

PROJECT SHEET

VEGA PLEYADE PROJECT
TRENCH DREDGING AND EXCAVATING,
PIPE PULLING AND BACK-FILLING

BOSKALIS' ENERGY SOLUTIONS

Boskalis is a leading global dredging and marine expert. With safety as our core value we provide innovative, sustainable and all-round solutions for our clients in the energy market. Realizing projects in remote locations with a heightened environmental focus is one of our specialties. Under brands such as Boskalis, Dockwise, Fairmount, VBMS and Smit we offer more services than any other company in our industry, making us your next one-stop solution provider. We support the development, construction, maintenance and decommissioning of oil and gas import and export facilities, fixed and floating exploration and drilling facilities, pipelines and cables and offshore wind farms.

VEGA PLEYADE PROJECT

Vega Pleyade is a gas field operated by TOTAL Austral and located in Tierra del Fuego, in the deep south of Argentina. A remote area affected by severe weather conditions. The area is rich in gas reserves and a number of fields have been brought on line over the years. The gas field is located around 20km from the coast and 77 km away from the existing Rio Cullen facilities.

The Vega Pleyade field is developed with one platform. This platform includes three dry gas wells considering a total maximum flow rate of 10 MSCMD. The gas will be transported to the existing Rio Cullen facilities via a new 20" + 4" piggyback pipeline. Hydrate formation in the 24" pipeline is inhibited through MEG injection. The gas is further transported from Rio Cullen to the Cañadón Alfa facilities located in the north for further treatment.

TOTAL awarded BOC the main contract for the installation of the pipeline from the platform at Vega Pleyade to the shore. BOC subcontracted to Atlantique Dragage the maintenance of the 10,000 m long near-shore part of the trench already dredged, excavation of the tidal part and

FEATURES

Company	Total Austral (TA)
Contractor	BOC (Bitachon Offshore Contractor OY)
Location	Tierra del Fuego, Argentina
Period	Preparations July 2014 – Oct 2014
Execution	November 2014 – March 2015
Subcontractor	Atlantique Dragage
Equipment	TSHD Nina, Elevated Excavator Hitachi, Linear Winch + dry earth moving equipment, AHV Ram Ranquel



A

- A** Location map
- B** Overview site
- C** Trenching elevated excavator

the 1,200 m long shore pull. The scope of works comprised dredging and maintenance of the trench, dry earth movement, creation of a sedimentation basin, wire-lay, pull-in of the pipeline, post-lowering of the pipe and backfilling of the landfall and near-shore part of the pipeline. Additional services varying from buoyancy removal to lifting activities and survey works, were provided on request of BOC.



B



C



SAFETY

Safety is first priority during the preparations and execution of the project. The Boskalis NINA policy (No injuries, No accidents) was implemented using Kick-off, follow-up and task specific sessions while all people were trained and inducted in the NINA program. The environment and conditions required a specific and custom tailored approach. Thanks to the flexibility of all parties involved the project was successfully completed without incidents or accidents.

MOBILIZATION

Marine equipment was mobilized from outside Argentina mainly and required temporary importation. The main land based equipment was mobilized from Europe to Buenos Aires where it was loaded on trucks to be transported by road to the site in Tierra del Fuego. A trip of well over 3,000 km which took more than 3 weeks. All equipment arrived in time and after assembling started their activities late December 2014.

EXECUTION

Due to a landfall point situated almost on top of a cliff, a cliff-cut was required involving major earthmoving works. The east coast of Tierra del Fuego has a tidal variance of about 10 m creating steep beaches and high crumbling cliffs rising up from the high waterline 10m or more. Part of this cliff had to be removed to create a smooth alignment for the pipe and installation of the pulling spread.

The tidal part of the trench was excavated by an elevated excavator. Due to the considerable tide differences the elevated excavator was able to cover the complete length of the trench in the tidal zone. The TSHD Nina arrived on site early January 2015 to maintain the earlier dredged trench. The TSHD and elevated excavator could cover part of each other's working area, as such ensuring a smooth trench profile.

Once the trench was completed, the pull wire was laid with the AHT Ram Ranquel well within

tolerances, in less than one day under difficult conditions. After confirmation and approval of the pull wire's position in the trench, the 1200 m pull commenced was completed successfully despite severe weather conditions.

As-laid surveys showed that the pipe was in the correct position except for a short stretch at the low water line, where the top of the pipe was above its required level due to sedimentation. This was remedied by post-lowering the pipe hydraulically through the sediments. A DOP pump was mounted on the elevated excavator and the soft sediments were removed to lower the pipe to the required level.

DEMOBILIZATION

After approval of the Contractor all equipment was demobilized. The marine equipment left on their own keel while the land based equipment returned to Europe by means of a vessel especially chartered to load the equipment in Ushuaia, the most southern port in the world.

CONCLUSION

With a challenging schedule and difficult local circumstances, Boskalis provided in time and without any injuries or incidents a full scope shore approach package to our client setting the highest standard for safety, technical performance and client driven solutions, showing the capacity and flexibility to perform in challenging conditions without compromises.



- D** Wirelay
- E** Centreline cliff cut
- F** Post lowering pipeline

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