



CN103137 Scope Of Works Small Projects Construction Support

INTRODUCTION TO THE RUMAILA FIELD

The Rumaila field, located 50 kilometres west of Basra in Southern Iraq, is one of the largest oil fields in the world. The field is approximately 80km long by 20km wide and consists of two parts, South Rumaila and North Rumaila.

The Rumaila field is operated by an unincorporated joint venture called the Rumaila Operating Organisation (ROO), comprising the Basra Oil Company (BOC), BP, PetroChina and the State Oil Marketing Organisation (SOMO). bp and PetroChina have established Basra Energy Company Limited, an incorporated joint venture, to own and manage their interests in the Rumaila field in Iraq. Basra Energy acts as Lead Contractor and enters into all contractual arrangements required by the ROO.

The well stock consists of 600 producing wells. Fluids from these wells are gathered using the infield flow lines and in some cases via remote fields and/or plant manifolds to 12 main and 2 intermediate Degassing Stations (DS) where gas and water are separated from the oil phase.

Production is predominantly natural flow wells. we currently have 37% of our production supported by ESP, and that will continue to increase as we increase year on year with more artificial support.

The water injection system includes 2 water treatment facilities in the outskirts of Basra City, the original Qarmat Ali (QA1) water treatment plant was commissioned in 1978 and the new Qarmat Ali 2 plant was commissioned in 2016 and is a modern Veolia based design

The water is exported from QA over 66km via three (3) 48" pipelines to the water injection Cluster Pump Stations (CPS). Currently there are 6 CPS stations, five (5) in North Rumaila and one (1) in South Rumaila. Construction of an additional CPS in SR will commence towards end of 2022 the number of water injection facilities will be expanded with the construction of an additional 5 Produced Water ReInjection (PWRI) Stations with construction scheduled to commence in 2023.

The water flood (WF) well stock consists of 171 water injection wells and is connected to the CPS stations through trunk and flow lines. All the flow lines are connected to on site (main pay – MP) and off site (field manifolds – FM) manifolds. Well head maintenance does not form part of this SoW; this SoW covers flow lines up to the wing valve on the well head.

SERVICES PROVIDED BY SERAYA OIL & GAS INCLUDE

FLANGE MANAGEMENT SERVICES

The Scope of Services provided by Seraya under the terms of this Ad-Hoc Contract included the provision of Bolt Tensioning and Torquing for disassembly and assembly of bolted flanged joints on piping systems, pressure vessels, tanks and heat exchangers on the ROO facilities.

STATIC EQUIPMENT HYDROTESTING AND LEAK TESTING

The Scope of Services provided by Seraya under the terms of this Ad-Hoc Contract included the provision of Hydrotesting, Leak Testing Services and the supply of nitrogen on ROO facilities including the development of leak testing packs with isolation and purging points.



SPECIALIST AND INDUSTRIAL CLEANING SERVICES

The Scope of Services provided by Seraya under the terms of this Ad-Hoc Contract included the preparation, definition, and approval for Specialist Cleaning Services activity as appropriate on ROO facilities.

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| • <i>High Pressure Water</i> | • <i>Supply of all equipment required for performance of the Services</i> |
| • <i>Natural Occurring Radioactive Material (NORM) handling, and disposing</i> | • <i>Vessel Cleaning - hand and high-pressure water jetting</i> |
| • <i>Retro-Jetting & Caisson Cleaning and Inspection</i> | • <i>Hydro-Vac services</i> |
| • <i>Specialist cleaning services</i> | • <i>Hydro excavation services</i> |
| • <i>Industrial cleaning services</i> | • <i>Chamber cleaning services</i> |
| • <i>Supply of all consumables</i> | |

FABRICATION SERVICES: GENERAL CONSTRUCTION & FABRICATION FOR WATER, OIL AND GAS SYSTEMS

The Scope of Services provided by Seraya under the terms of this Contract included fabrication services and general construction for oil, gas and water systems on ROO facilities.

PIPELINE & PIPEWORK CONSTRUCTION AND COMMISSIONING SERVICES

The Scope of Services provided by Seraya under the terms of this Contract included Pipeline and Pipework Construction and Commissioning Services on ROO facilities.

To support the overall requirements for the construction, installation, hot-tapping, tie- in and testing of Pipeline Systems including;

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| • <i>Oil flowlines.</i> | • <i>Source water lines</i> |
| • <i>Flex lines</i> | • <i>Produced water lines</i> |
| • <i>Trunk lines.</i> | • <i>Pipework within degassing stations.</i> |
| • <i>Water injection lines</i> | |

SCAFFOLDING SERVICES

The Scope of Services provided by Seraya under the terms of this Ad-Hoc Contract included Scaffolding Services for access to piping systems, pressure vessels, tanks and heat exchangers on the ROO facilities.