Double it up!

VAM®21 Delivers Superior Operational Cost Savings

for Sumitomo Customer in North West Shelf Gas Development Project

Performance Summary

Ave Running time/ Joint:
5.46 mins. | 9.10 mins.

Est. Running Time/ Well:
50.05 hrs. | 83.42 hrs.

Double-Joint | Single Joint

VAM 21

33.37 Hours Rig Time Saving

US$ **1+ Million** Rig Cost Saving

Case Summary

The Operator of a high-profile LNG Project in the North West Shelf (NWS) Australia required high performance, high quality and high reliability OCTG products to ensure the integrity of the wells in the high cost operating environment. NSSMC OCTG products including High-Alloy CRA and High Strength High Collapse Sour Service Grades with State-of-the-Art High Performance Threaded & Coupled(T&C) VAM®21 Connection were selected.

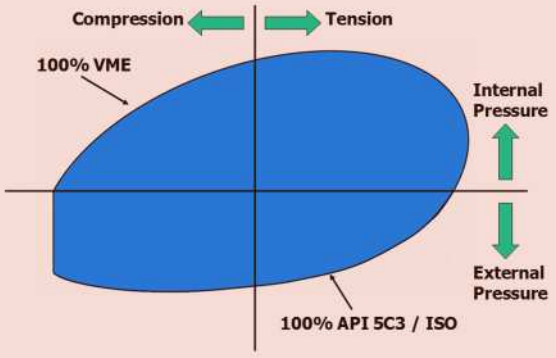
The rugged and robust design of VAM®21 enabled the highly sensitive CRA Completion Tubing (up to R3 length) to be run in “Double-Joint Stand” to optimize the running efficiency without jeopardizing the integrity of the well. This delivered a significant efficiency improvement over conventional ‘Single-by-Single’ operation and major rig time and cost savings.

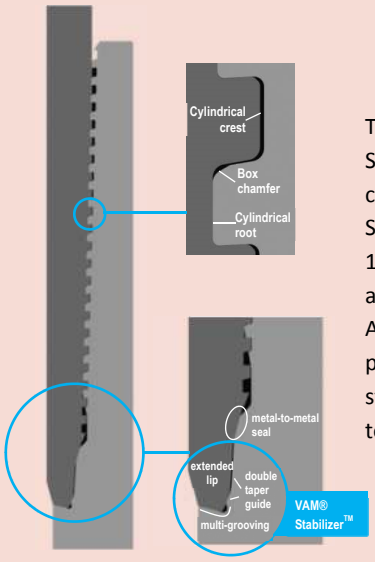
Project Information

Type	High Capacity Gas & Condensate Subsea Development Wells
Location	North West Shelf (NWS) Australia
Well Profile	Highly Deviated (>80 deg)
Drilling Rig	Semi-Submersible
Products	SM22CR-125 Corrosion Resistant Alloy (CRA)
	SM95TS High Strength High Collapse Sour Service Grade
	SM125S-HC High Strength High Collapse Sour Service Grade
	VAM®21 High Performance T&C Connection

Design & Specification

VAM®21 is a Threaded & Coupled (T&C) premium connection offering the full pipe body performance sealability/reliability as per API RP 5C5:2017 CAL IV.





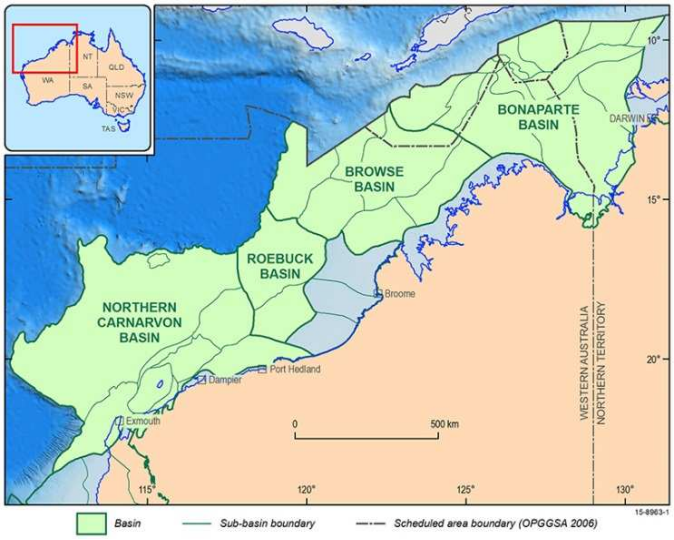
The unique design of VAM® Stabilizer™ provides the connection with enhanced Sealability Performance and 100% Compression rating, allowing it to pass the API 5C5 2017 CAL IV testing protocol that is most stringent industry protocol to date.

Product Validation & Optimization

All 3 sizes (10-3/4", 9-5/8" and 7") of VAM®21 were physically validated to ISO-13679 CAL IV (equivalent to API 5C5 CAL IV) per Operator's request.

Thanks to the enhanced thread design features of 'Cylindrical Crest & Root' and 'Double Taper Guide', VAM®21 is very user-friendly during field running with excellent stabbing, anti-galling and anti-cross threading performance.

After very successful deployment in first well with zero rejects, the Operator decided to carry out 'Double-Joint' running for the 7" CRA completion string to optimize the running efficiency. Double-Joint Stands were made up at the shore-base and transported offshore to be made up with conventional Tubular Running equipment setup on the semi-submersible rig. On average, 100 joints of 7" CRA Liner and 450 joints of 7" CRA Tubing were run in each well.



North West Shelf Geographical Location Source: Geoscience Australia

Performance: 40% Efficiency Improvement!

Running of 7" VAM®21 in double-jointed stands was very smooth with clean make-up charts, and ZERO joints were laid down due to damage or make up rejection. This performance is regarded as exceptional especially when applied to CRA material known to have a high galling susceptibility.

The job data from 3 wells were analysed to evaluate the running efficiency performance.

Well	Running Mode	Average Time per Connection (min.)	*Average Time for 'Double Joint' (min.)*
A	Single	9.10	*18.20 (9.10 x 2)*
B	Double	10.71	*10.92 (B&C)*
C	Double	11.13	

Based on this information, the average time of running the completion tubing can be estimated in table below by estimating the total time required to run the 100 joints and 450 joints of Liner and Tubing respectively in each well. This translates to **efficiency improvement of 40%** with the use of VAM®21 in Double-Joint Stand manner!

Running Time per well	Single-Joint Mode	Double-Joint Mode
Average per joint (min.)	9.10	5.46 *(10.92 ÷ 2)*
100-joint Liner (min.)	910	546
450-Joint Tubing (min.)	4,095	2,457
Total (min. / hr.)	**5,005 / 83.42**	**3,003 / 50.05**

Time Savings per well = 33.37 hrs.
Rig Cost Saving per well > US$ 1M

Future Plan

Following the successful deployment of CRA tubing with VAM®21 in Double-Joint in 2 wells, all the subsequent wells will be completed in the same manner. Same practice will also be applied on the larger tubular size (9-5/8" and 10-3/4" casing) to fully capitalise the benefit.

The Sumitomo Customer has not just achieved the superior operational efficiency with VAM®21 but also set a standard in North West Shelf for the running of 7" CRA Tubing in Double-Joint Stands.

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