.

The RACK can operate in various types of seabeds, including sand, rock and coral, moving from the beach up to a water depth of -3 m (in good marine conditions).

PULLING MACHINE – 200 TONNES

The Pulling Machine construction (designed and built entirely by Company's technicians) has given SEA a particular autonomy in the execution of offshore projects, as Company can address projects that also include cable and small pipeline installations, as well as subsequent burial.

The Linear Winch has a pulling capacity of 200 Tonnes and is equipped with a power pack, a cable reel and a control panel, for the monitoring of the operations.

BACK-FILLING MACHINE

In order to be able to answer to market requirements, SEA has developed the Back-filling Machine.

This machine is designed to take advantage of seabed material deposited on trench sides during trenching operations, and recover it back into the trench, in order to stabilize further the product.

PAG

The PAG is a dredging machine, studied for reclaiming polluted seabeds, such as those in ports, rivers and channels. The advantages of this machine are that it can de-silt seabeds until they are brought to their original states, without causing secondary pollution. PAG digs the polluted material and pumps it to a stand-by transportation barge, without adding water. Consequently, there is no material in suspension, no recycling of water or any washed material.



Speedy 1 and 2



Dual and Piper



Combo



Leo

PTM Speedy - Dual and Piper - Combo - Leo

SPEEDY 1 and 2

SPEEDY 1 and SPEEDY 2 are trenching machines that have a very important versatility characteristic. They can be adapted to work on different diameter pipelines in different types of seabeds.

The dimensions and weight of the SPEEDY machines allow them to carry out trenching works in also very shallow water areas, reaching a very deep burial depth.

DUAL and PIPER

DUAL PTM and PIPER PTM are post-trenching machines suitable for burying various diameter pipelines (from 16" to 60"). They can be used in various seabeds, ranging from loose material to limestone and sedimentary rock. The PIPER PTM was used for a long period in Egypt, on several projects. An innovative application to the driving wheels allows the PIPER PTM to perform trenching works even with piggybacks or bundled pipelines.

COMBO

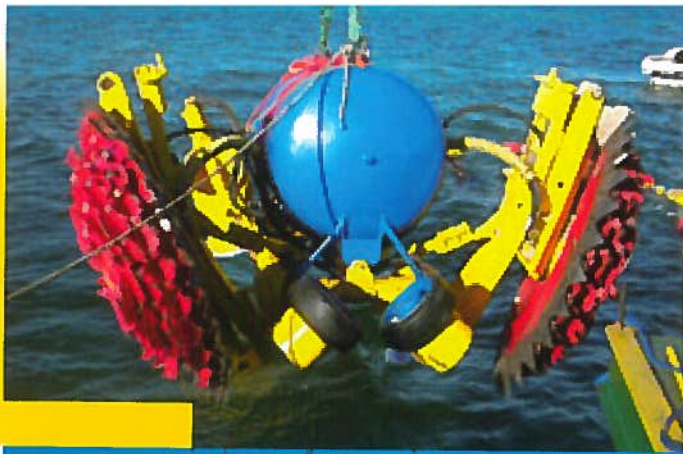
COMBO PTM is born from the combined experience of the previous PTM models (including the LASER PTM), which are still in use. The machine can be modified on-site. The main frame can be adapted to operate on pipelines that range from 16" to 60". COMBO PTM can

be equipped with different types of cutting wheels and supporting arms, in order to work in seabeds that go from soft to particularly hard. It is therefore ideal when, in the same project or campaign, it is necessary to face various situations, such as different types of seabeds and different diameter pipelines.

LEO

LEO PTM is the latest generation of post-trenching machines. It represents the most advanced technology in the sector, both in terms of production capability and in its versatility to be adapted to the nature of seabeds, to pipeline dimensions, and to burial depth requirements.

Given that it may be deprived of its ballast tank, LEO PTM can also operate in only a few centimetres of water, allowing it to approach the shoreline. This characteristic enables the LEO PTM to carry out works right up to the beach front. This innovative method eliminates the necessity of building a cofferdam or creating a pre-lay trench and the consequential possibility of confronting excavation infill caused by wave movement. This approach helps reduce very expensive stand-by time as well as costs of having a pipe or cable laying spread.



Jolly



Mac 1



Mac 2



Macro

PTM Jolly - Mac 1 - Mac 2 - Macro

JOLLY

JOLLY PTM has been especially designed to perform post-trenching works on small diameter pipelines (from 6" to 14"), that can be subject to high stresses or damages. The most important characteristic is its light weight, compared to the other machines, and its easy handling. For this reason, in addition to the normal post-trenching works, JOLLY PTM is used for free-span correction operations, where the pipeline is already exposed to high stress levels: all free-spans can be corrected, meaning that any stresses are duly neutralized, so that the pipeline can then be easily trenched afterwards.

MAC 1

MAC 1 is the first cable trenching machine designed by SEA. It has been designed and built to trench cable whilst laying, if not already laid. The trench is obtained using a rotating cutter wheel which can be regulated to the depth desired (up to 3 m). The machine rests on supporting slides and can be easily adapted to every type of environment, whether it be in lagoons, at sea, or in rivers. It can work in sandy soil, in low/medium

consistency seabeds such as clay and silt, as well as in coral and rocky seabeds, that have low Unconfined Compressive Strength (UCS) values.

MAC 2

Compared to MAC 1, MAC 2 is a smaller machine and is easily handled. It was recently modified successfully with driver wheels and different tubular wheel arm supports, which allows the machine to not only move independently, but also allows MAC 2 to reach different trench depths, guaranteeing the integrity of the cable.

MACRO

MACRO is the newest optical and power cable trenching machine. It has been designed to carry out the trenching during or after the laying of the cable. MACRO is equipped with four wheels or tracks in order to move on different seabeds. It is also adapt for trenching in compact and rocky seabeds. MACRO can be equipped with different tubular wheel arm supports, in order to carry out different trench depths in different kinds of soil (including rock).



DP2 Iskatel-2

ISKATEL-2 is a DP2 catamaran vessel that was completely refurbished in 2008-2009. Its main dimensions are 49,30 m (length) x 18,20 m (width). In addition to the crew, it can host up to 25 people. Its main objective is to support trenching operations, but it can also support general offshore activities, including surveys. Thanks to its Dynamic Positioning 2 system, the vessel can work without having to rely on anchors, both in deep water areas, as well as in very shallow waters too: this is possible due to the dimension of the thrusters, which were purposely designed by SEA's Engineering Department, allowing the vessel to operate on a reduced draft of 2.4 m. The vessel is adaptable to any working situation and any climate condition, including very cold, and its stability makes it a very comfortable vessel.



Trimaran Rossana

SEA has a modular pontoon. The elements which it is composed of are shaped as standard size containers: it is therefore easily transportable both by land and by sea. The construction of the ROSSANA, which was modified from Catamaran to Trimaran, thus adding safety and versatility, makes SEA very competitive when it comes to performing trenching operations in shallow waters and in shore approaches. Together, the ROSSANA and the PTM, form a very special team, for safety, simplicity and speed in operations.



PROJECT LIST

N°	WORK EXPERIENCE	PROJECT	DESCRIPTION OF RELEVANT EXPERIENCE	LOCATION	SEABED MATERIAL	PRODUCT	LENGTH	CLIENT/CONTRACTOR	YEAR
43	POST-TRENCHING OF CABLE	CABLE	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	ADRIATIC SEA	MUDDY SAND	OPTICAL CABLE	400	AGIP	1989
42	POST-TRENCHING OF PIPELINE	DARFEEL PORT FOUD	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	36"	46000	PETROBEL	1989/99
41	POST-TRENCHING OF PIPELINE	DABHOL POWER PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	INDIA, ARABIAN SEA	WEATHERED BASALT ROCK	20"	7000	SAIPEM UK	1998
40	POST-TRENCHING OF PIPELINE IN PIGGYBACK	PORT FOUD/DARFEEL	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	10"+3"	5500	PETROBEL	1997
39	POST-TRENCHING OF PIPELINE IN PIGGYBACK	WAKAR/PORT FOUD	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	10"+4"+3"	17000	PETROBEL	1996
38	POST-TRENCHING OF PIPELINE IN PIGGYBACK	PORT FOUD	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	14"+3" - 6"	100000	PETROBEL	1995/96
37	LAYING AND POST-TRENCHING	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	OPTICAL CABLE	9000	SIP/ALCATEL	1994
36	LAYING AND POST-TRENCHING	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	OPTICAL CABLE	21000	SIP/ALCATEL	1994
35	LAYING AND POST-TRENCHING	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	OPTICAL CABLE	11000	SIP/ALCATEL	1993
34	POST-TRENCHING OF PIPELINE	TARANTO OFFSHORE	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	TARANTO, ADRIATIC SEA	CEMENTED CLAY	34"	2300	AGIP/RAFF	1993
33	LAYING AND POST-TRENCHING	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	OPTICAL CABLE	3000	SIP	1993
32	LAYING AND POST-TRENCHING	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	CABLES 35/2x3	6000	ENEL	1992
31	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	ADRIATIC SEA	SAND AND CLAY	14"+3"	9000	AGIP/SAIPEM	1992
30	PRE-TRENCHING FOR PIPELINES IN PIGGYBACK	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF PRE-TRENCHING WORKS AND POST-LAY SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"+3" - 10"+3"	400	AGIP/SAIPEM	1992
29	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	ADRIATIC SEA	SAND AND CLAY	14"+3"+3"	115000	AGIP/SAIPEM	1992
28	POST-TRENCHING OF PIPELINES IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	14"+3" - 10"+3"	4200	AGIP/SAIPEM	1991
27	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	MEDITERRANEAN SEA	SAND AND CLAY	14"	1500	AGIP	1990
26	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	BRAZIL, ATLANTIC OCEAN	CEMENTED SAND	26"	8500	AGIP/SAIPEM	1988
25	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	MEDITERRANEAN SEA	SAND AND CLAY	16"+3"	16700	AGIP/SAIPEM	1988
24	POST-TRENCHING OF BUNDLED PIPELINES	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	4"+4"+2"+1"+1"	380	AGIP/SAIPEM	1988
23	POST-TRENCHING OF PIPELINES	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	TYRRHENIAN SEA	CEMENTED SAND	23" - 8" - 12" - 8" - 8"	4800	S A C	1987
22	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	20"+3"	12600	AGIP/SAIPEM	1987
21	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	14"+3"	21550	AGIP/SAIPEM	1987
20	PRE-TRENCHING FOR BUNDLED PIPELINES	TRENCHING FOR BUNDLE	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF PRE-TRENCHING WORKS AND POST-LAY SURVEY.	ADRIATIC SEA	SAND AND CLAY	4"+4"+2"+1"+1"	1000	AGIP/SAIPEM	1987
19	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	40"	7500	CO.DELI	1987
18	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"	3200	AGIP/SAIPEM	1986
17	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"+3"	1200	AGIP/SAIPEM	1986
16	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	16"	18000	AGIP/SAIPEM	1986
15	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	14"	500	AGIP/SAIPEM	1986
14	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	12"	700	AGIP/SAIPEM	1986



PROJECT LIST

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13	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"×3"	2000	AGIP/SAIPEM	1986
12	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"×3"	1500	AGIP/SAIPEM	1985
11	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"×3"	800	AGIP/SAIPEM	1985
10	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"×2"	500	AGIP/SAIPEM	1985
9	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TRENCHING WITH PIGGYBACK	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	10"×3"	450	AGIP/SAIPEM	1985
8	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	22"	18000	AGIP/SAIPEM	1985
7	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	VENICE, ADRIATIC SEA	MUDDY CLAY/CEMENTED CLAY	28"	2500	BREDA	1984
6	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	LAKE GARDA	CEMENTED CLAY	12"	700	TS TECNOSPAMEC	1984
5	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	28"	1100	C.I.S.A	1984
4	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	36"	6000	MONTUBI GRADO	1983
3	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	TYRRHENIAN SEA	CEMENTED SAND	42"	1630	DRAGHTAL	1982
2	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	16"	560	NUOVA OLMEC	1981
1	POST-TRENCHING OF PIPELINE	TRENCHING PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	ADRIATIC SEA	SAND AND CLAY	48"	13000	AGIP/SAIPEM	1974



PROJECT LIST

N°	WORK EXPERIENCE	PROJECT	DESCRIPTION OF RELEVANT EXPERIENCE	LOCATION	SEABED MATERIAL	PRODUCT	LENGTH	CLIENT/CONTRACTOR	YEAR
70	POST-TRENCHING OF PIPELINES	FILANOVSKY PROJECT	PROVISION OF BARGE AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING AND BACK-FILLING WORKS.	CASPIAN SEA	SAND, LOAM AND CLAY	12" Oil Line 16" Gas line 16" Water line 16" Multi-phase Pipeline 12" Water Line 22" Multi-phase Pipeline 26" Gas Line 6 Gaslift Pipeline 6" Gaslift Pipeline 4" Connection Pipeline	88450	BUMI ARMADA CASPIAN LCC/LUKOIL	In Progress
69	POST-TRENCHING OF PIPELINES	EGP3A-PHASE 2 PROJECT	PROVISION OF ROSSANA BARGE AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	NIGERIA (ESCRAVOS), ATLANTIC OCEAN	VERY SOFT TO STIFF CLAY AND SANDY CLAY	24" - 24"	9084	CHEVRON/WAV LTD	2013
68	LAYING AND POST-TRENCHING OF A FOC, AND POST-TRENCHING OF OIL AND GAS PIPELINES.	MYANMAR PROJECT	EXECUTION OF CABLE LAYING AND POST-TRENCHING OF ALL PRODUCTS.	MADE ISLAND, MYANMAR, BENGALA GULF	WEATHERED LIMESTONE AND MUDDY CLAY	40" - 32" - OPTICAL CABLE	14000	PUNJ LLOYD/DHARTI DREDGING AND INFRASTRUCTURE LIMITED	2013
67	LAYING AND POST-TRENCHING IN SHORE APPROACH AREA	BACIA DE CAMPOS - SHORE APPROACH - OPTICAL CABLE	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF LAYING AND POST-TRENCHING WORKS.	BRAZIL, ATLANTIC OCEAN	CEMENTED SAND	OPTICAL CABLE	3000	PETROBRAS/SCHAHIN	2010/11
66	POST-TRENCHING OF PIPELINES	GUANABARA BAY	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	MUDDY SAND	8" - 12"	21628	PETROBRAS/GLP CONSORZIO	2011
65	POST-TRENCHING OF PIPELINE	OLIMPIA PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	RUSSIA, BLACK SEA	SAND	20"	10056	GAZPROM/GSP OFFSHORE/NAVIMAR	2010
64	POST-TRENCHING OF PIPELINE	MEXILHAO PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	SAND	34"	21636	PETROBRAS/ACERGY MS LIMITED	2009
63	POST-TRENCHING OF PIPELINE	CAMARUPIM PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CLAY	24"	12982	PETROBRAS/GLOBAL INDUSTRIES	2009
62	POST-TRENCHING OF PIPELINE	LNG PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CLAY	28"	4896	PETROBRAS/GDK	2008
61	FREE-SPAN RECTIFICATION AND POST-TRENCHING OF PIPELINE	CHERGUI PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	TUNISIA, MEDITERRANEAN SEA	SAND	8"	28364	PETROFAC	2008
60	VISUAL AND STRUMENTAL INSPECTION OF BURIED PIPELINE	VISUAL AND STRUMENTAL INSPECTION	EXECUTION OF SURVEY WORKS.	RAVENNA, ADRIATIC SEA	N/A	22" - 22"	6600	ENEL	2007
59	POST-TRENCHING OF PIPELINE	AREA B	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS AND POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	SAND	26"	3600	PETROBRAS/GDK	2006
58	POST-TRENCHING OF PIPELINE	AREA F	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CLAY	26"	700	PETROBRAS GDK	2006
57	POST-TRENCHING OF PIPELINE	AREA D	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CEMENTED SAND	26"	1600	PETROBRAS GDK	2006
56	POST-TRENCHING OF PIPELINE	PERCAN PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CLAY	18"	4375	PETROBRAS	2005
55	POST-TRENCHING OF PIPELINE	PDEG PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING SURVEY.	BRAZIL, ATLANTIC OCEAN	CEMENTED SAND	22"	862	PETROBRAS	2004/05
54	POST-TRENCHING OF PIPELINE IN PIGGYBACK	NAIDE/CERVIA C	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	RAVENNA, ADRIATIC SEA	MUDDY SAND	3" + 10" + 3"	9516	SAIPEM/RANA	2004/05
53	POST-TRENCHING OF PIPELINE	AZERI PROJECT	PROVISION OF ALL VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	AZERBAIJAN, CASPIAN SEA	WEATHERED BASALT ROCK - RECORDINGS SHOW UP TO 79 MPA	30" - 28" - 30"	3039	MC DERMOTT	2004
52	INSTALLATION OF 1KM OF 36" PIPELINE AND POST-TRENCHING	JOSE IGNACIO PIPELINE REPAIR	PROVISION OF ALL MATERIALS, VESSELS AND TRENCHING EQUIPMENT AND EXECUTION OF THE PROJECT	URUGUAY, ATLANTIC OCEAN	SAND AND CEMENTED SAND	36"	1056	ANCAP	2002/03
51	POST-TRENCHING OF PIPELINE	TEMSAH DEVELOPMENT PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	32"	62000	PETROBEL	2000/01
50	POST-TRENCHING OF PIPELINE IN PIGGYBACK	TEMSAH DEVELOPMENT PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	12" + 3" + 4"	62000	PETROBEL	2000/01
49	POST-TRENCHING OF PIPELINE	ROSETTA GAS EXPORT PIPELINE	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	CEMENTED CLAY AND PLASTIC CLAY	24"	67000	PETROJET	1999/00
48	POST-TRENCHING OF PIPELINE IN PIGGYBACK	BALTIM EAST DEVELOPMENT PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	24" + 4" + 3"	25000	PETROBEL	1999/00
47	POST-TRENCHING OF PIPELINES	TEMSAH CONCESSION-KAROUS PROJECT	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	30" - 12"	7600	PETROBEL	1999
46	POST-TRENCHING OF PIPELINES	JAMNAGAR REFINERY COMPLEX	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	INDIA, ARABIAN SEA	WEATHERED BASALT ROCK	48" - 48" - 24"	5700	SAIPEM UK	1999
45	POST-TRENCHING OF PIPELINE IN PIGGYBACK	DARFEEL PORT FOUD	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	10" + 3"	400	PETROBEL	1999
44	POST-TRENCHING OF PIPELINES	DARFEEL PORT FOUD	PROVISION OF TRENCHING EQUIPMENT AND EXECUTION OF POST-TRENCHING WORKS.	EGYPT, MEDITERRANEAN SEA	SAND AND CLAY	36" - 16" + 3"	12000	PETROBEL	1999

REFERENCES

- 69 CHEVRON WAV EGP3A IMPORT LINE - ATLANTIC OCEAN - ESCRAVOS - 24"
- 66 PETROBRASBRASILGLP CONSORZIO-ATLANTIC OCEAN-GUANABARA BAY - 8" - 12"
- 65 GSP Offshore-NAVYMAR-BLACK SEA-OLIMPIA PROJECT-20"
- 63 PETROBRAS GLOBAL IND-CAMARUPIM PROJECT-ATLANTIC OCEAN-24"
- 62 PETROBRAS BRASILGDK-ATLANTIC OCEAN - LNG PROJECT - 28"
- 61 PETROFAC TUNISIA-MEDITERRANEAN SEA- CHERGUI PROJECT - 8"
- 57-59 PETROBRAS BRASILEGDK- ATLANTIC OCEAN-AREA D F B 26"
- 55-56 PETROBRAS BRASILE-ATLANTIC OCEAN - PERCAN & PDEG 18" - 22"
- 54 RANASAIPEM-ADRIATIC SEA-NAIDECERVIA C 3"+10"+3"
- 53 MCDERMOTT LAB TESTS-CASPIAN SEA-AZERI PROJECT 30" - 28" - 30"
- 52 ANCAP-ATLANTIC OCEAN-JOSE IGNACIO PIPELINE REPAIR 36" (URUGUAY)
- 49 PETROJET-MEDITERRANEAN SEA- ROSETTA GAS EXPORT PIPELINE 24"
- 48 PETROBEL-MEDITERRANEAN SEA-BALTIM EAST DEVELOPMENT PROJECT 24"+4"+3"
- 47 PETROBEL-MEDITERRANEAN SEA-TEMSAH CONCESSION-KAROUS PROJECT 30" - 12"
- 46 SAIPEM UK INDIA-INDIAN OCEAN-JAMNAGAR REFINERY COMPLEX 48" - 48" - 24"
- 44-45 PETROBEL EGITTO- MEDITERRANEAN SEA - DARFEEL PORT FOUAD 36", 16"+3" - 10"+3"
- 41 SAIPEM UK INDIA - MEDITERRANEAN SEA - DABHOL POWER PROJECT 20"
- 39 PETROBEL EGYPT-MEDITERRANEAN SEA-WAKARPORT FOUAD 10"+4"+3"
- 38 PETROBEL EGYPT-MEDITERRANEAN SEA - PORT FOUAD 14"+3" - 6"
- 36 SIPALCATEL-VENICE OFF SHORE-Optic Fibre Cable
- 35 SIPALCATEL-VENICE OFF SHORE-Optic Fibre Cable
- 33 SIP-VENICE OFF SHORE-Optic Fibre Cable
- 32 ENEL- VENICE OFF SHORE-Cables 352x3
- 31 AGIPSAIPEM - ADRIATIC SEA - 14"+3"

**69 CHEVRON WAV EGP3A IMPORT LINE -
ATLANTIC OCEAN - ESCRAVOS - 24"**

Claudia Pasi Sea Srl

Oggetto: I: R: Milestone reached on the EGP3A Pipe Line Project - Import Gas Pipe Line is now
trenched, 02:20hrs on 11.12.12

Da: Bengt Bengtsson

Inviato: martedì 11 dicembre 2012 2.56

Oggetto: Milestone reached on the EGP3A Pipe Line Project - Import Gas Pipe Line is now trenched, 02:20hrs on
11.12.12

To All;

It is with pleasure and a great relief, that I can say thank you to all, that participated in the completion of the
trenching job on the Import Gas Pipe Line.

Well done, and Safe!

Thanks to Chevron for working with WAV and Subcontractors on this task, **Thank you SEA** for cutting the "ditch",
Thank you ADS and all Divers, Thanks to all Tugs – Martine P, Puffin Island, Eileen M, Julius Berger Tugs, + all support
boats, Thank you Jascon 8 and Crew, Thank you all WAV personnel, Thank you GOSL Survey, Thank you LCC and
Thank you Onne Fabrication Yard, and everybody else – nobody forgotten!!!!!!

Now I can just say:

To Chevron; TURN ON THE GAS (once MP is 500m away, last dive survey done and site safe and clear)

To WAV : LET's GET JASCON 2 READY TO LAY THE EXPORT LINE!!!

Special Thanks to : Captain Marco for holding it all together, Damian and Peter for never giving up!!!!!!

Note : Pls pass on thank you onwards, since I for sure left some addresses out.

Best Regards,

Bengt Bengtsson
Sr.Project Manager



West African Ventures (Projects Division)

18A, Thompson Avenue | Ikoyi - Lagos | Nigeria

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**66 PETROBRASBRASILGLP CONSORZIO-
ATLANTIC OCEAN-GUANABARA BAY - 8"-
12"**

**66 PETROBRAS/GLP CONSORCIO – GUANABARA BAY
RIO DE JANEIRO – BRAZIL**

General project Overview and Reference



Guanabara Bay – Pipelines Route



Member of CISQ Federation

RINA
ISO 9001:2008
Certified Quality System



SEA S.r.l. Via A. Mariani 44-46, 48121 Ravenna (RA), Italy

Tel. +39 0544 30283, Fax. +39 0544 35591

www.seatrenching.it, e-mail: info@sea-group.net; Skype: sea.srl1;

Soc. Cap. €110.000,00 I.V. – R.E.A. N. 128067 – Comp. Reg. n. 15829 –

Tax Code n. 01206570390

1 Scope of work

Post-trenching

GASODUTO GLP 12" & GASODUTO GLP 8"							
Product	Section	Trench Cover (T.O.P.)	Approx Length (m)	KP		Water Depth	
				From	To	Min	Max
8" GLP	From Praia de Mauà to "Ilha de Paquetà"	1 m	6.963	2,100	9,063	-1 m	
	Crossing area Ilha de Paquetà	1 m	406	9,466	9,872		
	From "Ilha de Paquetà" to Ilha Redonda"	1 m	3.178	10,246	13,424		12 m
12"GLP	From Praia de Mauà to "Ilha de Paquetà"	1 m	7.104	2,100	9,204	-1 m	
	From "Ilha de Paquetà" to Ilha Redonda"	1 m	3.977	9,500	13,477		12 m

2 Soil condition encountered

Very loose quartziferous sandy/silty clay alternated with clayey sand containing organic material and sometimes shells.

Plastic Clay

Cemented sand



ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para os devidos fins, e a quem interessar possa, que a empresa **SEA BRASIL SERVIÇOS SUBMARINOS LTDA.**, com sede à Av. Praia do Flamengo nº 66, Bloco B, Salas 1715 a 1718, Flamengo, Rio de Janeiro – RJ, CNPJ nº 06.181.439/0001-44, executou dentro dos padrões de boa técnica, qualidade e prazos estipulados, os serviços a seguir descritos, tendo cumpridas integralmente as condições estabelecidas no contrato assinado entre as partes para este fim.

DADOS DO CONTRATANTE

Razão Social: CONSÓRCIO GLP SUBMARINO

CNPJ: 10.430.566/0001-07

Nome e Cargo do Signatário: ORLANDO ROCHA – GERENTE DE CONTRATO

DADOS DO CONTRATADO

Razão Social: SEA BRASIL SERVIÇOS SUBMARINOS LTDA.

CNPJ: 06.181.439/0001-44

Nº de Registro CREA: 2005.201029 CREA/RJ

Responsável Técnico: FABIO DE CASTRO DUARTE – CREA/RJ 2009.116057

DADOS DO SERVIÇO

Contrato nº: P059-GLP-024-20010

Data do Início: 10 de dezembro de 2010

Data do Término: 13 de fevereiro de 2011

Valor do Contrato: R\$ 8.104.989,20

SERVIÇOS CONTRATADOS

Enterramento dos trechos submarinos dutos 8" e 12" GLP, dentro da faixa de dutos da PETROBRAS, entre a Praia de Mauá (Magé) e a Ilha Redonda, dentro da Baía de Guanabara, com cobertura mínima de 1,00 m acima da geratriz superior dos dutos.

Extensão enterrada do duto 8" GLP: 10.540 metros


Extensão enterrada do duto 12" GLP: 11.060 metros

Profundidade máxima de enterramento: 13 metros

Outrossim, atestamos ainda que, contra a referida empresa e o seu responsável técnico, não consta em nossos arquivos nenhum fato que os desabone técnica ou comercialmente até a presente data.

Rio de Janeiro, 15 de abril de 2011


CONSORCIO GLP SUBMARINO
Orlando Rocha
Gerente de Contrato

	Formulário		N°
	ÁREA	QUALIDADE	FOLHA: 1 de 2
	TÍTULO: Medição da Satisfação do Cliente		

DADOS DO CLIENTE			
Cliente: CONSORCIO GLP SUBMARINO			
Obras / Projeto: DUTOS 8" E 12" GLP (BAIA DE GUANABARA)		Período: Nov/2010 a Fev/2011	
Preenchido por: ORLANDO ROCHA		Cargo: GERENTE DE CONTRATO	
E-mail: rocha@consorcioglp.com		Tel.: (21) 2631-8600	Fax: idem

INSTRUÇÕES
<p>Prezado Cliente, solicitamos sua atenção para as instruções de preenchimento abaixo: Indique a nota que melhor representa o desempenho do item pesquisado. As notas representam:</p> <ul style="list-style-type: none"> 1 – Péssimo 2 – Ruim 3 – Regular 4 – Bom 5 – Excelente <p>O campo "comentários" é opcional e deve ser utilizado para expor detalhes ou motivos das notas atribuídas</p>

QUESTIONÁRIO – Parte A
<p>A) Atendimento / Proposta</p> <p>1 – A qualidade no atendimento</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>2 – O tempo entre a solicitação e a entrega da proposta</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>3 – A clareza e detalhamento dos itens da proposta</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>Comentários:</p> <div style="border: 1px solid black; height: 100px; width: 100%; margin-top: 10px;"> <div style="position: absolute; bottom: 10px; right: 10px; font-family: cursive; font-size: 2em;">h</div> </div>

	Formulário		N°
	ÁREA	QUALIDADE	FOLHA: 2 de 2
	TÍTULO: Medição da Satisfação do Cliente		

QUESTIONÁRIO – Parte B

B) Execução dos Serviços da Sea Brasil Serviços Submarinos

4 – Comportamento da equipe
 1 2 3 4 5

5 – Entendimento da equipe quanto às necessidades do cliente
 1 2 3 4 5

6 – Cumprimento do Cronograma
 1 2 3 4 5

7 – Cumprimento dos horários estabelecidos
 1 2 3 4 5

8 – Pontualidade na entrega dos resultados e relatórios
 1 2 3 4 5

9 – Capacidade técnica na execução do serviço
 1 2 3 4 5

10 – Condições materiais / equipamentos de execução do serviço
 1 2 3 4 5

Comentários:

A execução dos serviços atendeu satisfatoriamente as expectativas do CONSORCIO GLP SUBMARINO e do cliente final PETROBRAS/ENGENHARIA/IETEG/IETR/CMDSU.

Assinatura:  Orlando Rocha
Gerente de Contrato
Consortório GLP Submarino

Data: 13/04/2011

Data de envio: 13/04/2011 Data de recebimento: 12/04/2011

**65 GSP Offshore-NAVYMAR-BLACK SEA-
OLIMPIA PROJECT-20"**

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

General project Overview and Reference

1 Scope of work

Post-trenching

Product	Zone	Section (m)	Burial depth ToP (m)	Water Depth start (m)	Water Depth end (m)
20" gas pipeline	Kudepsta & Shakhe Canyon Area	10,056	1	-6,2	-25

2 Soil condition encountered

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 the 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 the 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.

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.

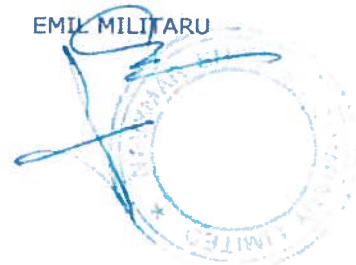
The works have been performed and completed in full compliance with the final provision of the abovementioned scope of work and to the complete satisfaction of Grup Servicii Petroliere SA and Navymar Shipping Co. Ltd

GRUP SERVICII PETROLIERE SA



NAVYMAR SHIPPING COMPANY LTD

EMIL MILITARU





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

**Mihai Nanu,
Field Engineer
GSP BIGFOOT 1**

Checked by

**Alexander Dolgovykh
Party Chief
GSP BIGFOOT 1**

Approved by

**Ted Wolford,
Superintendent
GSP BIGFOOT 1**

Confirmed by

**Yevgheniy Zubashevskiy,
Diver Supervisor
YUG-GIDROSTROY**

Confirmed by

**Stefano Merlo
Trenching Supervisor
SEA**

Aknnowledged by

**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]
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

Issued by



Mihai Nanu,
Field Engineer
GSP BIGFOOT 1

Checked by



Alexander Dolgovykh
Party Chief
GSP BIGFOOT 1

Approved by



Ted Wolford,
Superintendent
GSP BIGFOOT 1

Confirmed by



Yevgheniy Zubashevskiy,
Diver Supervisor
YUG-GIDROSTROY

Confirmed by



Stefano Merlo
Trenching Supervisor
SEA

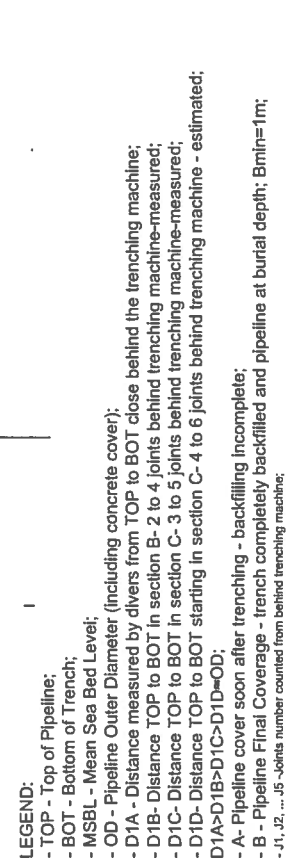
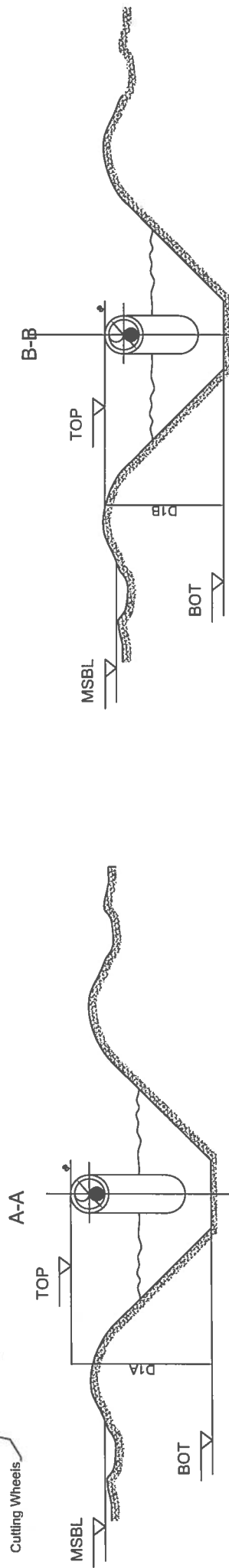
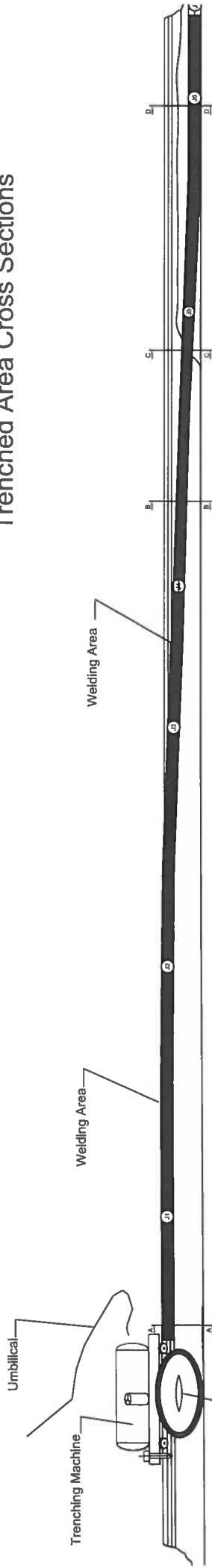
Aknowledged by



Eugeniy Zaikin
LLC "SGM" Representative

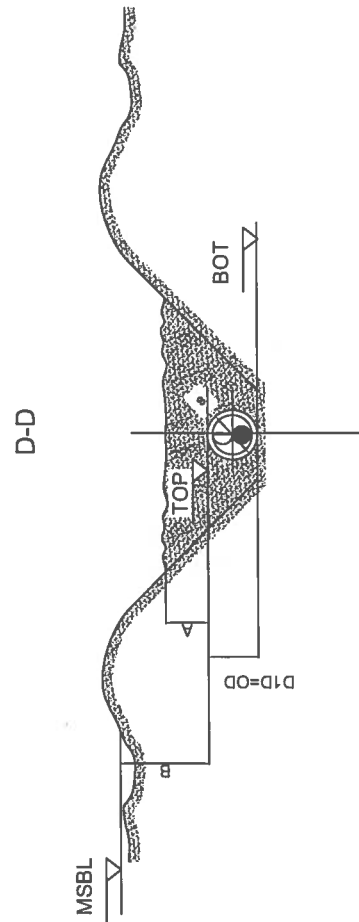
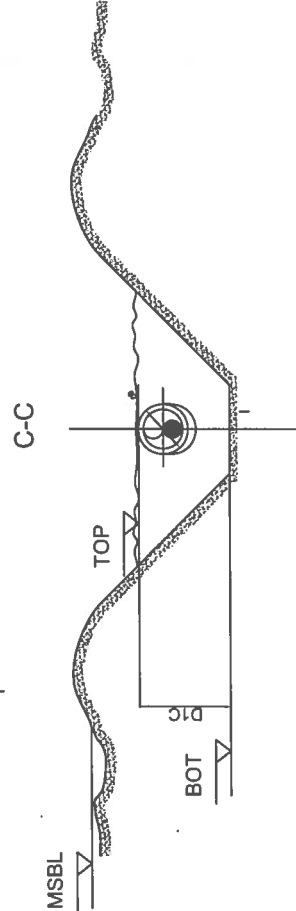
APPENDIX 2 TO GSP-FM-BF1-GSP001-094

Trenched Area Cross Sections

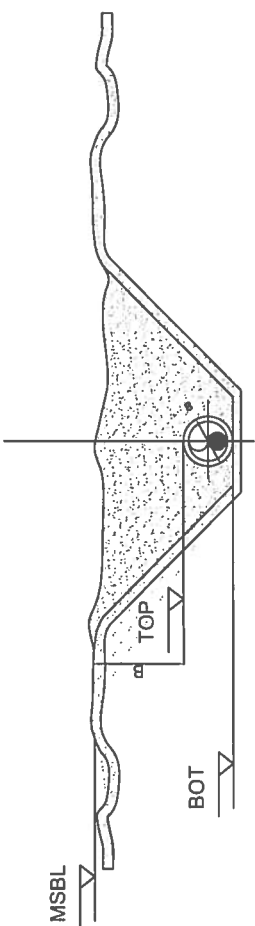


LEGEND:

- 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;



E-E (Ideal Section)





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.

Issued by

**Mihai Nanu,
Field Engineer
GSP BIGFOOT 1**

Checked by

**Alexander Dolgovitch
Party Chief
GSP BIGFOOT 1**

Approved by

**Ted Wolford,
Superintendent
GSP BIGFOOT 1**

Confirmed by

**Yevgheniy Zubashevskiy,
Diver Supervisor
YUG-GIDROSTROY**

Confirmed by

**Stefano Merlo
Trenching Supervisor
SEA**

Aknowledged by

**Artem Kemenov
LLC "SGM" Representative**

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	2.10		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		1.338
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

Checked by



Alexander Dolgovitch
Party Chief
GSP BIGFOOT 1

Approved by



Ted Wolford,
Superintendent
GSP BIGFOOT 1

Confirmed by



Yevgheniy Zubashevskiy,
Diver Supervisor
YUG-GIDROSTROY

Confirmed by



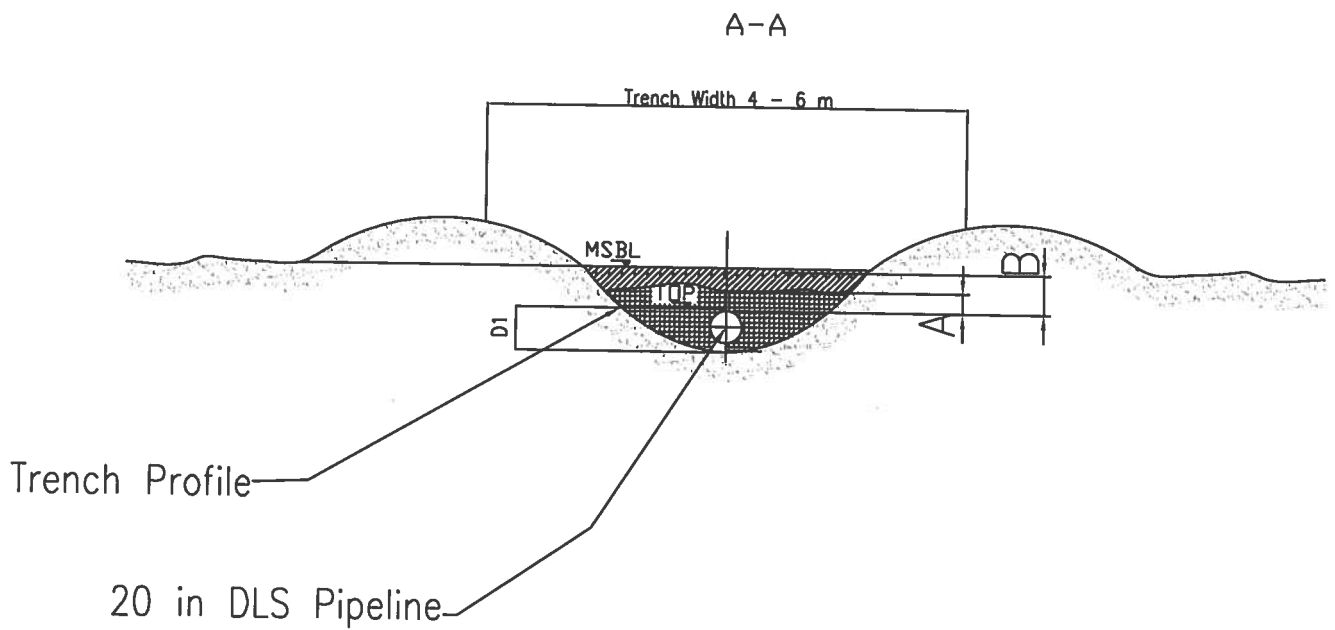
Stefano Merlo
Trenching Supervisor
SEA

Acknowledged by



Artem Kemenov
LLC "SGM" Representative

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



LEGEND:

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

**63 PETROBRAS GLOBAL IND-CAMARUPIM
PROJECT-ATLANTIC OCEAN-24”**

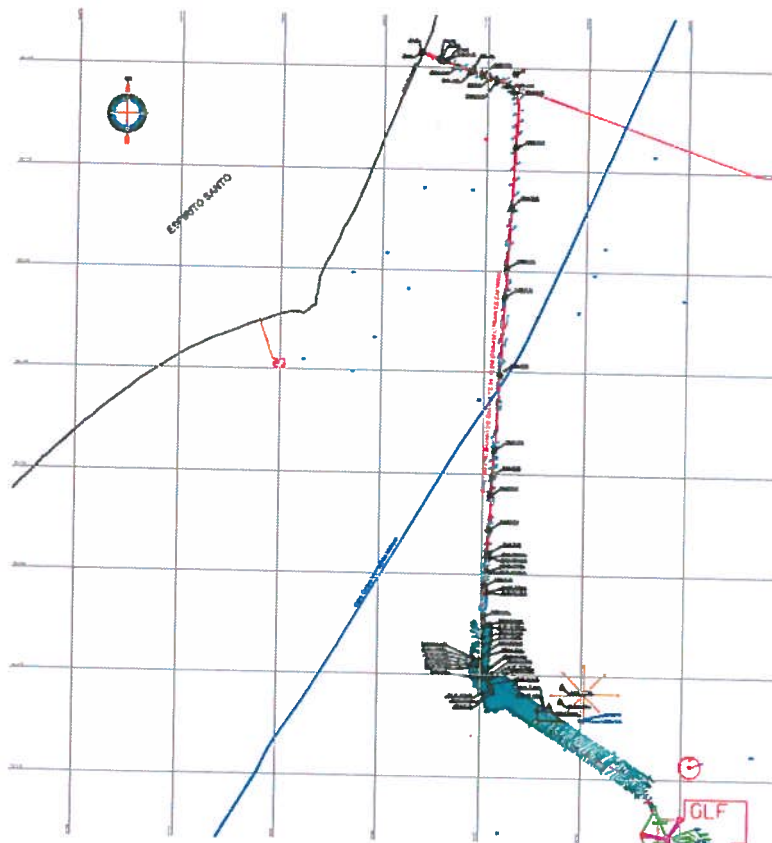
63 PETROBRAS/GLOBAL INDUSTRIES –CAMARUPIM PROJECT BACIA DE ESPIRITO SANTO– BRAZIL

General project Overview and Reference

Petrobras developed the "SISTEMA DE ESCOAMENTO DE GÁS DO CAMPO DE GOLFINHO" area for the production of Oil and Gas. Part of this field development involved a 24" gas pipeline and a PLEM.

GLOBAL INDUSTRIES OFFSHORE was awarded by PETROBRAS Petróleo Brasileiro for the EPC Camarupim Project in Espírito Santo Basin, ES, offshore Brazil.

In summary, the project consisted on installation of approximately 52km of 24" Gas Pipeline from the Cacimbas beach to PLEM (ESS164), being the firsts 1200m via a Horizontal Directional Drilling (shore approach area). SEA S.r.l. was contracted by GLOBAL INDUSTRIES OFFSHORE to perform the post-trenching from milestone 8m WD (finishing of Horizontal Directional Drilling) to milestone 26m WD. The Trenching Support/Accommodation Vessel was IROQUIS, provided by GLOBAL INDUSTRIES OFFSHORE.



Praia de Cacimbas (Bacia de Espírito Santo) – Pipeline Route

1 Scope of work

The following table extracted from Petrobras document " I-ET-3671.00-6520-960-PPR-001_Rev.0" resumes the trenching sections:

24-IN GAS PIPELINE SECTIONS	Zone	Trench Depth (m) (1)	Length (m)	KP Start	KP End	Water Depth KP Start (m)	Water Depth KP End (m)	Prior Trenching Hydrotest Pressure (kg/cm ²)	After Trenching Hydrotest Pressure (kg/cm ²)
SECTION 1 (LDA = 8m - LDA = 8m)	NEARSHORE	3	1500	0.000	1.500	0	8	250	250
SECTION 2 (LDA = 8m - LDA = 20m)	NEARSHORE	1,0 (2)	6926	1.500	8.126	8	20	250	250
SECTION 3 (LDA = 20m - LDA = 26m)	NEARSHORE	1,0 (2)	6056	8.126	14.182	20	26	250	250

Post-trenching on SEA charge:

Pipeline	Trench Cover (T.O.P.)	Length	Water Depth	
			Min	Max
24" GNL	1,0	Approx.14.000 Meters	8 m	26 m

Section	Zone	Trench Depth (m) TOP	Length (m)	KP Start	KP End	Water depth KP Start (m)	Water depth KP End (m)
SECTION 2	Nearshore	1,0	6926	1,200	8,126	8	20
SECTION 3	Nearshore	1,0	6056	8,126	14,182	20	26

2 Soil condition encountered

The soil is a clay and silt, except near the drilling hole where it is fine sand.
After the curve the soil is a silty clay.
Table 5.3 presents the soil properties

Table 5.3 – Soil Data.

Location	Description	γ_{sub} (kN/m ³)	S_u (kPa)
Directional Drilling Hole	Fine sand	10,9	-
From Directional hole to curve	Clay silt	6,0	5,2 to 9,4
After curve	Clay silt	4,6 to 5,6	6,6 to 9,5



Global Industries
Brasil

July 23, 2009

COMPLETION CERTIFICATE

Global Industries hereby confirms that:

SEA s.r.l., registered address via Mariani 44/46 – 48100 Ravenna (Italy), was awarded contract with Global Industries, which covered the post lay trenching works of approximately 14 km of 24" offshore pipeline and belonging to the Camarupim Project in Brazil.

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 Global.

Alan Buchi

Project Manager

Av. das Américas, 3.434 - Sl. 2 - sala 406 - Barra da Tijuca
Rio de Janeiro - RJ - Brasil - 22640-102 • Tel.: (55 21) 3431-1120
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www.globalind.com

**62 PETROBRAS BRASILGDK-ATLANTIC
OCEAN – LNG PROJECT - 28”**

**62 PETROBRAS/GDK S.A. – GUANABARA BAY
RIO DE JANEIRO – BRAZIL**

General project Overview and Reference



Guanabara Bay – Pipeline Route



Member of CISQ Federation

RINA
ISO 9001:2008
Certified Quality System



SEA S.r.l. Via A. Mariani 44-46, 48121 Ravenna (RA), Italy

Tel. +39 0544 30283, Fax. +39 0544 35591

www.seatrenching.it, e-mail: info@sea-group.net; Skype: sea.srl1;

Soc. Cap. €110.000,00 I.V. – R.E.A. N. 128067 – Comp. Reg. n. 15829 –

Tax Code n. 01206570390

1 Scope of work

Post-trenching

Pipeline	Trench Cover (T.O.P.)	Length	Water Depth	
			Min	Max
28" GNL	1 M	4.896 Meters	1 M	7 M

2 Soil condition encountered

Very loose sandy/silty clay alternated with clayey sand containing organic material and sometimes shells.

Plastic clay

Cemented sand



ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para os devidos fins, que a empresa **SEA BRASIL SERVIÇOS SUBMARINOS LTDA.**, com sede na Av. Praia do Flamengo, 86, Bloco B, sala 1811, Flamengo, Rio de Janeiro, inscrita no CNPJ sob. o n.º 06.181.439/0001-44, realizou para a GDK S. A. de acordo com o Contrato OS-713-052-2008, o enterramento do trecho submarino do Gasoduto 28" que interliga o Terminal Flexível de GNL dentro da Baía da Guanabara ao Manifold de interligação de gasodutos em Campos Eliseos, com as seguintes características:

1. Descrição Sumária:

Serviços de enterramento do trecho submarino do Gasoduto 28", dentro da Baía da Guanabara, ao longo de 5.200 metros, entre as profundidades de -1,50m à -7,50m.

2. Material do duto :

Aço carbono, API 5L X60, 28", espessura 0,688"
Revestimento tripla camada de polietileno
Revestimento de concreto 1,50", densidade 3040 kg/cm²

3. Equipe Técnica:

01 Diretor Técnico
01 Gerente de Projetos
01 Encarregado de Operações
02 Operadores
02 Soldadores
02 Técnicos de Operações
02 Técnicos de Segurança
03 Mecânicos
02 Eletricistas
01 Auxiliar Técnico
01 Supervisor de Mergulho
04 Mergulhadores
01 Inspetor de Mergulho

4. Responsável Técnico:

Eduardo Campbell Freitas
CREA N.º: RJ 2002105149

GDK S.A.

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CEP 20020-100 - Rio de Janeiro - RJ
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5. Período de Execução:
Julho/2008 a Agosto/2008.

Outrossim, declaramos que os serviços de enterramento do gasoduto foram executados em plena conformidade com o projeto.

Rio de Janeiro, 08 de outubro de 2008.




Eng. José Alberto Costa dos Santos
Gerente de Contrato
GDK S. A.

	Formulário		Nº
	ÁREA:	QUALIDADE	FOLHA: 1 de 2
	TÍTULO: Medição da Satisfação do Cliente		

DADOS DO CLIENTE		
Cliente: GDK S/A		
Obras / Projeto: ENTERRAMENTO DO GASODUTO 28" (GNL)	Período: JUL/08 a AGO/08	
Preenchido por: MARCELO SAJNIN	Cargo: COORD. DE PLANEJAMENTO	
E-mail: marcelo.sajnin@gdksa.com	Tel.: 21 3366-1268	Fax: 21 3367-4044

INSTRUÇÕES
<p>Prezado Cliente, solicitamos sua atenção para as instruções de preenchimento abaixo: Indique a nota que melhor representa o desempenho do item pesquisado.</p> <p>As notas representam:</p> <ul style="list-style-type: none"> 1 – Péssimo 2 – Ruim 3 – Regular 4 – Bom 5 – Excelente <p>O campo "comentários" é opcional e deve ser utilizado para expor detalhes ou motivos das notas atribuídas.</p>

QUESTIONÁRIO - Parte A
<p>A) Atendimento / Proposta</p> <p>1 – A qualidade no atendimento</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>2 – Relacionamento SEA Brasil – Cliente na fase de elaboração da proposta</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>3 – A clareza e detalhamento dos itens da proposta</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>4 – Qualidade da proposta técnica para execução do serviço</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>Comentários:</p>

	Formulário		Nº
	ÁREA	QUALIDADE	FOLHA: 2 de 2
	TÍTULO: Medição da Satisfação do Cliente		

QUESTIONÁRIO - Parte B

B) Execução dos Serviços da Sea Brasil Serviços Submarinos

5 - Comportamento da equipe / Relacionamento da SEA Brasil - Cliente na fase de execução do serviço

1 2 3 4 5

6 - Atendimento às solicitações do cliente

1 2 3 4 5

7 - Cumprimento do Cronograma

1 2 3 4 5

8 - Capacidade técnica na execução do serviço

1 2 3 4 5

9 - Capacidade técnica em resolver imprevistos ou mudanças de escopo de trabalho


1 2 3 4 5

10 - Condições materiais / equipamentos de execução do serviço

1 2 3 4 5

Comentários:

1. A execução dos serviços atendeu satisfatoriamente as expectativas do GDK e do cliente final PETROBRAS / ENGENHARIA / IETEG / IEGN

Assinatura:	 GDK S/A Marcelo Sainin Planejamento	Data: 08-10-08
Exclusivo SEA Brasil	Data de envio	Data de recebimento

**61 PETROFAC TUNISIA–MEDITERRANEAN
SEA– CHERGUI PROJECT - 8”**

61 PETROFAC TUNISIA–MEDITERRANEAN SEA– 8” CHERGUI PROJECT

General project Overview and Reference

1 Scope of work

Various free spans ,due to the irregularity of the seabed, were encountered during the pipeline laying operations. For safety reasons, before trenching the pipeline, the free span correction operations was performed. Free span correction means to lower the free span slopes levelling the seabed irregularities in order to allow the pipe safely laying down.

The free span correction started from KP 0 (Hagounah) up to KP 28364 (Chergui) and each free span area correction followed an exact procedure of how to position the PTM and how to trench the free span. Table 1.2 describes all original 47 free span interventions required.

After a preliminary free span correction activity was carried out, several smaller free span corrections (total 15) were no longer necessary as they were levelled out during the normal subsequent post-trenching operations.

The following is the post-trenching scope of work:

Pipeline	Trench Cover (T.O.P.)	KP		Water Depth	
		From	To	Min	Max
8” Gas Pipeline	1m	0.000	28.364	0	11

Table 1.1

Table 1.2

SEA		8" CHERGUI SUBMARINE PIPELINE				P	
SPAN No.	COORDINATES		SPAN Length (m)	SPAN Max. Depth (m)	Graph No.	Distance between spans	
	Northing WGS84	Easting WGS84					
KP.0 Haegounneh (El Awabed - Tunisia) - Outside of inshore excavation bund							
						602	
A	34°50.634'N	10°53.779'E	5	0.50	1	861	
B	34°50.409'N	10°54.277'E	7	0.63	1	287	
C	34°50.348'N	10°54.443'E	10	0.80	1	710	
1	34°50.162'N	10°54.848'E	3	0.36	1	294	
2	34°50.079'N	10°55.021'E	5	0.50	1	112	
3	34°50.054'N	10°55.077'E	19	0.90	1	228	
4	34°49.995'N	10°55.190'E	19	0.70	1		
RIDGE							
						369	
5	34°49.871'N	10°55.441'E	15	0.83	1	199	
6	34°49.834'N	10°55.510'E	25	0.89	1	28	
7	34°49.819'N	10°55.546'E	25	0.92	1	114	
8	34°49.780'N	10°55.667'E	25	0.90	1	109	
9	34°49.760'N	10°55.727'E	12	0.49	1	84	
10	34°49.740'N	10°55.744'E	6	0.40	1	87	
11	34°49.742'N	10°55.787'E	13	0.70	1	64	
12	34°49.731'N	10°55.827'E	9	0.70	1	47	
13	34°49.726'N	10°55.846'E	12	0.72	1	1057	
14	34°49.494'N	10°56.491'E	10	0.35	2	231	
15	34°49.471'N	10°56.621'E	14	0.40	2	3643	
16	34°48.571'N	10°58.729'E	7	0.40	6	306	
17	34°48.509'N	10°58.912'E	6	0.40	6	31	
18	34°48.509'N	10°58.918'E	20	1.15	6	169	
19	34°48.457'N	10°58.999'E	11	1.30	6	333	
20	34°48.312'N	10°59.190'E	33	1.00	7	437	
21	34°48.194'N	10°59.415'E	20	1.00	7	55	
22	34°48.182'N	10°59.481'E	15	1.00	7		

SEA		8" CHERGUI SUBMARINE PIPELINE				P	
SPAN No.	COORDINATES		SPAN Length (m)	SPAN Max. Depth (m)	Graph No.	Distance between spans	
	Northing WGS84	Easting WGS84					
23	34°48.177'N	10°59.445'E	10	1.00	7	36	
24	34°48.177'N	10°59.445'E	15	2.00	7	782	
25	34°47.927'N	10°59.912'E	30	2.10	7	258	
26	34°47.847'N	11°00.050'E	10	1.01	7	316	
27	34°47.775'N	11°00.225'E	10	0.51	8	163	
28	34°47.713'N	11°00.319'E	30	0.80	8	442	
29	34°47.556'N	11°00.589'E	10	1.51	8	131	
30	34°47.529'N	11°00.620'E	12	0.71	8	87	
31	34°47.511'N	11°00.675'E	15	1.01	8	292	
32	34°47.426'N	11°00.836'E	40	2.50	8	595	
33	34°47.248'N	11°01.161'E	25	0.70	8	529	
34	34°47.093'N	11°01.453'E	18	1.29	9	116	
35	34°47.047'N	11°01.507'E	15	0.70	9	103	
36	34°47.026'N	11°01.571'E	10	0.80	9	313	
37	34°46.930'N	11°01.740'E	20	1.40	9	36	
38	34°46.922'N	11°01.762'E	12	1.00	9	492	
39	34°46.775'N	11°02.031'E	17	0.80	9	757	
40	34°46.556'N	11°02.450'E	10	0.60	10	582	
41	34°46.378'N	11°02.765'E	15	0.81	11	110	
42	34°46.334'N	11°02.809'E	7	0.81	11	343	
43	34°46.239'N	11°03.015'E	10	0.40	11	74	
44	34°46.221'N	11°03.053'E	8	0.50	11	397	
45	34°46.108'N	11°03.274'E	8	0.70	11	135	
46	34°46.069'N	11°03.349'E	20	0.70	11	10754	
47	34°43.462'N	11°09.613'E	18	0.70	15	33	
Final KP Kerkena beach (Chergui Island) - Outside of bounded inshore trench							

2 Soil condition encountered

Zone	Prevailing material encountered
Hagounah approach	Fine/Medium shelly sand – calcareous rock- Posidonia grass
nearshore	Fine/Medium shelly sand – calcareous rock-
Chergui (Kerkennah Island) approach	Fine/Medium shelly sand – calcareous rock- Posidonia grass

Ref.: PTU_CER_JBS_SEA_09_0001_V1

February 19, 2009


COMPLETION CERTIFICATE

Petrofac Energy Developments International Limited hereby confirms that:

SEA srl, registered address via Mariani 44/46 – 48100 Ravenna, was awarded contract PTU_PRO_CON_0001_2007 with Petrofac Energy Developments International Limited, which covered the correction of thirty-two (32) free spans and the subsequent post-lay trenching of approximately 29 km of 8" concrete coated offshore pipeline belonging to the Chergui Gas Development Project in the Republic of Tunisia.

The works have been performed and completed in full compliance with the final provisions of the abovementioned CONTRACT and to the complete satisfaction of Petrofac.

For Petrofac:


Brad J Singer
General Manager
Petrofac Tunisia



Petrofac Tunisia
Contact through: Leman Center - Tour B - Rue du lac Leman, 1053 Les Berges du Lac - Tunis - Tunisia
Tel: +216 71 964 090 Fax: +216 71 964 710

RC. B2465842006 - MF. 983730/VAM/000
PTU OUA FRM 0009 V2

**57-59 PETROBRAS BRASILEGDK– ATLANTIC
OCEAN–AREA D F B 26”**

**57-58-59 PETROBRAS/GDK S.A. – GUANABARA BAY
RIO DE JANEIRO – BRAZIL**

General project Overview and Reference



Guanabara Bay – Pipeline Route

1 Scope of work

Post-trenching

26" Norte Pipeline					
Area	Section	Trench Cover (T.O.P.)	Length	Water Depth	
				Min	Max
B	Shore Approach "Ilha do Governador"	1 M	100 Meters	1 M	4 M
	Shallow Water	1 M	3.664 Meters	4 M	10 M
D	Shore Approach "Ilha da Agua"	1 M	100 Meters	1 M	4 M
	Shallow Water	1 M	1.408 Meters	4 M	7 M
	Shore Approach "Ilha do Governador"	1 M	100 Meters	1 M	4 M
F	PIER	1 M	100 Meters	8 M	15 M

2 Soil condition encountered

Very loose quartziferous sandy/silty clay alternated with clayey sand containing organic material and sometimes shells.

Plastic Clay

Cemented sand

N°	PROJECT	Prevailing seabed material encountered	PRODUCT	LENGT H	CLIENT/ CONTRACTOR
59	AREA B	SAND and very plastic SILTY CLAY	26"	3600	PETROBRAS/GDK
58	AREA F	CLAY	26"	700	PETROBRAS GDK
57	AREA D	SAND and SILTY CLAY CEMENTED SAND	26"	1600	PETROBRAS GDK



ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para os devidos fins, que a empresa **SEA BRASIL SERVIÇOS SUBMARINOS LTDA.**, com sede na Av. Praia do Flamengo, 86, Bloco B, sala 1811, Flamengo, Rio de Janeiro, inscrita no CNPJ sob o nº. 06.181.439/0001-44, realizou para a **GDK S.A.** de acordo com o Contrato OS 709-040-2005, o enterramento de Oleoduto 26" Norte dentro da Baía da Guanabara, com as seguintes características:

1. Descrição Sumária:

Serviços de enterramento do Oleoduto 26" Norte, dentro da faixa de dutos da PETROBRAS na Baía da Guanabara, ao longo de 6.104 metros.

2. Trechos enterrados:

Área	Localização do trecho enterrado	Comprimento	Profundidade máxima
B	Entre a REDUC e a Ilha do Governador	3.764 m	5,00 m
D	Entre Ilha do Governador e Ilha d'Água	1.608 m	6,00 m
F	Entre a Ilha d'Água e o Pier Principal	732 m	18,00 m

3. Material do duto:

Aço carbono, API 5L Gr. B

Revestimento tripla camada de polietileno

Revestimento de concreto 3,3", densidade 2240 Kg/cm²

GDK SA

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4. Equipe Técnica:

01 Diretor Técnico
01 Gerente de Projetos
01 Encarregado de Operações
02 Operadores
03 Soldadores
02 Técnicos de Operações
02 Técnicos de Operações
02 Técnicos de Segurança
03 mecânicos
02 Eletricistas
01 Auxiliar Técnico

5. Valor do Contrato:

O contrato objeto dos serviços em referência totalizou U\$S 1.784.290,00 (um milhão setecentos e oitenta e quatro mil, duzentos e noventa dólares americanos)

6. Responsável Técnico:

Sebastião J. Alvarez
CREA Nº: 23043-D-RJ

7. Período de Execução:


Fevereiro/2006 a Setembro/2006.

Outrossim, declaramos que na Área "B" o duto foi enterrado em conformidade com o projeto, não entanto, nas Áreas "D" e "F" o duto não foi enterrado dentro da conformidade do projeto devido às condições do duto e as características geofísicas da região.

Rio de Janeiro, 21 de dezembro de 2006.



Decio Issao Hashiguchi
GDK S.A

	Formulário		Nº:	Número do documento		
	ÁREA:		QUALIDADE		FOLHA:	1 de 2
	TÍTULO:		Formulário de Medição da Satisfação do Cliente			

DADOS DO CLIENTE

Cliente: GDK S/A		
Obras / Projeto: Enterramento do Oleoduto 26º Norte - Período: Fev/06 a Set/06		
Preenchido Por: Decio Issao Hashiguchi	Cargo: Diretor de Contrato	
E-mail: decio@gdksa.com	Tel: 21 2131-2900	Fax: 21 2131-2903

INSTRUÇÕES

Indique a nota que melhor representa o desempenho do item pesquisado.

As notas representam: 1 – Péssimo 2 – Ruim 3 – Regular 4 – Bom 5 – Excelente

O campo "comentários" é opcional e deve ser utilizado para expor detalhes ou motivos das notas atribuídas.

QUESTIONÁRIO

A) Atendimento / Proposta

1 – A qualidade no atendimento
 1 2 3 4 5

2 – O tempo entre a solicitação e a entrega da proposta
 1 2 3 4 5

3 – A clareza e detalhamento dos itens da proposta
 1 2 3 4 5

Comentários:

B) Execução dos Serviços da Sea Brasil Serviços Submarinos

4 – Comportamento da equipe
 1 2 3 4 5

5 – Entendimento da equipe quanto às necessidades do cliente
 1 2 3 4 5

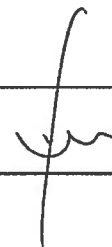
6 – Cumprimento do Cronograma
 1 2 3 4 5

7 – Cumprimento dos horários estabelecidos
 1 2 3 4 5

8 – Pontualidade na entrega dos resultados e relatórios
 1 2 3 4 5

9 – Capacidade técnica na execução do serviço
 1 2 3 4 5

10 – Condições materiais / equipamentos de execução do serviço
 1 2 3 4 5



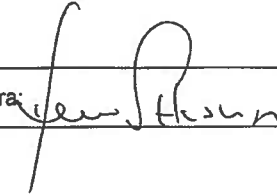
Comentários:

1. Após o término da passagem da máquina de enterramento, ocorreram atrasos nas medições submarinas das cotas de enterramento, em consequência ocorreram atrasos nos relatórios de medição das cotas acarretando atraso na entrega dos relatórios parciais e do DATA BOOK.

2. Em algumas oportunidades funcionários da SEA BRASIL, foram alertados quanto ao correto uso de EPI e atendimento ao procedimento de SMS da PETROBRAS.

Nome: Decio Issao Hashiguchi

Assinatura:



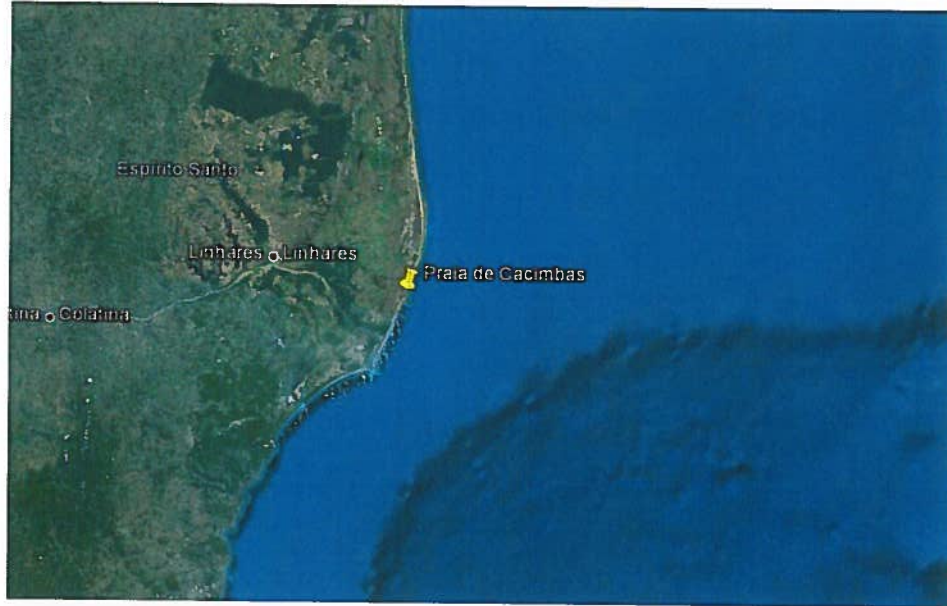
Data: 21/12/06

**55-56 PETROBRAS BRASILE-ATLANTIC
OCEAN – PERCAN & PDEG 18” - 22”**

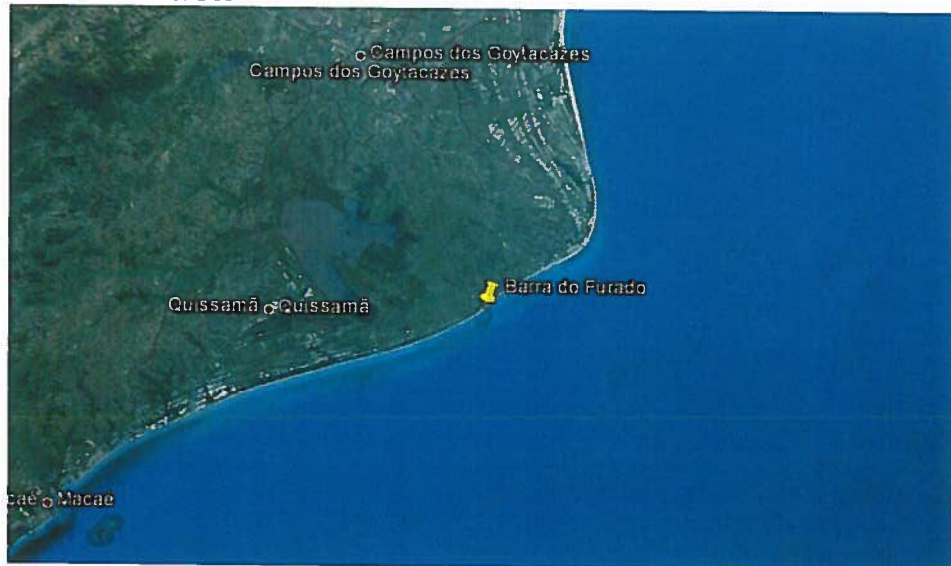
**56 PETROBRAS BRASILE-ATLANTIC OCEAN – 18" PERCAN,
22" PDEG**

General project Overview and Reference

18" Pipeline Location



22" Pipeline Location



1 Scope of work


	TECHNICAL SPECIFICATION N:		I-ET-3000.00-6500-960-PPR-001	
	UNIT:	BACIA DE CAMPOS E BACIA DO ESPÍRITO SANTO		SHEET: 14 de 56
	PEROÁ, PDEG, PDET, TNC PIPELINES TRENCHING			

TABLE 2.2 CHARACTERISTICS OF THE SECTIONS OF THE PIPELINE TRENCH													
PIPELINE	Zone	Trench Depth (m) (f)	Length (m)	KP Start	KP End	Water Depth KP Start (m)	Water Depth KP End (m)	Max. Pipeline Vertical Prop (m)	Pipeline Length Associated to the Vertical Prop (m)	Max. Pipeline Lateral Prop (m)	Pipeline Length Associated to the Lateral Prop (m)	Prior Trenching Hydrotest Pressure (kg/cm ²)	After Trenching Hydrotest Pressure (kg/cm ²)
GAS LINE 18-IN PPER-1/CACIMBAS	NEARSHORE	1	4077	47.951	52.028	13.3	4.2	HOLD	HOLD	HOLD	HOLD	50	157
	INSHORE	2.5	168	52.028	52.196	4.2	1.8						
		3.3	100	52.196	52.290	1.8	0						
BEACH	4.0	30	52.296	52.326	0	(-)5.3							
GAS LINE 22-IN PGA-1/PONTOA	INSHORE	2	700	83.370	83.070	6.2	0	0.5	70	NO MITIGATION REQUIRED	163	163	
	BEACH	2	152	83.070	83.232	0	(-)6						

2 Soil condition encountered

Zone	Prevailing material encountered
Nearshore	Silty Clay/Clayey Silt and Silty sand
Inshore	Compact sand and sandstone rock
Beach area	Loose silty and clayey sand

ENGENHARIA/IEEPT/IEDS/CIDAR – Rio de Janeiro, 9 January 2006

00005/2006

Dear Mrs.

Rossana Marangoni

SEA BRASIL SERVIÇOS SUBMARINOS LTDA

Praia do Flamengo, 66 bloco B – Sala:1811 – Flamengo – Rio de Janeiro

Subject: Completion Certificate

Dear Mrs,

We certify, to whom it may concern, that your Company performed the services as per the referred contract, of which the most significant details are reported below:

1.1 Contractor Company details:

Petroleo Brasileiro S.A. – PETROBRAS
CNPJ/MF n°33.000.167/0001-01
ENGENHARIA/IEEPT/IEDS (Development of Submarine Pipeline Project)

1.2 Contracted Company details:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiary and assignee of SEA Servizi Ecologici Affossamenti)
Contract no.: 834.2.002.04-5
CREA-RJ licence no.: 2005201029
CNPJ no.: 06.181.439/0001-44

Technical Director of the Work:

Mr. Sebastiao José Alvarez
CREA licence no.: RJ-23043/D

1.3 Details of the contracted services:

Object of the contract: post-trenching and quota reduction services for PDEG's 22" gas pipeline in Bacia de Campos and for PERCAN's 18" gas pipeline in Espirito Santos and performance of the related activities, to the trenching and trenching quota reduction services

Scope: (Post-trenching of 4.375 meters of the PERCAN's 18" gas-pipeline);

Execution regime: (contract on lump sum basis);

Place of the services execution: (Cacimbas beach, Municipality of Linhares, Esperito Santos estate);

Contractual completion period: (506) Five hundred and six days;

Date of the commencement of the services: 23/07/2004

Date of the completion of the services: 30/10/2005

Contract Value: R\$ 23.314.809,60 (twenty-three million, three hundred and fourteen thousand, eight hundred and nine).

Main performed quantities:

- Post-trenching and quota reduction services of a section of 4.375 meters of the PERCAN's 18" gas pipeline on the Cacimbas beach, Municipality of Linhares, Esperito Santos estate

Valuation of the Company: This Company was voted 70, as per the PETROBRAS's valuation system, during the execution of this services.

Reference: Completion certificate – document SEA – 003-LM-BR06 on 03/01/2006 – Contract no.834.2.002.04-5

Kind regards,

Pedro Augusto Cortes Xavier Bastos

Pipeline Shallow Water Construction and Installation Department Manager

ENGENHARIA/IEEPT/IEDS/CIDAR – Rio de Janeiro, 9 January 2006

00006/2006

Dear Mrs.

Rossana Marangoni

SEA BRASIL SERVIÇOS SUBMARINOS LTDA

Praia do Flamengo, 66 bloco B – Sala:1811 – Flamengo – Rio de Janeiro

Subject: Completion Certificate

Dear Mrs,

We certify, to whom it may concern, that your Company performed the services as per the referred contract, of which the most significant details are reported below:

1.4 Contractor Company details:

Petroleo Brasileiro S.A. – PETROBRAS
CNPJ/MF n°33.000.167/0001-01
ENGENHARIA/IEEPT/IEDS (Development of Submarine Pipeline Project)

1.5 Contracted Company details:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiary and assignee of SEA Servizi Ecologici Affossamenti)
Contract no.: 834.2.002.04-5
CREA-RJ licence no.: 2005201029
CNPJ no.: 06.181.439/0001-44

Technical Director of the Work:

Mr. Sebastiao Josè Alvarez
CREA licence no.: RJ-23043/D

1.6 Details of the contracted services:

Object of the contract: post-trenching and quota reduction services for PDEG's 22" gas pipeline in Bacia de Campos and for PERCAN's 18" gas pipeline in Espirito Santos and performance of the related activities, to the trenching and trenching quota reduction services

Scope: (Pipeline inspection, using Pig equipment, of a section of 1000 meters of the PDEG's 22" gas pipeline);

Execution regime: (contract on lump sum basis);

Place of the services execution: (Cacimbas beach, Municipality of Linhares, Esperito Santos estate);

Contractual completion period: (506) Five hundred and six days;

Date of the commencement of the services: 23/07/2004

Date of the completion of the services: 15/03/2005

Contract Value: R\$ 23.314.809,60 (twenty-three million, three hundred and fourteen thousand, eight hundred and nine).

Main performed quantities:

- Pipeline inspection, using Pig equipment, of a section of 1000 meters of the PDEG's 22" gas pipeline, on the Barra do Furado beach, Municipality of Quissama, Rio de Janeiro estate

Valuation of the Company: This Company was voted 70, as per the PETROBRAS's valuation system, during the execution of this services.

Reference: Completion certificate – document SEA – 003-LM-BR06 on 03/01/2006 – Contract no.834.2.002.04-5

Kind regards,

Pedro Augusto Cortes Xavier Bastos

Pipeline Shallow Water Construction and Installation Department Manager

ENGENHARIA/IEEPT/IEDS/CIDAR – Rio de Janeiro, 9 January 2006

00007/2006

Dear Mrs.

Rossana Marangoni

SEA BRASIL SERVIÇOS SUBMARINOS LTDA

Praia do Flamengo, 66 bloco B – Sala:1811 – Flamengo – Rio de Janeiro

Subject: Completion Certificate

Dear Mrs,

We certify, to whom it may concern, that your Company performed the services as per the referred contract, of which the most significant details are reported below:

1.7 Contractor Company details:

Petroleo Brasileiro S.A. – PETROBRAS

CNPJ/MF n°33.000.167/0001-01

ENGENHARIA/IEEPT/IEDS (Development of Submarine Pipeline Project)

1.8 Contracted Company details:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiary and assignee of SEA Servizi Ecologici Affossamenti)

Contract no.: 834.2.002.04-5

CREA-RJ licence no.: 2005201029

CNPJ no.: 06.181.439/0001-44

Technical Director of the Work:

Mr. Sebastiao José Alvarez

CREA licence no.: RJ-23043/D

1.9 Details of the contracted services:

Object of the contract: post-trenching and quota reduction services for PDEG's 22" gas pipeline in Bacia de Campos and for PERCAN's 18" gas pipeline in Espirito Santos and performance of the related activities, to the trenching and trenching quota reduction services

Scope: (Post-trenching of 862 meters of the PDEG's 22" gas-pipeline);

Execution regime: (contract on lump sum basis);

Place of the services execution: (in the Barra do Furado beach, Municipality of Quissama, Rio de Janeiro estate);

Contractual completion period: (506) Five hundred and six days;

Date of the commencement of the services: 23/07/2004

Date of the completion of the services: 30/08/2005

Contract Value: R\$ 23.314.809,60 (twenty-three million, three hundred and fourteen thousand, eight hundred and nine).

Main performed quantities:

- Post-trenching and quota reduction services of a section of 862 meters of the PDEG's 22" gas pipeline on the Barra do Furado beach, Municipality of Quissama, Rio de Janeiro estate

Valuation of the Company: This Company was voted 70, as per the PETROBRAS's valuation system, during the execution of this services.

Reference: Completion certificate – document SEA – 003-LM-BR06 on 03/01/2006 – Contract no.834.2.002.04-5

Kind regards,

Pedro Augusto Cortes Xavier Bastos

Pipeline Shallow Water Construction and Installation Department Manager



PETRÓLEO BRASILEIRO S.A.
PETROBRAS

ENGENHARIA/IEEPT/IEDS/CIDAR - Rio de Janeiro, 9 de janeiro de 2006
00005/2006

Ilma Sra.

Rossana Marangoni
SEA BRASIL SERVIÇOS SUBMARINOS LTDA
Praia do Flamengo, 66 bloco B - Sala: 1811 - Flamengo - Rio de Janeiro

Assunto : Atestado de execução de serviços

Prezada Senhora,

Atestamos, para os devidos fins, que essa empresa executou os serviços contratados através do instrumento contratual sob referência, cujos dados mais expressivos informamos a seguir:

1.1 – Dados do Contratante:

Petróleo Brasileiro S.A. – PETROBRAS
CNPJ/MF nº 33.000.167/0001-01
ENGENHARIA/IEEPT/IEDS, (Implementação de Empreendimentos para Dutos Submarinos.

1.2 – Dados da Contratada:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiária e Cessionária da empresa Sea Servizi Ecologici Affossamenti)
CONTRATO: 834.2.002.04-5
CREA-RJ: 2005201029
CNPJ: 06.181.439/0001-44

Responsável Técnico pela Obra:
Sr. Sebastião José Alvares
Carteira CREA: RJ-23043/D

1.3 – Dados dos serviços:

Objeto do Contrato: enterramento e rebaixamento de cota de enterramento dos gasodutos de 22" do PDEG na Bacia de Campo e de 18" de PERCAN no Espírito

Santo e execução de serviços complementares as atividades de enterramento/rebaixamento de cota de enterramento.

Escopo: (Enterramento de trecho de 4.375 metros do gasoduto de 18" de Percan);

Regime de Execução: (empreitada de preços unitários);

Local da prestação dos serviços (Praia de Cacimbas, Município de Linhares, ES);

Prazo do Contrato: (506 quinhentos e seis dias);

Data de início dos serviços : 23/07/2004

Data de término dos serviços : 03/10/2005

Valor: (R\$ 23.314.809,60 (vinte e três milhões, trezentos e quatorze mil, oitocentos e nove reais e sessenta centavos).

Principais quantidades executadas:

- Enterramento e rebaixamento de trecho de 4.375 metros do gasoduto de 18" de Percan, na Praia de Cacimbas, município de Linhares, ES;

Avaliação da empresa: Na execução destes serviços, essa empresa obteve o conceito 70 (setenta), conforme sistema de avaliação em vigor na PETROBRAS.

Referência: Atestado de Execução de Serviços Carta SEA – 0003-LM-BR06 de 03/01/2006 - Contrato nº 834.2.002.04-5

Atenciosamente,



RENATO DE SOUZA SOARES
Equipamentos Pleno
Matr. nº 1856660-4

Eng. Augusto Cortes Xavier Bastos

 Gerente Setorial de Construção e Instalação de Dutos em Águas Rasas
ENGENHARIA

* Assinatura digitalizada sem valor legal

ENGENHARIA / IEEPT / IEDS
Av. Almirante Barroso, nº81 Edifício Torre Almirante (EDITA)


LUIZ CARLOS DE COSTA NUNES
Matr. nº 1856660-4
ENGENHARIA / IEEPT / IEDS / PC



PETRÓLEO BRASILEIRO S.A.
PETROBRAS

ENGENHARIA/IEEPT/IEDS/CIDAR - Rio de Janeiro, 9 de janeiro de 2006
00007/2006

Ilma Sra.

Rossana Marangoni
SEA BRASIL SERVIÇOS SUBMARINOS LTDA
Praia do Flamengo, 66 bloco B - Sala: 1811 - Flamengo - Rio de Janeiro

Assunto : Atestado de execução de serviços

Prezada Senhora,

Atestamos, para os devidos fins, que essa empresa executou os serviços contratados através do instrumento contratual sob referência, cujos dados mais expressivos informamos a seguir:

1.1 – Dados do Contratante:

Petróleo Brasileiro S.A. – PETROBRAS
CNPJ/MF nº 33.000.167/0001-01
ENGENHARIA/IEEPT/IEDS, (Implementação de Empreendimentos para Dutos Submarinos).

1.2 – Dados da Contratada:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiária e Cessionária da empresa Sea Servizi Ecologici Affossamenti)
CONTRATO: 834.2.002.04-5
CREA-RJ: 2005201029
CNPJ: 06.181.439/0001-44

Responsável Técnico pela Obra:
Sr. Sebastião José Alvares
Carteira CREA: RJ-23043/D

1.3 – Dados dos serviços:

Objeto do Contrato: enterramento e rebaixamento de cota de enterramento dos gasodutos de 22" do PDEG na Bacia de Campo e de 18" de PERCAN no Espírito

Santo e execução de serviços complementares as atividades de enterramento/rebaixamento de cota de enterramento.

Escopo: (Enterramento de trecho de 862 metros do gasoduto de 22" do PDEG);

Regime de Execução: (empreitada de preços unitários);

Local da prestação dos serviços (Praia de Barra do Furado, Município de Quissamã, RJ);

Prazo do Contrato: (506) quinhentos e seis dias;

Data de início dos serviços : 23/07/2004

Data de término dos serviços : 30/08/2005

Valor: (R\$ 23.314.809,60 (vinte e três milhões, trezentos e quatorze mil, oitocentos e nove reais e sessenta centavos).

Principais quantidades executadas:

- Enterramento e rebaixamento de trecho de 862 metros do gasoduto de 22" do PDEG, na Praia de Barra do Furado, município de Quissamã, RJ;

Avaliação da empresa: Na execução destes serviços, essa empresa obteve o conceito 70 (setenta), conforme sistema de avaliação em vigor na PETROBRAS.

Referência: Atestado de Execução de Serviços Carta SEA – 0003-LM-BR06 de 03/01/2006 - Contrato nº 834.2.002.04-5

Atenciosamente,


PEDRO AUGUSTO DE SOUZA SOARES
Engº de Equipamentos Pleno
Matr.: 024242-0

Pedro Augusto Cortes Xavier Bastos

**P/ Gerente Setorial de Construção e Instalação de Dutos em Águas Rasas
ENGENHARIA**


LUIZ CARLOS DA COSTA NUNES
Matr.: 656660-4
ENGENHARIA / IEEPT/IEDS/PC

* Assinatura digitalizada sem valor legal



PETRÓLEO BRASILEIRO S.A.
PETROBRAS

ENGENHARIA/IEEPT/IEDS/CIDAR - Rio de Janeiro, 9 de janeiro de 2006
00006/2006

Ilma Sra.

Rossana Marangoni
SEA BRASIL SERVIÇOS SUBMARINOS LTDA
Praia do Flamengo, 66 bloco B - Sala: 1811 - Flamengo - Rio de Janeiro

Assunto : Atestado de execução de serviços

Prezada Senhora,

Atestamos, para os devidos fins, que essa empresa executou os serviços contratados através do instrumento contratual sob referência, cujos dados mais expressivos informamos a seguir:

1.1 – Dados do Contratante:

Petróleo Brasileiro S.A. – PETROBRAS
CNPJ/MF nº 33.000.167/0001-01
ENGENHARIA/IEEPT/IEDS, (Implementação de Empreendimentos para Dutos Submarinos.

1.2 – Dados da Contratada:

SEA BRASIL SERVIÇOS SUBMARINOS LTDA (Subsidiária e Cessionária da empresa Sea Servizi Ecologici Affossamenti)
CONTRATO: 834.2.002.04-5
CREA-RJ: 2005201029
CNPJ: 06.181.439/0001-44

Responsável Técnico pela Obra:
Sr. Sebastião José Alvares
Carteira CREA: RJ-23043/D

1.3 – Dados dos serviços:

Objeto do Contrato: enterramento e rebaixamento de cota de enterramento dos gasodutos de 22" do PDEG na Bacia de Campo e de 18" de PERCAN no Espírito

Santo e execução de serviços complementares as atividades de enterramento/rebaixamento de cota de enterramento.

Escopo: (Passagem de Pig's em trecho de 1000 metros do gasoduto de 22" do PDEG);

Regime de Execução: (empreitada de preços unitários);

Local da prestação dos serviços (Praia de Barra do Furado, Município de Quissamã, RJ.);

Prazo do Contrato: (506) quinhentos e seis dias;

Data de início dos serviços : 23/07/2004

Data de término dos serviços : 15/03/2005

Valor: (R\$ 23.314.809,60 (vinte e três milhões, trezentos e quatorze mil, oitocentos e nove reais e sessenta centavos).

Principais quantidades executadas:

- Passagem de Pig's em trecho de 1000 metros do gasoduto de 22" do PDEG, na Praia de Barra do Furado, município de Quissamã, RJ.

Avaliação da empresa: Na execução destes serviços, essa empresa obteve o conceito 70 (setenta), conforme sistema de avaliação em vigor na PETROBRAS.

Referência: Atestado de Execução de Serviços Carta SEA – 0003-LM-BR06 de 03/01/2006 - Contrato nº 834.2.002.04-5

Atenciosamente,


RENATO DE SOUZA SOARES
Engº de Equipamentos Pleno
Matr.: 024242-0

Pedro Augusto Cortes Xavier Bastos

 Gerente Setorial de Construção e Instalação de Dutos em Águas Rasas
ENGENHARIA


LUIZ CARLOS DA COSTA NUNES
Matrícula: 65680-4
ENGENHARIA / IEPT / EDS / PC

* Assinatura digitalizada sem valor legal

Instrumento contratual jurídico: 1000-0801.0006662.04.2
Contrato: 4600165897 Emissão: 08.12.2005
Número BAD: 000008 Emitente: Renato de Souza Soares
Situação: A - Aprovado

Fornecedor: 10068540 - SEA BRASIL SERVIÇOS SUBMARINOS
Especialidade: 99000290 - FS-Constr.Oleod.Gas. Linhas Subaquáticas
Organiz. Compra: 0801 - MM-IMP EMP E&P TRANS
Chave Ponderação: 26
Período avaliação: 02.11.2005 até 08.12.2005

MULTAS NO PERÍODO

Data lançamento	Descrição
08.12.2005	Multa Contratual
08.12.2005	Multa Contratual

AVALIAÇÃO

Nota : 70
Conceito: B - BOM

Nota	Conceito
1 a 29	P - PESSIMO
30 a 49	I - INSUFICIENTE
50 a 69	R - REGULAR
70 a 89	B - BOM
90 a 100	E - EXCELENTE


RENATO DE SOUZA SOARES
Engº de Equipamentos Pleno
Matr.: 024242-0



PEDRO AUGUSTO C. X. BASTOS
Gerente Setorial
Engenharia / ME / PT / I / EDS / CIDAR
Mat. 016716-2

Contrato: 4600165897 Criação: 08.12.2005
Número aval:000007 Emitente: Renato de Souza Soares

Fornecedor: 10068540 - SEA BRASIL SERVIÇOS SUBMARINOS
Especialidade: 99000290 - FS-Constr.Oleod.Gas. Linhas Subaquáticas
Organiz. Compra: 0801 - MM-IMP EMP E&P TRANS
Período avaliação:02.11.2005 até 08.12.2005

Critério	Descrição	Subcritério	Descrição	Nota
50	RH - SUPERV/GERÊNCIA	01	QUALIFICAÇÃO	85
50	RH - SUPERV/GERÊNCIA	02	QUANTIDADE	55
50	RH - SUPERV/GERÊNCIA	03	LIDERANÇA E CONTROLE	75
51	RH - EXECUÇÃO	01	QUALIFICAÇÃO	70
54	EQUIPS E FERRAMENTAS	01	QUALIDADE	85
54	EQUIPS E FERRAMENTAS	02	QUANTIDADE	75
54	EQUIPS E FERRAMENTAS	03	CONDS. FUNCIONAMENTO	80
54	EQUIPS E FERRAMENTAS	04	MANUT. E PRESERVAÇÃO	85
59	ADMINISTRATIVAS	01	ORGANIZAÇÃO	70
62	PLANEJAMENTO	01	ADEQUAÇÃO PLANEJAM.	70
63	Prazos Serviços	01	Cumprim. Prazos Cont	45
65	Desemp. Adm./Financ.	01	Desemp. Administrat.	65
65	Desemp. Adm./Financ.	02	Desemp. Financeiro	60
70	Segur/Meio Amb/Saúde	01	Resultados Segurança	95
70	Segur/Meio Amb/Saúde	02	Preserv. do Meio Amb	80
70	Segur/Meio Amb/Saúde	04	Gestão de SMS	75
73	Qualidade Serviços	01	Resultado Qualidade	85
73	Qualidade Serviços	03	Tratam. Não Conformi	70


RENATO DE SOUZA SOARES
Engº de Equipamentos Pleno
Matr.: 024242-0

PEDRO AUGUSTO C. X. BASTOS
Gerente Setorial
Engenharia / IEPT / IEDS / CIDAR
Mat. 016716-2

Engenharia / IEPT / IEDS / CIDAR
Mat. 016716-2

**54 RANASAIPEM-ADRIATIC SEA-
NAIDECERVIA C 3"+10"+3"**

74/05



MESSAGGIO FAX
FAX MESSAGE



Destinazione <i>Destination</i>	SEA	Data <i>Date</i>	28/01/2005
Attenzione <i>Attention</i>	Guido Ballestri	Da <i>From</i>	Fabio Egidi
Fax n. <i>Fax n</i>	0544.35591	E mail	fabio.egidi@ranadiving.it
CC <i>Cc</i>		Fax <i>Fax No.</i>	0039 0544 531015
CC <i>Cc</i>		Tel. n. <i>Phone No</i>	0039 0544 530742
Pagine <i>Pages</i>	1	Rif. Fax <i>Fax Ref.</i>	FxDIR05fe006.doc

Oggetto Cervia C - Naide - Post Trenching - Rif.Ord.226 Rev.1 del 26.08.04.
Subject

Vi comuniciamo che i collaudi idrostatici alle tubature 10"+3"+3" che collegano le piattaforme Cervia C - Naide, hanno dato esito soddisfacente.

Cordiali saluti

RANA DIVING & MARINE CONTRACTOR S.r.l.
Fabio Egidi
Amministratore delegato

RANA DIVING & MARINE CONTRACTOR S.r.l.

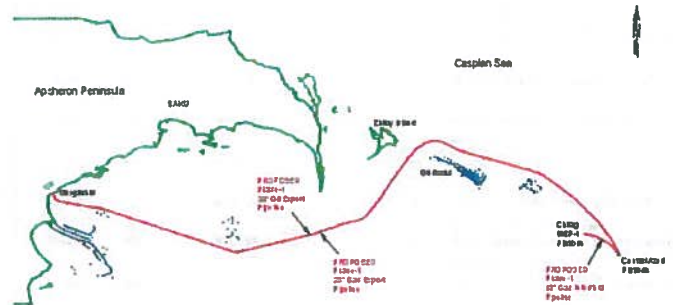
Via A. Veschi, 7 - 48023 Marina di Ravenna (RA) - Italy - Tel +39 0544 530742 - Fax +39 0544 531015 - email: rana@ranadiving.it
URL www.ranadiving.it - Codice Fiscale Partita IVA Registro Imprese 01447510395 - R.E.A. RA 159835 - C. S. € 78.000,00



**53 MCDERMOTT LAB TESTS—CASPIAN SEA—
AZERI PROJECT 30" - 28" - 30"**

**53 MCDERMOTT – AZERI PROJECT
BAKU – AZERBAIJAN**

General project Overview and Reference



Caspian Sea – Pipeline Location

1 Scope of work

Post-trenching

Pipeline	Trench Cover (T.O.P.)	Length	Water Depth	
			Min	Max
30"	1 M	1.013 Meters	0 M	5 M
30"	1 M	1.013 Meters	0 M	5 M
28"	1 M	1.013 Meters	0 M	5 M

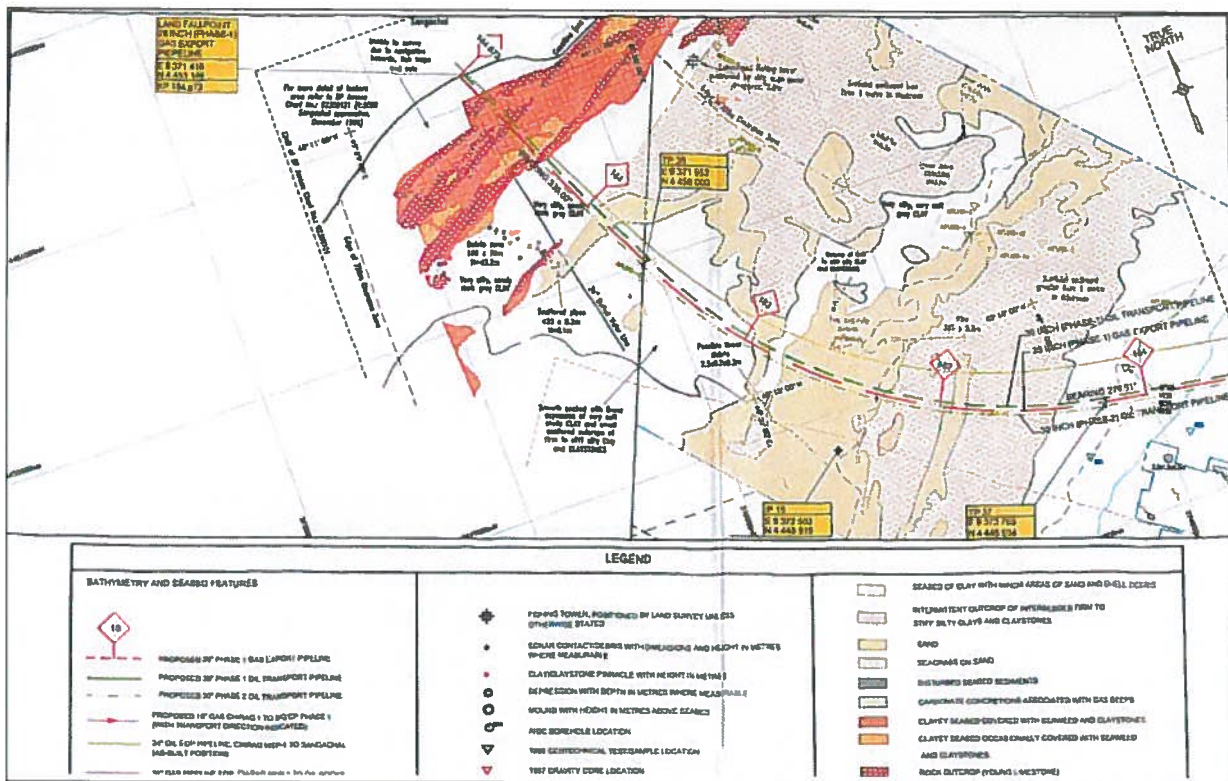
2 Soil condition encountered

In the offshore part of the routes, the seabed is comprised of clay with minor areas of sand. From there, going towards the shore, there are sediments comprising mainly of sand (covered with sea-grass) with some clay.

In the nearshore area, the seabed is characterized by the presence of soft shelly clay with scattered outcrops of firm to stiff silty clay and CLAYSTONE rock (the light ORANGE colour in the map below);

In the inshore and shore line area, ridges of young LIMESTONE rock emerge. (the RED colour in the map below) and CLAYSTONE (the dark ORANGE colour in the same map);

Geological Map of the area:



A first campaign of Point Load Strength laboratory tests performed on the limestone rock samples revealed a rock hardness ranging from 17 to 50 Mpa (UCS value).

URS Point Load Strength Index

Sample No	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7
Date	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02
Type	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone
Depth (m)	0.98-0.43	0.43-0.55	0.43-0.55	0.55-0.82	0.76-0.83	0.83-0.9	0.9-1.0	0.9-1.0	0.9-1.0	1.07-1.19	1.07-1.19
Test Type (DI = Diametral, AX=axial, IL=irregular lump)	A	D	A	A	A	A	D	A	A	D	A
W- Width (mm); i.e. smallest specimen width perpendicular to load direction	74	73	73	73	70	70	69	70	70	69	70
D - Distance between platens at start (mm)	58	73	50	51	64	65	69	53	58	69	45
D' - Distance between platens at end (mm)	48	67	50	50	58	55	64	45	48	64	35
P- Point Load at Failure (kN)	10	5	9	11	8	9	6	7	7	4	4.5
Type of failure sketch diagram											
For DI $D_c^2=2 \times D \times D'$ For IL/AX $D_c^2=4 / \pi \times (W \times D)$ (mm ²)	4522	6226	4640	4640	4990	4501	5622	4010	4277	5622	3119
D _c =effective core diameter (mm)	67	79	68	68	71	70	75	63	65	75	56
Is=P*1000/D _c ² (MPa)	2.21	0.88	1.94	2.37	1.60	1.84	1.07	1.75	1.64	0.71	1.44
SCF- Size Correction Factor = (D _c /50) ^{0.45}	1.14	1.23	1.15	1.15	1.17	1.16	1.20	1.11	1.13	1.20	1.05
Is(50) - Point Load Index = SCF x Is (MPa)	2.53	1.18	2.23	2.72	1.87	2.14	1.28	1.84	1.85	0.85	1.52
Correlated UCS (20:1) (MPa)	50.54	23.87	44.54	54.43	37.46	42.73	25.62	38.83	36.93	17.08	30.33
Rock strength	S	MS	MS	S	MS	MS	MS	MS	MS	MS	MS

URS Point Load Strength Index

Sample No	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7	BH7
Date	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02	02-Jun-02
Type	Limestone	Limestone	Limestone	Limestone	Limestone	Limestone	Sandy limst	Sandy limst	Sandy limst	Sandy limst	Sandy limst
Depth (m)	1.07-1.19	1.25-1.31	1.43-1.51	1.43-1.51	1.51-1.60	1.51-1.60	1.60-1.90	1.60-1.90	1.60-1.90	1.95-2.00	2.00-2.10
Test Type (DI = Diametral, AX=axial, IL=irregular lump)	A	A	D	A	D	A	D	A	A	A	D
W- Width (mm); i.e. smallest specimen width perpendicular to load direction	70	73	69	84	69	80	69	70	70	69	63
D - Distance between platens at start (mm)	70	57	68	54	69	54	69	48	40	61	63
D' - Distance between platens at end (mm)	68	50	65	38	64	45	64	40	34	54	58
P- Point Load at Failure (kN)	6.2	8	3	7	6	5	5	8	7	6.5	5
Type of failure sketch diagram											
For DI $D_c^2=2 \times D \times D'$ For IL/AX $D_c^2=4 / \pi \times (W \times D)$ (mm ²)	5168	4646	5708	3038	5622	4583	5622	3564	3030	4743	4652
D _c =effective core diameter (mm)	72	68	76	58	75	68	75	60	55	69	68
Is=P*1000/D _c ² (MPa)	1.20	1.29	0.53	2.26	0.69	1.08	0.89	2.24	2.31	1.37	1.07
SCF- Size Correction Factor = (D _c /50) ^{0.45}	1.18	1.15	1.20	1.05	1.20	1.15	1.20	1.08	1.04	1.15	1.15
Is(50) - Point Load Index = SCF x Is (MPa)	1.41	1.48	0.63	2.37	1.07	1.25	1.07	2.43	2.41	1.58	1.24
Correlated UCS (20:1) (MPa)	28.25	29.69	12.65	47.45	21.35	25.01	21.35	48.62	48.25	31.88	24.72
Rock strength	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS

The following campaign in limestone rock, shows the data from samples analyzed in a Geotechnical Laboratory in Italy, revealing increased UCS values up to 71 Mpa.

LABORATORIO GEOMECCANICO VIA CORPO ITALIANO DI LIBERAZIONE 42 61100 PESARO

COMMITTENTE S.E.A. SERVIZI ECOLOGICI AFFOSSAMENTI

CAMPIONE 1

POINT LOAD TEST (PLT)
Suggested Methods ISRM

PROVA	N°	1	2	3	4	5
CARICO DI ROTTURA [F]	(kg)	1528,8	929,3	1060,5	876,9	878,9
DIAMETRO EQUIVALENTE [D _e] ²	(cm ²)	74,9	45,6	29,8	25,6	30,2
	(cm)	8,7	6,7	5,5	5,0	6,2
INDICE DI RESISTENZA [I _s]	(kg/cm ²)	20,4	21,9	35,6	34,4	25,8
	(M Pa)	2,0	2,2	3,5	3,4	2,5
FATTORE CORRETTIVO	(-)	1,3	1,1	1,0	1,0	1,1
INDICE POINT LOAD [I _{sc}]	(kg/cm ²)	26,1	25,1	37,0	34,6	28,2
	(M Pa)	2,6	2,5	3,6	3,4	2,8
RESISTENZA ALLA COMPRESIONE [UCS]	(kg/cm ²)	827,3	602,7	886,3	829,3	676,4
	(M Pa)	81,6	59,1	87,1	81,4	66,3

Note: PROVA SU ELLOD-II

	(kg/cm ²)	(M Pa)
[I _{sc}]	33,2	3,0
[UCS]	724,8	71,1

Tipo di materiale : Calcare grigiasco a grana variabile [da media a grossolana], complessivamente molto poroso, con inclusi resti di conchiglie fossilizzate [tessitura omogenea]

LABORATORIO GEOMECCANICO

[Dr. *Sergio Grazi*]

POINT LOAD TEST

Another collecting campaign in limestone rock, shows the data from samples analyzed at ENCOTEC Laboratory in Azerbaijan, confirming high UCS values up to 69 Mpa.

ENCOTEC

RESULTS OF SAMPLE TESTING FOR HARDNESS STRENGTH

SAMPLE No.	LOAD, P (kg)	SQUARE (cm ²)	HARDNESS STRENGTH, kgf/cm ²	kPa
A	2460	25	98	9610
B	5400	36	150	14709
C	17640	25	705.6	69136
D	48500	25	1940	195152
E	4500	25	180	17651

ATTACHMENT: Photos of samples before and after the test (10 Nos.)

Client: SEA

Samples obtained on: 16.04.2004

Samples tested on: 17.04.2004

Responsible person



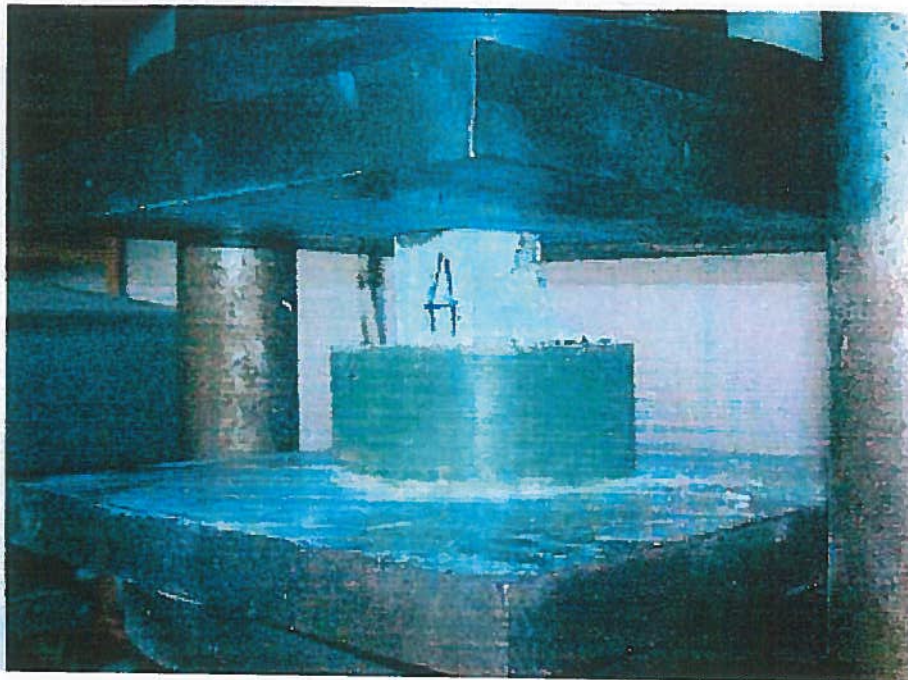
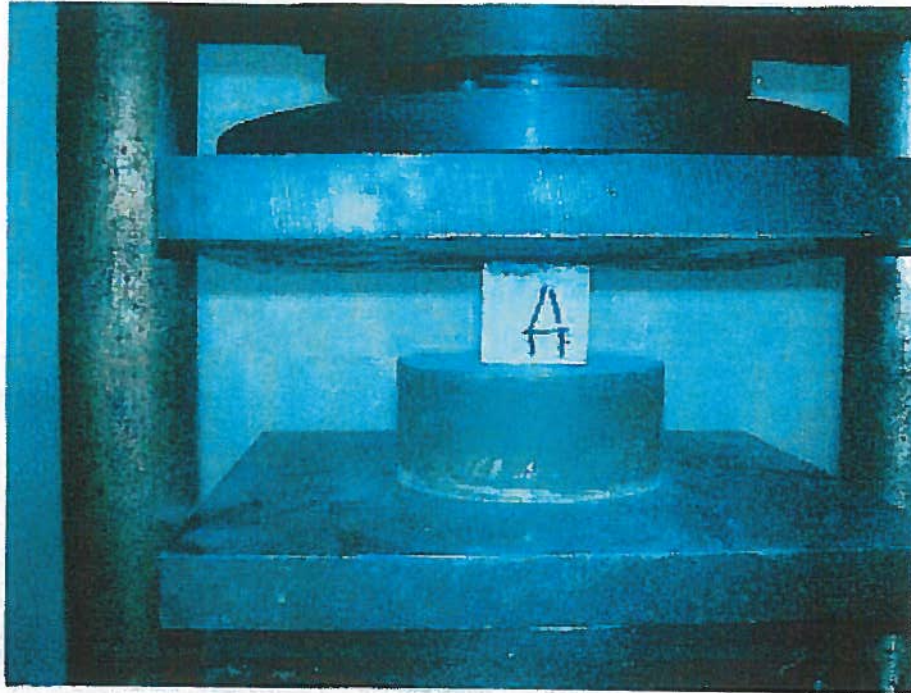
/Azer Rahimly/



Member of CISQ Federation
RINA
 ISO 9001:2008
 Certified Quality System

SEA S.r.l. Via A. Mariani 44-46, 48121 Ravenna (RA), Italy
 Tel. +39 0544 30283, Fax. +39 0544 35591
www.seatrenching.it, e-mail: info@sea-group.net; Skype: sea.srl1;
 Soc. Cap. €110.000,00 I.V. - R.E.A. N. 128067 - Comp. Reg. n. 15829 -
 Tax Code n. 01206570390

Photos taken from the laboratory tests carried out on limestone rock:



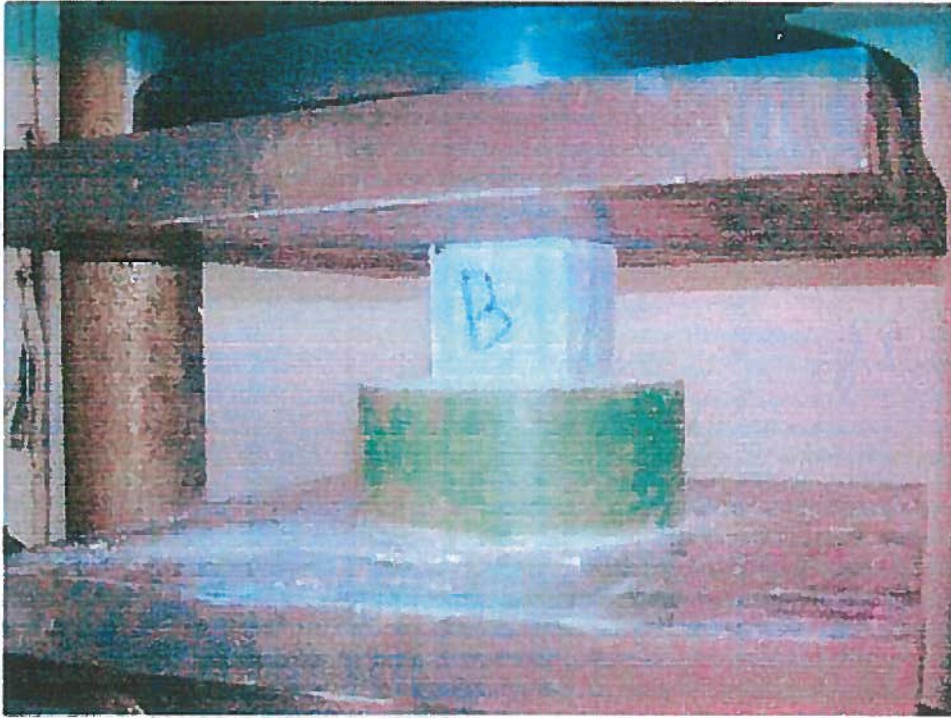
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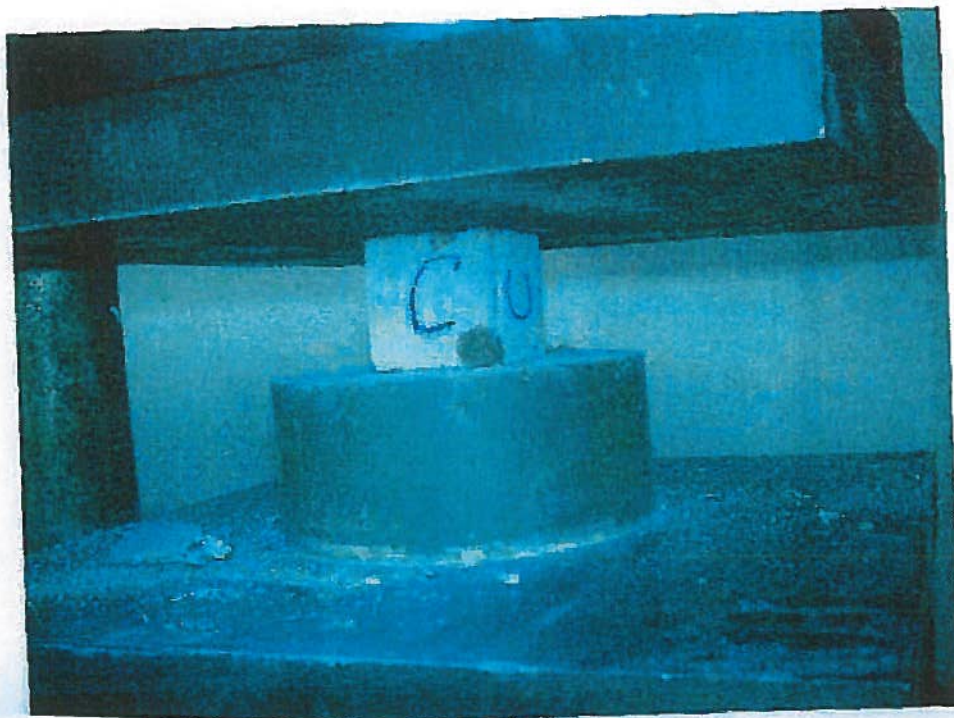
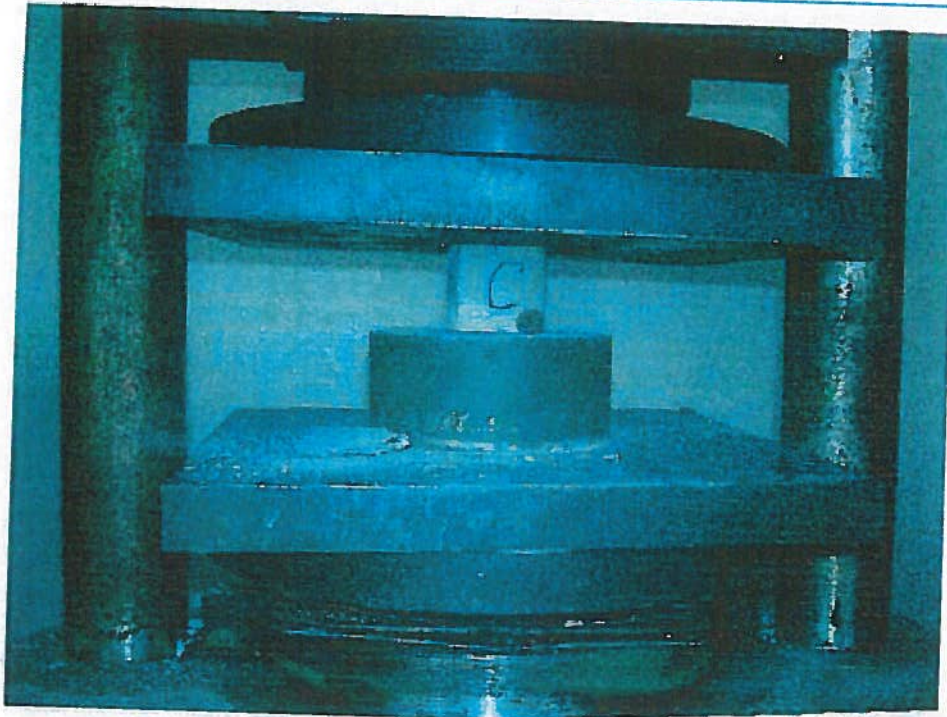
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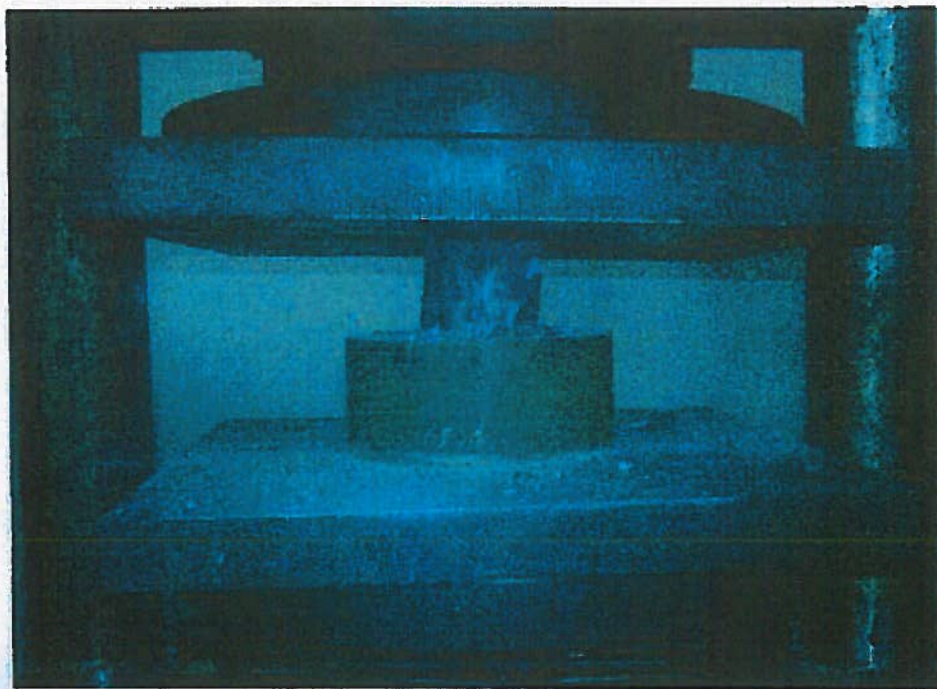
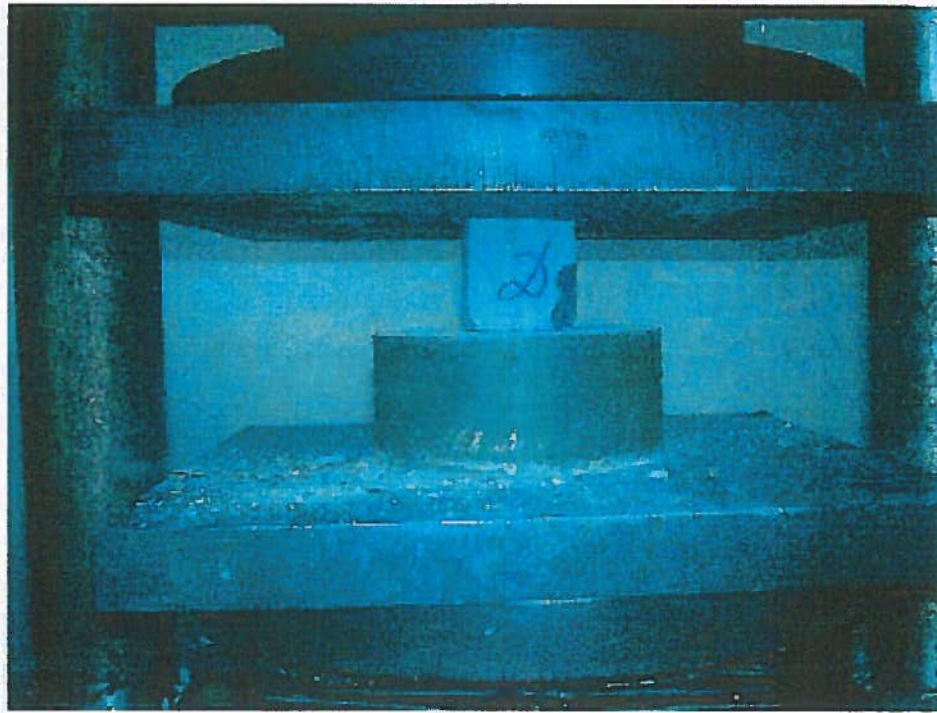
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RINA Certificate n. 22345/10/IS

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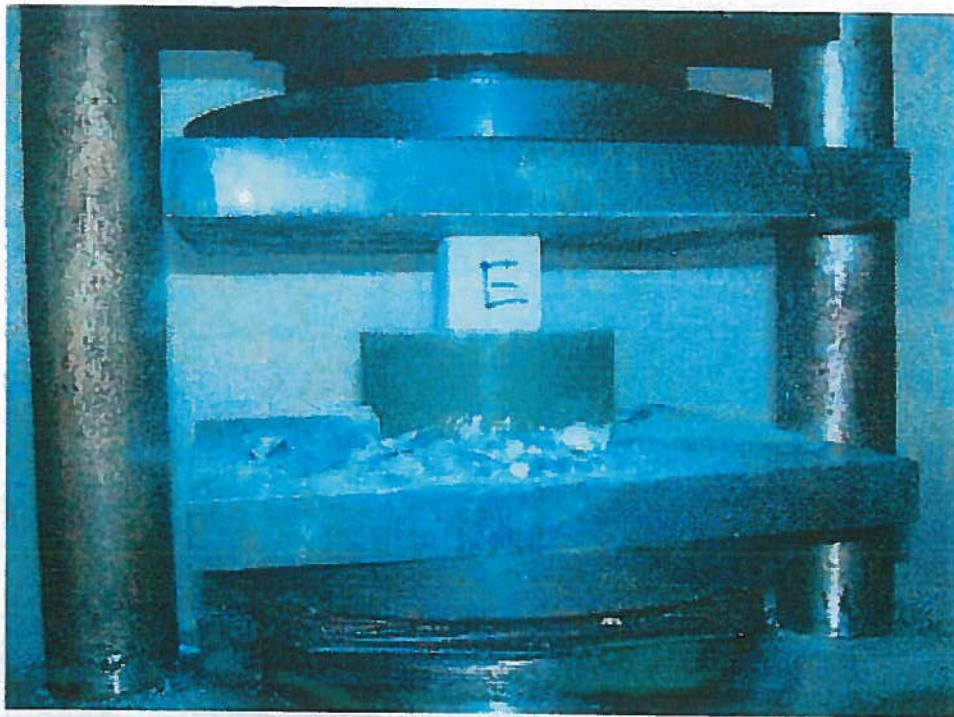
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Tax Code n. 01206570390

Some tests were performed also on claystone rock samples from EUPEC Laboratory in Azerbaijan which revealed a rock hardness ranging from 5,50 to 11,61 Mpa (UCS value)

	Report	Proc:
	Compressive strength	Page 1 / 1

Client:	
Diameter : mm	Concrete thickness : mm
Wall thickness : mm	Type of Coating : kg/m ²

COATING SYSTEM :

APPARATUS:

Compressive machine : V03018

METHOD:

Tests have been carried out according to : Contract Specification Standards

- 1) Ensure that there is no foreign matter on the surfaces of the compressive machine.
- 2) Ensure that the faces of samples submitted to the compression test have no protrusions that may affect test results.
- 3) Place the sample at the center of the compressive machine platters. Bring the compression platter gently into contact.
- 4) Observe the operations and record the result after sample failure.

RESULTS:

Pipe and sample N°	Specimen size L/D		Rate L/D	Compressive area cm ²	Compressive force Mpa	Compressive strength KN	Consty kg/cm ²	Results
#1 KP187.170	40	40	1	1256.6	5.50	7.02	2316	
KP187.101	40	40	1	1256.6	11.04	14.62	2226	
#3 KP187.173	40	40	1	1256.6	10.06	12.64	2259	

	EUPEC AZERBAIJAN Inspection Department	CLIENT Inspection department
Name		
Lab Tech		
DATE 19/05/04		
Sign		

WITNESSES - P. GHOFT H. VESTRALI (SEA) IMM. HUNTER } BP
 KUMARA (MCCI) RAY COLE }
 DESAINI / TORRES (EUPEC) + TECHS

**52 ANCAP-ATLANTIC OCEAN-JOSE IGNACIO
PIPELINE REPAIR 36" (URUGUAY)**

52 ANCAP – 36” JOSE’ IGNACIO PROJECT – URUGUAY – ATLANTIC OCEAN

General project Overview and Reference



ANCAP Terminal, Terminal del Este
José Ignacio - Uruguay

1 Scope of work

Installation of 1km of 36” Pipelines and PLEM, by means a 200 tons. liner winch and Post -trenching

Product	Zone	Section (m)	Burial depth ToP (m)	Water Depth start (m)	Water Depth end (m)
36” oil pipeline	Terminal del Este – SBM buoy	1,056	1	-7	-20



2 Soil condition encountered

- Sand and silty sand soil
- Plastic clay up to very hard clay
- Agglomerates and breccias with very hard and cemented clay matrix



DIV. INDUSTRIALIZACIÓN DE COMBUSTIBLES Y LUBRICANTES
GERENCIA TÉCNICA - INSPECCIÓN TÉCNICA

FECHA/DATE : 20/12/2006
PÁGS./PAGES : 1

A/TO : SEA SRL
Sea - Ravenna - Italia
FAX : (0039544) 35591

DE/FROM : Ing. Alejandro Fernández - Inspección Técnica - ANCAP
REF. :

Por la presente se informa que la empresa SEA S.R.L., del grupo SEA - Ravenna - Italia, ha sido contratada por ANCAP para la realización del lanzamiento, posicionamiento y enterramiento (post-trenching) de un tramo del oleoducto submarino del Terminal del Este, incluyendo el PLEM (pipe line end manifold). El tramo es de diámetro 36" (treinta y seis pulgadas) y largo 1.060 m (mil sesenta metros). Este trabajo fue realizado entre Diciembre de 2002 y Febrero de 2004.

Sin otro particular saluda

Ing Alejandro Fernández
Jefe Dpto. Ingeniería y Obras
ANCAP

**49 PETROJET–MEDITERRANEAN SEA-
ROSETTA GAS EXPORT PIPELINE 24”**



DIVING & MARINE CONTRACTOR

Il sottoscritto Coradello Giambattista nato a Piove di Sacco (PD) il 30.08.1941 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING AND MARINE CONTRACTOR Srl con sede in Località Lamar di Gardolo 97 - TRENTO

Dichiara

che i lavori di "Temsah Concession - Karous 1 Development Project 30" & 12" Pipeline - Offshore Post Trenching", assegnati alla IMPRESUB Diving and Marine Contractor srl dalla Società PETROBEL Befayim Petroleum Company - CAIRO EGYPT con contratto No. 1377/98 Addendum 1 - Fax of Award Ref. TEMS/F63/99/NE sono stati eseguiti con totale soddisfazione del Cliente dal raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA con sede in Ravenna.

Trento, 07 Aprile 2000.

I.D.M.C. Impresub Diving and Marine Contractor Srl


Giambattista Coradello / Amministratore Unico

PETROBEL

Belayim Petroleum Company



بترول
شركة بترول بالعيم

FINAL ACCEPTANCE CERTIFICATE

COMPANY : BELAYIM PETROLEUM CO. (PETROBEL)
CONTRACTOR : I.D.M.C. IMPRESUB DIVING & MARINE CONTRACTOR
CONTRACT : 1377/98 ADDENDUM -1.
FAX OF AWARD REF. TEMS/F63/99/NE DATED 21/4/99.
DATE : 30/06/1999
SUBJECT : TEMSAH CONCESSION - KAROUS -1
DEVELOPMENT PROJECT 30" & 12" PIPELINE
OFFSHORE POST TRENCHING

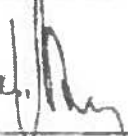
WITH REFERENCE TO ABOVE MENTIONED SUBJECT , AND CONTRACT GENERAL AND SPECIAL CONDITIONS , COMPANY AND CONTRACTOR REPRESENTATIVES HAVE ASCERTAINED THAT THE IMPLEMENTATION OF POST TRENCHING FOR THE FOLLOWING SUBSEA PIPELINES:

- 1- 30" FROM PLEM-1 TO PLEM-2 .
- 2- 12" FROM KAROUS-1 AGYPODE TO PLEM -2 .

HAS BEEN CARRIED OUT ACCORDING TO THE COMPANY REQUIREMENTS AND FAX OF AWARD REF. TEMS/F63/99/NE DATED 21/4/99, (A.I). THE ACTIVITIES AND THE REACHED RESULTS HAVE BEEN CERTIFIED AND ACCEPTED BY COMPANY'S ON BOARD REPRESENTATIVE. THE FINAL REPORT SHALL BE SUBMITTED BEFORE THE END OF JULY ,1999.

K.L.
92
Mr 7/7/99

PROJECTS GEN. MGR.
ENG. M. ATEF AHMED

FOR APPROVAL, 
A. VELLA
GENERAL MANAGER AND
MANAGING DIRECTOR

I.D.M.C.
IMPRESUB DIVING MARINE CONTRACTORS S.A.L.
EGYPT BRANCH
CAIRO

CONTRACTOR

H. Nasr Agiza 6/7/99
M. NASR AGIZA
CHAIRMAN OF BOARD &
MANAGING DIRECTOR



PROVISIONAL ACCEPTANCE CERTIFICATE

Company Name Rashid Petroleum Company - RASHPETCO
 Project Title Rosetta Field Development Project - 23" I.D. Rosetta Offshore
 Gas Export Pipeline Post Trenching
 Contract Reference No. PRJ-002-99

With reference to the CONTRACT and SUB CONTRACT and its attachments and amendments signed between:

Rashid Petroleum Company, RASHPETCO, hereinafter called the 'COMPANY'
 And
 The Petroleum Projects and Technical Consultation Company, PETROJET, hereinafter called the 'CONTRACTOR' and IMPRESUB INTERNATIONAL L.L.C hereinafter called the 'SUBCONTRACTOR'.
 For the Rosetta Field Development Project - 23" I.D. Rosetta Offshore Gas Export Pipeline Post Trenching and associated 'Extra Works', VO reference number 279/ra/99.

And
 Pursuant to Clause 14 of Part 2 of the COMPANY's General Conditions of the above mentioned CONTRACT and SUBCONTRACT the COMPANY hereby certifies that the 23" I.D. Rosetta Gas Export Pipeline Post Trenching and associated Extra Works - Contract Reference Number PRJ-002-99 & VO reference number 279/ra/99 - has been completed in full compliance with the provision of the above mentioned CONTRACT, SUBCONTRACT and VARIATION ORDER effective from the 19th May 2000.

SUBCONTRACTOR
 Impresub International Project
 Manager
 Mr. Ronald Ellis 28/5/00

CONTRACTOR
 Project Manager
 Eng. Hamid Acharram

COMPANY
 Offshore Project Manager
 Mr. Kevin Teale
 24/6/00

Dep. Offshore Project
 Manager
 Eng. Mostafa Bush

Engineering Projects General
 Manager
 Mr. Jim Gilchrist

Dep. Engineering Projects
 General Manager
 Eng. Ismail Wali 4/6/00

Provisional acceptance:
 Confirmation is that all outstanding as built documentation and video data as per contract are supplied to Rashpetco within 1 month.

**48 PETROBEL–MEDITERRANEAN SEA-
BALTIM EAST DEVELOPMENT PROJECT
24”+4”+3”**



DIVING & MARINE CONTRACTOR

Il sottoscritto Coradello Giambattista nato a Piove di Sacco (PD) il 30.08.1941 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING AND MARINE CONTRACTOR Srl con sede in Località Lamar di Gardolo 97 - TRENTO

Dichiara

che i lavori di "Baltim East Development Project 24" x 4" x 3" Sealines Post Trenching", assegnati alla IMPRESUB Diving and Marine Contractor srl dalla Società PETROBEL Belayim Petroleum Company - CAIRO EGYPT con contratto No. BALT/F438/99/KL sono stati eseguiti con totale soddisfazione del Cliente dal raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA con sede in Ravenna.

Trento, 07 Aprile 2000.

I.D.M.C. Impresub Diving and Marine Contractor Srl


Giambattista Coradello / Amministratore Unico

PETROBEL

Belayim Petroleum Company



بترول
شركة بترول بلعيم

Final Acceptance Certificate

Company : Belayim Petroleum Company (Petrobel)
Contractor : I.D.M.C. Impresub Diving & Marine
Contract : Fax of awarding Ref. No. BALT/F438/99/KL
dated 28/11/1999
Date : 09/03/2000
Subj. : Baltim East Development Project
24" + 4" + 3" Sealines Post Trenching

With reference to the above mentioned subject, and Contract General & special conditions Company and Contractor representatives have ascertained that the implementation of post trenching for 24" + 4" + 3" sealines, have been carried out according to the company requirements and fax of awarding Ref. No. BALT/F 438/99/KL dated 28/11/1999, all the activities and the reached results have been certified and accepted by Company's on board representative .

The final report had been received on 07/03/2000 .

Regards,

Eng. M. Atef Ahmed
Projects Gen. Mgr.

I. D. M. C.
EGYPT BRANCH CARO
Contractor

For Approval,,

Mr. Umberto Vergine
General Manager & M.D.

Eng. M. Nasr Agiza
Chairman of the Board & M.D.

**47 PETROBEL–MEDITERRANEAN SEA-
TEMSAH CONCESSION-KAROUS PROJECT
30” - 12”**



DIVING & MARINE CONTRACTOR

Il sottoscritto Coradello Giambattista nato a Piove di Sacco (PD) il 30.08.1941 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING AND MARINE CONTRACTOR Srl con sede in Località Lamar di Gardolo 97 - TRENTO

Dichiara

che i lavori di "Temsah Concession - Karous 1 Development Project 30" & 12" Pipeline - Offshore Post Trenching", assegnati alla IMPRESUB Diving and Marine Contractor srl dalla Società PETROBEL Belayim Petroleum Company - CAIRO EGYPT con contratto No. 1377/98 Addendum 1 - Fax of Award Ref. TEMS/F63/99/NE sono stati eseguiti con totale soddisfazione del Cliente dal raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA con sede in Ravenna.

Trento, 07 Aprile 2000.

I.D.M.C. Impresub Diving and Marine Contractor Srl


Giambattista Coradello / Amministratore Unico

PETROBEL

Belayim Petroleum Company



سيتروبل
شركة بتروبل بلاعيم

FINAL ACCEPTANCE CERTIFICATE

COMPANY : BELAYIM PETROLEUM CO. (PETROBEL)
CONTRACTOR : I.D.M.C. IMPRESUB DIVING & MARINE CONTRACTOR
CONTRACT : 1377/98 ADDENDUM -1.
FAX OF AWARD REF. TEMS/F63/99/NE DATED 21/4/99.
DATE : 30/06/1999
SUBJECT : TEMSAH CONCESSION -KAROUS -1
DEVELOPMENT PROJECT 30" & 12" PIPELINE
OFFSHORE POST TRENCHING

WITH REFERENCE TO ABOVE MENTIONED SUBJECT , AND CONTRACT GENERAL AND SPECIAL CONDITIONS , COMPANY AND CONTRACTOR REPRESENTATIVES HAVE ASCERTAINED THAT THE IMPLEMENTATION OF POST TRENCHING FOR THE FOLLOWING SUBSEA PIPELINES:


- 1- 30" FROM PLEM-1 TO PLEM-2 .
- 2- 12" FROM KAROUS-1 AGYPODE TO PLEM -2 .

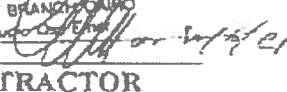
HAS BEEN CARRIED OUT ACCORDING TO THE COMPANY REQUIREMENTS AND FAX OF AWARD REF. TEMS/F63/99/NE DATED 21/4/99, ALL THE ACTIVITIES AND THE REACHED RESULTS HAVE BEEN CERTIFIED AND ACCEPTED BY COMPANY'S ON BOARD REPRESENTATIVE. THE FINAL REPORT SHALL BE SUBMITTED BEFORE THE END OF JULY ,1999.

K.C.
92
Mr 20/06

PROJECTS GEN. MGR.
ENG. M. ATEF AHMED

FOR APPROVAL,


A. VELLA
GENERAL MANAGER AND
MANAGING DIRECTOR

Mr 20/06

I. D. M. C.
IMPRESUB DIVING & MARINE CONTRACTOR S.A.S.
EGYPT BRANCH
CONTRACTOR

14.02.1999 6/7/99
M. NASR AGIZA
CHAIRMAN OF BOARD &
MANAGING DIRECTOR

**46 SAIPEM UK INDIA-INDIAN OCEAN-
JAMNAGAR REFINERY COMPLEX 48" - 48" -
24"**

Saipem

Via Marconi di Casalonna, 67
20097 San Donato Milanese (Milano)
Teles 319246 Eni Saipem
Fax 02/52044667



SEA S.p.A.
Via A. Mammi 44/46
48100 Ravenna
Italy

Attn: Mr. Franco Ballestrì

Ref. 54607/03/09/01/01/AMN/03
San Donato Milanese, 18 November 1997

COMPLETION CERTIFICATE

This is to certify that SEA s.p.a. of Ravenna, was awarded the Subcontract No. SEA/CL 020/MI with Saipem UK Ltd, to perform post-welding of three sealines for the Jamnagar Refinery Complex (India). The sealines (48" x 48" x 24") were buried to 1m Top Of Pipe (TOP) cover for a total length of 5700m.

The works have been completed to the full satisfaction of Saipem UK Ltd.

On behalf of Saipem UK Ltd.


ING. CLAUDIO CAPILANI
PROJECT MANAGER

**44-45 PETROBEL EGITTO– MEDITERRANEAN
SEA – DARFEEL PORT FOUAD 36", 16"+3" -
10"+3"**



DIVING & MARINE CONTRACTOR


Il sottoscritto Coradello Giambattista nato a Piove di Sacco (PD) il 30/05/1941 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING & MARINE CONTRACTOR S.R.L. con sede in Località Lamar di Cardolo 97 - TRENTO

Dichiara

che i lavori di "Post Trenching for Offshore Pipeline 36", 10" x 4.3" & 16" x 3" - Danco ad Port Fouad S.E. 1&2 PORT FOUAD GAS FIELD" assegnati alla IMPRESUB Diving ad Marine Contractor Srl dalla Società PETROBLL Beiyim Petroleum Company - CAIRO EGYPT con contratto No. 13/77/9 sono stati eseguiti con totale soddisfazione del Cliente dal Raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA Srl con sede in Ravenna.

Trento, 08 Giugno 1999

I.D.M.C. Impresub Diving ad Marine Contractor Srl


Giambattista Coradello Amministratore Unico

PETROBEL

elayim Petroleum Company



بترول
شركة بترول بلاعيم

FINAL ACCEPTANCE CERTIFICATE

COMPANY : BELAYIM PETROLEUM COMPANY
CONTRACTOR : I.D.M.C. IMPRESUB DIVING AND MARINE
FAV OF AWARDDING : CONT. No. 1377/9 FAX REF. DR/P150/98/NE DD. 9/7/98
PROJECT : POST TRENCHING FOR OFFSHORE PIPELINE
36", 10" x 43" & 16" x 43"
LOCATION : DARFEEL AND PORT FOAUD S.E. 1&2
PORT FOAUD GAS FIELD
DATE : 08 / 03 / 1999

WITH REF. TO ABOVE MENTIONED SUBJECT , AND CONTRACT GENERAL AND SPECIAL CONDITIONS , COMPANY AND CONTRACTOR REPRESENTATIVE HAVE BEEN ASCERTAINED THAT THE WORKS HAS BEEN CARRIED OUT ACCORDING TO THE SCOPE OF WORKS AND COMPANY REQUIREMENT ALL THE ACTIVITIES AND THE REACHED RESULTS HAVE BEEN CERTIFIED AND ACCEPTED BY COMPANY'S ON BOARD REPRESENTATIVE .

FOR PETROBEL

FOR APPROVAL...

14/3/99
A. YELLA
GENERAL MANAGER &
MANAGING DIRECTOR

FOR IMPRESUB

IMPRESUB DIVING AND MARINE CONTRACTORS S.A.
EGYPT BRANCH CAIRO
CAIRO GAS FIELD

M. NASR AGIZA
CHAIRMAN OF THE BOARD
AND MANAGING DIRECTOR

**41 SAIPEM UK INDIA – MEDITERRANEAN
SEA – DABHOL POWER PROJECT 20”**

Saipem

Via Martini di Cefalonia 67
20097 San Donato Milanese (MI)
P.O. Box 17073, 20170 Milano
Telex: 310146 Eni-Saipem
Fax: 02/52044667
Tel. centralino: 02/5201

Divisione di Agente
Viale Vaghi in San Donato Milanese
Via Martini di Cefalonia 67
Abitazione Saipem - Tel. 02/5201370
Regional Address: Milan - Tel. 02/5201370
Viale Vaghi in San Donato Milanese
Cassa Postale - Tel. 02/5201370



Eni

ENI S.p.A.

SEA S.r.l.
Via A. Mariani 44 46
48100 Ravenna
Italy

Attn.: Sig. F. Ballestri

Ref. 22605-CP-23AC-SUKL-138
San Donato M.se. 12 August 1998

COMPLETION CERTIFICATE

This to certify that SEA Srl of Ravenna, was awarded the Subcontract no.SA-8070/APPA with Saipem SpA and no. SUKL-6236/98 with Saipem UK Limited, to perform post-trenching on the 20" pipeline between shore approach and SPM for a total length of approx. 7000 m for the Dabhol Power Project on behalf of Overseas Bechtel Inc. and Bechtel International Inc..

The works have been completed to the satisfaction of Bechtel and Bechtel's Certificate of Completion is attached for any use that might be required.

On behalf of Saipem UK Ltd.,

ROBERTO CECCHINI
PROJECT MANAGER



Bechtel

Mumbai Office
The Oberoi Towers
Suite 3504
Nariman Point
Mumbai 400 021 INDIA
Tel: (91) 22-2848185, 2848186
191-22-2024343 Ext. 3504
Fax: (91) 22-2846827

Plot 1326

26 June 1996

Saptem S.p.A.
Via Martin L. Gattorno
10129 San Donato Milanese
Milano, Italy

Attention: Mr. S. Ponzari *SP*

Subject: Dabhol Power Project
Subcontract No. 22405-CP-21 AC
Single Point Mooring
Letter No. 22405-CP 21 AC 8101
Diving Inspection

Re: Saptem Letter 24-22405-CP-21 AC-Saptem-R.D. 19 dated 25 June 1995

Gentlemen:

As previously reported, the inspection and correction work of the hydraulic system has been completed.

Bechtel wishes to extend our appreciation for your cooperation and efforts of Mr. Mario Vigna in helping to resolve the problems associated with the hydraulic system. Mario worked in a positive and professional manner that was very helpful in resolving the problem.

Bechtel concludes that Saptem has installed all the requirements of Mechanical Completion.

With reference to your request for Change Notice to cover costs related to Mr. Mario Vigna's work, please be advised that a decision will be taken only after analyzing the inspection reports.

Respectfully,
BECHTEL INTERNATIONAL, INC.

Eugene A. McIntyre
Field Subcontracts Manager

Bechtel Branch Office Chicago
Tel: 312.231.1000

DABHOL POWER PROJECT		
NAME	FOR INFO	FOR ACT
<i>S. Ponzari</i>		
LOG. N. <i>217</i>		<i>A</i>
DATE <i>27.6.96</i>		



Bechtel International, Inc.

**39 PETROBEL EGYPT-MEDITERRANEAN
SEA-WAKARPORT FOUAD 10"+4"+3"**



DIVING & MARINE CONTRACTOR


Il sottoscritto Corrado Giambattista nato a Piove di Sacco (PD) il 30.08.1943 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING AD MARINE CONTRACTOR Srl con sede in Località Lamar di Gardolo 97 - TRENTO

Dichiara

che i lavori di "Wakar Platform-Port Fouad Platform 10"4'4"+3" Subsea Pipelines Post Trenching" assegnati alla IMPRESUB Diving ad Marine Contractor Srl della Società PETROBEL Belayim Petroleum Company - CAIRO EGYPT con contratto No. 1235/95 sono stati eseguiti con totale soddisfazione del Cliente dal Raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA Srl con sede in Ravenna.

Trento, 08 Giugno 1999

I.D.M.C. Impresub Diving ad Marine Contractor Srl


Giambattista Corrado/Amministratore Unico

PETROBEL

Belayim Petroleum Company

El Mokhayan El Dayem St. Nasr City - Cairo

Phone: 2621736 - 2621739 - 2621740-2621742

P.O. Box 7074 Cairo

Telex No. PETBL 92449 - 92373 UN

Fax . No . 2609792



بتروليم

شركة بترول بلعيم

شارع للخيم الدائم - مدينة نصر - القاهرة

تليفون: 2621736 - 2621739 - 2621740 - 2621742

ص.ب. 7074 - القاهرة - الجيزة - الجيزة - الجيزة

تلكم رقم بيل: 92373 UN / 92449 PETBL

فاكس رقم: 2609792

MESSRS .
IMPRESUB
DIVING & MARINE CONTRACTOR
42: EL MEDINA EL MENNAWARA.
MOHANDEESSIN - CAIRO .

ATT. MR. CLAUDIO OSS EMER.

DEAR SIRs .

WITH REFERENCE TO YOUR REQUEST, WE HEREBY CERTIFY THAT THE WORK OF 10" + 4" + 3" SUBSEA PIPELINES POST-TRENCHING AS COVERED BY CONTRACT NO. 1235/96 DATED 1/12/1996 WITH I.D.M.C. IMPRESUB DIVING & MARINE CONTRACTOR SRL. WITH THE HEAD OFFICE IN TRENTO LAMER DI GARDOLO 97, REGISTERED WITH THE NATIONAL REGISTER OF CONSTRUCTORS UNDER REG. NO. 7588302 THE AMOUNT OF THE WORK IS THE FOLLOWING :

USD 4,607,644.47 PLUS L.E. 2,765,158.75

FOR SAID WORK
BEGAN IN DEC. 1996
ULTIMATED IN FEB. 1997

THE WORK HAD BEEN DIRECTED ON BEHALF OF THE ABOVE MENTIONED COMPANY BY MR. CORADELLO GIAMBATTISTA. WORKS HAD BEEN EXECUTED REGULARLY WITH GOOD RESULTS & HAD NOT BEEN MATTER OF CLAIM.

DEPUTY FIN. GEN. MGR.
C. DEL SORBO

PETROBEL
GEN. MANAGER
F. CAPURSO

FIN. GEN. MGR.
A. EL FATAH NAGUIB



**38 PETROBEL EGYPT–MEDITERRANEAN SEA
– PORT FOUAD 14"+3" - 6"**



DIVING & MARINE CONTRACTOR

Il sottoscritto Coradello Giambattista nato a Piove di Sacco (PD) il 30.08.1941 nella sua qualità di Amministratore Unico e Legale Rappresentante della IMPRESUB DIVING AD MARINE CONTRACTOR Srl con sede in Località Lamar di Gardolo 97 - TRENTO

Dichiaro

che i lavori di "Port Fouad Gas Field Development Project Sealines Post Trenching 14", 3" and 6" Sealines" assegnati alla IMPRESUB Diving ad Marine Contractor Srl dalla Società PETROBEL Beravim Petroleum Company - CAIRO EGYPT con contratto No. 1174/95 sono stati eseguiti con totale soddisfazione del Cliente dal Raggruppamento Temporaneo di Imprese IMPRESUB Diving and Marine Contractor Srl con sede in Trento e SEA Srl con sede in Ravenna.

Trento, 08 Giugno 1999

I.D.M.C. Impresub Diving ad Marine Contractor Srl

Giambattista Coradello, Amministratore Unico

PETROBEL

Belayim Petroleum Company

El Mokharym El Dayem St. Near City - Cairo

Phone 2621738 - 2621739 - 2621740-2621742

P.O. Box 7074 Cairo

Telex No. PETBL 92449 - 92373 UN

Fax . No . 2609792



بتروبل

شركة بتروبل بالاعيم

شارع المحيم اله اتم - مدينة نصر - القاهرة

تلفون : ٢٦٢١٧٣٨ - ٢٦٢١٧٣٩ - ٢٦٢١٧٤٠ - ٢٦٢١٧٤٢

ص.ب. ٧٠٧٤ - القاهرة . والعمارة رقم ٢٦٠٧٤

تلكس رقم بتيبل : ٩٢٣٧٣ / ٩٢٤٤٩

فاكس رقم : ٢٦٠٩٧٩٢

MESSRS .
IMPRESUB
DIVING & MARINE CONTRACTOR
42: EL MEDINA EL MENNAWARA.
MOHANDEESSIN - CAIRO .

ATT. MR. CLAUDIO OSS EMER.

DEAR SIRs ,

WITH REFERENCE TO YOUR REQUEST, WE HEREBY CERTIFY THAT THE WORK OF 14" + 3" + 6" SUBSEA PIPELINES POST-TRENCHING AS COVERED BY CONTRACT NO. 1174/95 DATED 1/12/1995 WITH L.D.M.C. IMPRESUB DIVING & MARINE CONTRACTOR SRL. WITH THE HEAD OFFICE IN TRENTO LAMER DI GARDOLO 97, REGISTERED WITH THE NATIONAL REGISTER OF CONSTRUCTORS UNDER REG. NO. 7588302 THE AMOUNT OF THE WORK IS THE FOLLOWING :

USD 4.722804.00 PLUS L.E.2.825348.04

FOR SAID WORK
BEGAN IN DEC 1995
ULTIMATED IN MARCH 1996

THE WORK HAD BEEN DIRECTED ON BEHALF OF THE ABOVE MENTIONED COMPANY BY MR. CORADELLO GIAMBATTISTA.
WORKS HAD BEEN EXECUTED REGULARLY WITH GOOD RESULTS & HAD NOT BEEN MATTER OF CLAIM.


DEPUTY FIN. GEN. MGR.
C. DEL SORBO

PETROBEL
GEN. MANAGER
F. CAPURSO


FIN. GEN. MGR.
A. EL FATAH NAGIUB

**36 SIPALCATEL–VENICE OFF SHORE–Optic
Fibre Cable**

PROJECT: Submarine Optic Cable - the Venice Lagoon,
Italy

Client: SIP - Operating Telephone Italian Society
/ ALCATEL Italy Ltd.

Subject: certification attesting the execution of
works.

The undersigned Mr. Alberto Nazarri, as (in the
capacity of) Technical Director of IMPREMAR S.r.l.
with Headquarters in Mestre (Venice) - Galileo
Ferraris Street, 25, declares:

that the enterprise GIANCARLO TARRONI with
Headquarters in Ravenna - Mariani Street n.46, tax
code/VAT Number 00123350398, executed the laying and
burial of the Submarine Optic Cable, installed in the
Venice Lagoon.

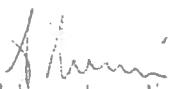
- The Submarine Optic Cable extended for 2 sections
long within the Venice Lagoon, for a total length of
21,000 linear metres.

- The works were performed in two different campaigns
and initiated in February 1994 and completed in
September 1994.

- Mr. Franco Ballestri directed the works on behalf
of the Contracting Company.

The works were performed regularly and successfully
and free from any disputes.

Faithfully yours


Alberto Nazarri

35 SIPALCATEL–VENICE OFF SHORE–Optic Fibre Cable

Submarine Optic Cable - the Venice Lagoon, Italy
Client: SIP - Operating Telephone Italian Society

Subject: certification attesting the execution of works.

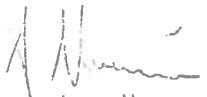
The undersigned Mr. Alberto Nazarri, as (in the capacity of) Technical Director of IMPREMAR S.r.l. with Headquarters in Mestre (Venice) - Galileo Ferraris Street, 25, declares:

that the enterprise GIANCARLO TARRONI with Headquarters in Ravenna - Mariani Street n.46, tax code/VAT Number 00123360398, executed the laying and burial of the Submarine Optic Cable, installed in the Venice Lagoon.

- The Submarine Optic Cable extended for 5 sections long within the Venice Lagoon, having a total length of 11,000 linear metres.
- The beginning of works commenced in October 1993 and were completed in December 1993.
- Mr. Franco Ballestri directed the works on behalf of the Contracting Company.

The works were performed regularly and successfully and free of any disputes.

Faithfully yours


Alberto Nazarri

33 SIP–VENICE OFF SHORE–Optic Fibre Cable

PROJECT: Submarine Optic Cable - Venice Lagoon, Italy
Client: SIP - Operating Telephone Italian Society

Subject: certification attesting the execution of works.

The undersigned Mr. Alberto Nazarri, as (in the capacity of) Technical Director of IMPREMAR S.r.l. with Headquarters in Mestre (Venice) - Galileo Ferraris Street, 25, declares:

that the enterprise GIANCARLO TARRONI with Headquarters in Ravenna - Mariani Street n.46, tax code/VAT Number 00123360398, executed the laying and burial of the Submarine Optic Cable installed in the Venice Lagoon.

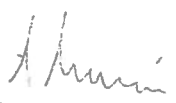
- The Submarine Optic Cable extended for 5 sections long within the Venice Lagoon, having a total length of 3000 linear metres.

- The beginning of works commenced in May, 1993 and was completed in September, 1993.

- Mr. Franco Ballestri directed the works on behalf of the Contracting Company.

The works were performed regularly and successfully and free from any disputes.

Faithfully yours


Alberto Nazarri

32 ENEL- VENICE OFF SHORE-Cables 352x3

PROJECT: Submarine Optic Cable - the Venice Lagoon,
Italy
Client: ENEL - National Entity for Electrical Energy

Subject: certification attesting the execution of
works.

The undersigned Mr. Alberto Nazarri, as (in the
capacity of) Technical Director of IMPREMAR S.p.A.
with Headquarters in Mestre (Venice) - Galileo
Ferraris Street, 25, declares:

that the enterprise GIANCARLO TARRONI with
Headquarters in Ravenna - Mariani Street n. 46, tax
code VAT Number 00123360398, executed the laying and
burial of the Submarine Optic Cable with the power of
35/2*3, installed in the Venice Lagoon.

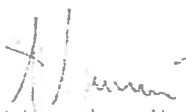
-The Submarine Optic Cable extended within the Venice
Lagoon for a total length of 6000 linear metres

-The beginning of works initiated in July, 1992 and
were completed in September, 1992.

- Mr. Franco Ballestri directed the works on behalf
of the Contractor Company.

The works were performed regularly and successfully
and during works execution labour disputes didn't
appear.

Faithfully yours,


Alberto Nazarri

31 AGIPSAIPEM – ADRIATIC SEA – 14”+3”

COMMITTENTE: SAIPEM S.p.A. con Sede in S. Donato
Milanese - Via Martiri di Cefalonia n. 67,
capitale sociale 400 miliardi interamente versato,
iscritta presso il tribunale di Milano al n.
140160 Reg. Soc., Vol. 3505, Fascicolo 10 /
C.C.I.A.A. Milano 788744, Codice Fiscale e Partita
IVA 00825790157.

Oggetto: Albo Nazionale dei Costruttori:

certificazione attestante la esecuzione dei lavori
rilasciata ai sensi dell'art. 14 della legge 10
febbraio 1962 n. 57 e dell'art. 18, lett. b) della
legge 8 agosto 1977 n. 584, e successiva norma di
conferma.

Il sottoscritto Cao Ing. Stefano nato a Roma il 16
settembre 1951 e domiciliato presso la Sede della
Società, legittimato a rilasciare la
documentazione in oggetto nelle sue qualità di
Direttore Generale della Attività Commerciali e
Tecniche della SAIPEM S.p.A., assuntrice dei
lavori di costruzione del Sealine Foce Vomano (TE)
- Piattaforma GIOVANNA DN 18" + 3" + 3" per conto
della AGIP S.p.A., con sede legale in Milano, C.so
Venezie, 16 - Direzione ed uffici in San Donato
Milanese (MI), Capitale Sociale Lit. 2.400

miliardi interamente versato, iscritta presso il Tribunale di Milano n. 239307 Reg. Soc., Vol. 6308, Fascicolo 7 / C.C.I.A.A. Milano 158722, Codice Fiscale n. 00464580588, Partita IVA n. 07541600156

DICHIARA

che i lavori di affossamento della linea Fiume Vomano - Piattaforma GIOVANNA, riconducibili alla categoria 13b del D.M. n. 770 del 25 febbraio 1982, sono stati eseguiti dalla Impresa GIANCARLO TARRONI con sede a Ravenna - Via Mariani n. 46, iscritta alla C.C.I.A.A. di Ravenna al n. 68618, Codice Fiscale TRR GCR 37A10 L120W, Partita IVA 00123360398.

Giusto Contratto di Appalto n. SA-1158/APRE del 4 giugno 1992.

L'importo dei lavori è stato il seguente:

- Importo contrattuale complessivo stimato : Lit. 950.000.000= (diconsi Lire novecentocinquanta milioni);
- Importo totale netto dei lavori eseguiti: Lit. 947.893.332= (diconsi Lire novecentoquaranta settemilioniottocentonovantatrezila332).

I lavori sopra descritti hanno avuto inizio nel


me-
se di agosto 1992 e sono stati ultimati nel mese
di settembre 1992.

Ha diretto i lavori per conto dell'Impresa
assuntrice il Sig. Franco Ballestri nato a Ravenna
il 21 gennaio 1935.

I lavori sono stati eseguiti regolarmente e con
buon esito e non hanno dato luogo a vertenze.

Detti lavori non sono stati oggetto di subappalto.

S. Donato Milanese, 24 novembre 1993


Saipem
DIREZIONE GENERALE
ATTIVITÀ COMMERCIALI E TECNICHE
Il Direttore Generale
Ing. Stefano Gao

Il presente certificato è stato rilasciato
all'Impresa TARRONI GIANCARLO con sede a Ravenna,
via Mariani n. 46.

Si afferma che il presente certificato, in unico
originale in ballo, è il solo relativo ai lavori
soprariportati.

Si dichiara sotto responsabilità che quanto
indicato nel presente certificato trova riscontro
nella documentazione in Atti.


S. Donato Milanese, 24 novembre 1993


Saipem
DIREZIONE GENERALE
ATTIVITÀ COMMERCIALI E TECNICHE
Il Direttore Generale
Ing. Stefano Gao

soprariportati.

Si dichiara sotto responsabilita che quanto
indicato nel presente certificato trova riscontro
nella documentazione in Atti.

S. Donato Milanese, 2 dicembre 1993


SAIPEM
Societa per Azioni
ATTIVITA DI INTERESSE
INDUSTRIALE
Ing. Stefano Gao

74