



CASE STUDY

Sapura / Chevron Thailand - Jacket and pipeline removal

James Fisher Offshore (JFO) are proud to have supported Sapura Energy and Chevron Thailand Exploration and Production Ltd with the first 'Rigs to Reef' project in Thailand - an initiative where idle platforms are relocated to create artificial reefs, serving as a valuable habitat for marine life.

Operating in the Gulf of Thailand, JFO successfully cut and removed 7 platforms and associated pipelines, completing the project 3 weeks ahead of schedule.

JFO scope of service included:

- Cut and removal of risers and subsea spools
- Soil plug removal
- Cut and removal of subsea jackets
- Cut and recovery of associated pipelines

Platform	Water depth (m)	Pile diameter	Riser	Associated pipeline
YAWA	73.8	56" (skirt pile) x 3	1 x 16"	1 x 16"
FUWL	69.8	36" x 4	1 x 10"	1 x 10"
FUWM	65.9	36" x 4	1 x 10"	1 x 10"
SPWB	73.5	42" x 4	2 x 16"	1 x 16"
PKWA	69.8	42" x 4	1 x 10" , 1 x 16"	1 x 10" , 1 x 16"
PKWB	68.8	42" x 4	1 x 10"	1 x 10"
NPWO	61.1	42" x 4	1 x 10" , 2 x 16"	1 x 16"



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JFO scope of supply included the following equipment, ensuring the most effective, as well as the safest means to cut and remove the various materials:

- Internal abrasive water jet cutting system (AWJC)
- Internal soil plug removal tool
- Diamond wire saw
- Chop saw
- Twin recovery grabs



Project scope specified use of an internal cutting system with capability to cut the piles to a minimum of 5mtr below seabed level. The piles were known to contain heavy soils and these needed dredged prior to commencing cutting. Furthermore, the risers and cross member braces required to be cut externally at very specific locations, with challenging access, for optimal recovery and reef placement.

JFO created immediate cost and time savings for the client by mobilising from its base in Malaysia. To further enhance project expediency JFO utilised a deployment frame to deploy the cutting head, thus freeing up the vessel crane to simultaneously carry out the pile dredging.

Excavation was launched on the soil plug inside the pile utilising JFO's bespoke soil plug removal tool to provide clearance for the AWJC to perform the clients required severance.

For the external cuts some of the access points were more challenging than anticipated and a combination of tools were required, including a chop saw and diamond wire. This reactive adaptability proved critical in being able to overcome the project obstacles.

The project was delivered without incident and ahead of schedule. The utilisation of simultaneous operations with the dredging and internal cutting spread greatly aided in this outcome, whilst JFO's ability to deploy multiple external cutting tools concurrently generated significant efficiencies.



Platform	Water depth (m)	Pile diameter	Soil density	Average cut time (per jacket leg)	Average dredge time (per jacket leg)
YAWA	73.8	56" (skirt pile) x 3	Clays to 130kPa	44 minutes	35 minutes
FUWL	69.8	36" x 4	Clays 50 to 75kPa	33 minutes	20 minutes
FUWM	65.9	36" x 4	Clays 35 to 75kPa	27 minutes	25 minutes
SPWB	73.5	42" x 4	Clays to 125kPa	42 minutes	25 minutes
PKWA	69.8	42" x 4	Clays to 150kPa with cemented silt pockets	47 minutes	No dredging required
PKWB	68.8	42" x 4	Clays to 160kPa with cemented silt pockets	42 minutes	25 minutes
NPWO	61.1	42" x 4	Clays 110 to 150kPa	42 minutes	15 minutes



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JFO's highly experienced project and engineering teams delivered the full JFO scope of service, supported by a specialised core team of offshore personnel.

With extensive experience on similar scopes of work, our team work to the highest standards of quality and safety and communicate fully with vessel crew from riggers to client representatives.

Our offshore technician David Allan was acknowledged on the project for his work ethic and received a stand up for safety award, presented to him by the Chevron HES superintendent of Chevron Thailand.

The highest priority on safety and the protection of marine resources and the ecological system were placed on this project, in accordance with all national and international regulations.

With the jackets now in place at the new reef site, Chevron Thailand in collaboration with Chula Unisearch will study and track the progress of the project over the next 2 years to recognise the impact and benefits of this artificial reef.



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