CORPORATE PRESENTATION

www.WilliamJacob.com

WILLIAM JACOB®
MANAGEMENT

Corporate Presentation
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WILLIAM JACOB® MANAGEMENT

08/24/04
William Jacob Management, Inc. Opened Its Doors for Business

2004
DEVON - POLVO
Involved in the Entire Life Cycle of the Project from Concept to Commissioning and Start Up on a Drill Rig, Platform and FPSO

CAL DIVE
Engineering Brownfield Services on Multiple Vessels

TODCO
WJM Performs Re-fit Budget & Planning on 2 Jackups

2006
MURPHY - AZURITE
Interface Management Structural & Mech Engineering and Piping Design on FDPSO

STATOIL - PEREGRINO
Project Mgmt, Engineering, Construction Mgmt, Commissioning for 2 H&P Drilling Rigs

MUSTANG/ SUPERIOR/ MARLIN OFFSHORE
Engineering Support

2007
CROSS LOGISTICS
ASCOT INT'L
NOBLE
Various Modifications and Engineering Support

2008
CAMAC/ENI - OYO
FPSO Project Management

IDM EQUIPMENT
Engineering & Design on the SST Project

2009
SSP
Development Support

OPPORTUNE
Audit Assistance

DOYON DRILLING
Project Consultant

2010
EXXON – BERKUT
Design of Drilling Pkg Component (Topsides/ Drilling Rig, Including the Derrick, Pipe Barn, Substructure, Well Control System and Mud System)

PRIDE DEEP OCEAN ASCENSION
Modifications to Drillship Design

COASTAL OIL & GAS
MOPU Development

DEVON – JACK ST MALO
Review Drill Rig Details

BLAKE INTERNATIONAL
Verification of Structural & Equipment on HP Platform Rig

CHEVRON - LORAN MANATEE
Prelim Studies on Drill Rig

2011
BP - LIBERTY
Technical Audit, Engineering, Survey, Cost Development & Analysis

2H OFFSHORE
Design Riser Fairing Shipping Module for Chevron Bigfoot TLP

SAROST
Engineering for Jawhara 05 Repair & Conversion

2012
NORTHERN OFFSHORE
Jackup Upgrade FEED

SPARTAN OFFSHORE
Upgrade/Winterization

FURIE – KITCHEN LIGHTS
Engineering & Design of Monopod & Production Facility

PEMEX
Engineering & Design of Two 3,000 HP Platforms

SHELL - OLYMPUS
Engineering & Design Support on TLP

SIDEWINDER
3D Layouts of Modules & Pipe Routing for New Generation Land Rig

2013
BP – PROJECT 20K
Conceptual Design

EXXON - ODOPTU
FEED for an Enhanced Mobility Land Rig for Work in an Undisclosed Arctic Region

MAERSK - CHISSONGA
FEED for TLP to Work in Angola

New Brand Initiative

2014
SAVANNA
Proj & Const Mgmt on 750hp Land Rig

EEP
Project Support on Newbuild Drillship

MENADRILL
Jackup Survey

EXXON – BERKUT
Sailaway & Ops

FURIE – MONOPOD
Sailaway

MOVE TO PARK 10

MORF
Copyrighted the Modular Offshore Rig Facility

ENGINEERING & PROJECT MANAGEMENT
WILLIAM JACOB
2004 2014
MANAGEMENT
CELEBRATING 10 YEARS OF EXCELLENCE

CONTINUING A TRADITION OF BREAKTHROUGH INNOVATION

1.0

Overview

WILLIAM JACOB® MANAGEMENT

ENGINEERING & PROJECT MANAGEMENT SOLUTIONS

CORPORATE PRESENTATION

Peregrino Project
WJM Scope: Engineering & Project Management Services to refurbish topsides and drilling rigs on two platform facilities.

You envision it. We'll make it happen.

ENSURING SUCCESS FOR HIGH-STAKES CAPITAL PROJECTS. ONSHORE. OFFSHORE. WORLDWIDE.

16350 Park Ten Place, Suite 100, Houston, Texas 77084
Tel: 1.281.497.8617 | Fax: 1.281.497.8142 | www.WilliamJacob.com

Since 2004, William Jacob Management, Inc. has worked side-by-side with clients throughout the oil and gas industry to ensure the success of the critical capital projects on which they have staked their futures. In so doing, William Jacob Management has earned a unique reputation among engineering and project management consulting firms. While others are known for their dedication to billable hours, WJM thrives on adding value. The company's driving focus is to make every project the best it can be.

The single most important consideration any client will have when choosing a company to assist with any project is that of SAFETY. WJM has been safely completing projects in the offshore oil and gas industry since our founding. With our highly experienced staff WJM has worked 2,000,000+ man-hours in shipyards, manufacturing locations, construction yards and offshore on platforms, drill rigs and marine vessels without a single first aid or recordable. Our corporate incident rate is 0.0.

The safety of people is the most important aspect of every project we execute. We know that personnel safety is critical to our clients and we can assure you that it is critical to WJM. Our record proves that. This commitment to safety sets WJM apart.

Since our founding WJM has been involved in a number of very unique / one of a kind projects for the offshore oil and gas industry including:

- **Statoil Peregrino Project, BM-C-7, Campos Basin, Offshore Brazil**
  From 2006 through 2011 WJM provided project management, detailed engineering, construction engineering, construction management and commissioning management for the overhaul and startup of two 3,000 hp API drill rigs installed on wellhead platforms A and B. WJM received two contract extensions from Statoil to support commissioning on the platforms and FPSO topsides after completing the commissioning work on the two drill rigs.

- **Devon POLVO Project, BM-C-8, Campos Basin, Offshore Brazil**
  As project manager, WJM focused on flawless integration of work packages to help Devon Energy's POLVO Project set a new record for fastest time to first oil offshore Brazil. The project also represents the first time ever an independent developed a project in Brazil without Petrobras being involved. WJM provided project management, detailed engineering, procurement, construction

engineering and management, installation support and commissioning management. WJM also handled all of the Brazil regulatory and importation issues.

- **Murphy Exploration's Azurite Field Development Project, Offshore Congo**
  This is the industry's first and only FDPSO. WJM provided project management and engineering for the drill rig / production topsides interface, interface coordination between FPSO and drill rig suppliers, design and construction management of the drill rig modules in Indonesia and construction management and commissioning support in Singapore. With WJM as interface manager, Murphy Oil Corporation's Azurite is the world's first fully operational floating, drilling, production, storage and offloading vessel (FDPSO).

- **BP Exploration (Alaska) Inc.'s Liberty Revamp Project, Beaufort Sea, off North Slope, Alaska**
  WJM reviewed the Parker Drilling designed drilling unit for its "fit for purpose" to safely and effectively drill ultra-extended reach wells under the Beaufort Sea from a man-made island eight (8) miles off the Alaska North Slope. WJM reviewed each and every system on the drill rig with respect to performance, adherence to BP specifications and adherence to all regulatory requirements, identified problem areas, designed upgrades or retrofits for each identified problem, prepared well defined work packages for each system modification and completed detailed cost estimates for each work pack. In addition WJM prepared an overall construction budget and schedule. This rigorous review of the drilling rig provided BP with the information required to make an informed decision to not proceed with the entire field development based on the identified costs and technical challenges of modifying the existing drilling systems.

Working with William Jacob Management

With its unique DNA and a management team experienced in leading fast, agile project organizations, William Jacob Management serves clients in one or more of the following ways:

As strategic advisor, William Jacob Management assists executive decision makers and teams with the critical thinking necessary to align project and business goals from the outset. WJM helps bring key business and technical issues to the forefront and just the right amount of pertinent data to the boardroom table. WJM clients trade "analysis paralysis" for smarter, faster decision making.

As project manager, William Jacob Management zeros in on the Achilles' Heel of complex projects – integration. By aggressively managing contractor interfaces, critical path items and project controls, WJM balances project stewardship and project performance. The firm also excels in managing globally dispersed client teams, partners, vendors and contractors to complete complex work packages and deliver finished components to major project sites around the world.

As resource provider, William Jacob Management deploys tightly knit teams and specialized technical experts who are up and running from Day One. Clients get fast access to specialized knowledge, experience, tools and resources all geared to project success. What's more, WJM consultants are proven team players, adept at building solid working relationships inside and outside clients' project organizations.

Vision

Concept for smaller, modular offshore rigs becomes a reality

A business demand by a major international E&P company to bring down rig deployment costs and increase speed-to-production presented just the kind of challenge that WJM is known for. Working with a major Gulf Coast rig manufacturer, WJM engineers developed a design strategy that distributes primary components and systems among a set of uniform modules small enough to be transported by the oil company's service fleet and lifted by platform cranes. To ensure fast, efficient startup and maximum reliability, the team put extra emphasis on the integrity and reliability of interconnects between modules.

Value

Agile independent makes a big play with a small organization

With help from WJM, a nimble Texas-based independent has seized the opportunity to reopen Alaska's Cook Inlet to new development for the first time in 20 years. Virtually overnight, the small firm was able to ramp up with WJM as its full-service engineering group for turnkey design of an Offshore Well Test Facility, Onshore Separation plant and tie-ins for future production and pipeline. Along with providing estimates, complete engineering and bid preparation, the WJM team is working closely with state agencies to update permitting requirements.

Velocity

Record breaking time to first oil offshore Brazil

Devon Energy's **POLVO** project takes its name from the Portuguese word for octopus. Extending like tentacles from a central fixed drilling platform, Polvo's long reach, highly deviated well bores tap numerous reservoirs at varying depths throughout the field. To meet the aggressive schedule, WJM put key decisions on the critical path and prioritized work package integration. Polvo also made history as the first project in which an independent worked directly with the Brazilian government, without the involvement of the state-owned oil company Petrobras.

WILLIAM JACOB® MANAGEMENT

ENGINEERING AND PROJECT MANAGEMENT SOLUTIONS

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Expertise and Services

Headquartered in Houston, Texas, William Jacob Management has three divisions – Drilling Rigs, Topsides Production and Marine. WJM is unique in the industry in that our Drilling Department boasts a staff that has experience in engineering and design of rigs for every type of rig delivery system. This includes drillships, jackups, land rigs, TLPs, semisubmersibles, modular platform rigs and now the latest development – FDPSOs. WJM works nationally and internationally in assisting companies, project organizations and teams in the following key areas:

- Project Management
- Engineering
- Front End Design Studies
- Project Planning, Budgeting, Scheduling
- Technical Assistance and Coordination
- Procurement
- Contract Negotiations
- Commissioning / Startup
- Construction Management
- Heath, Safety, Environment
- Quality Assurance / Quality Control
- Procedure Development
- Database Development and Management
- Document Control System Development and Management

Immense risk. Immense reward.

The stakes for complex capital projects have never been higher. Success is no longer measured by cost and schedule performance, but by bottom line business metrics: corporate cash flow, return on capital and long-term revenue.

It's why William Jacob Management was founded…

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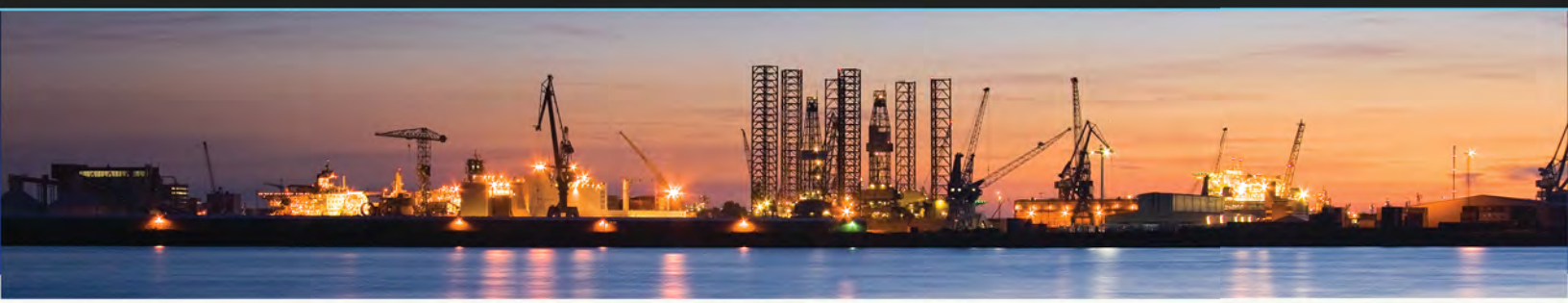

William Jacob Management is a global provider of project services to the energy industry. We are well known for interfacing drilling and production facilities and have achieved major technological breakthroughs on many high-stakes capital projects. For nearly a decade William Jacob Management has been steadily earning a reputation for work on some of the industry's most innovative projects. With our proficient onshore and offshore experience, we have provided services for some of the most challenging and strategic locations in the world which span six continents.

Our customers are multinational integrated energy companies, independent operators, national oil companies, drilling contractors, major EPCI service providers, manufacturers, fabrication yards and consulting firms. With safety and operational excellence as our highest priorities, our team of experts are committed to deliver record-setting business results to become operational on or ahead of schedule.

WILLIAM JACOB MANAGEMENT QUICK FACTS:

Perfect Safety Record

William Jacob Management has worked 2,500,000 + manhours to date offshore, in manufacturing shops or fabrication yards

- 0.0 Incident Rate since company startup in 2004
- No First Aids, no Lost Time Incidents and no Recordables

Experience with Some of the Industry's Major Projects

- Devon's *Polvo* project
- Statoil's *Peregrino* project
- Shell's MARS B *Olympus* project
- Furie's *Alaska Kitchen Lights* project
- ExxonMobil's *Sakhalin Island II* project
- ENI/CAMAC *OYO FPSO* project
- Murphy's *Azurite* project
- BP's *Liberty* and *20K™* projects

Engineering and Design Services

- Process Engineering & Design
- Loss Control Engineering & Design
- Mechanical/Piping Engineering & Design
- Electrical Engineering & Design
- Instrumentation Engineering & Design
- Structural Engineering & Design
- Architectural Engineering & Design
- Front End Engineering & Design Studies
- Technical Assistance and Coordination
- Construction Engineering and Detailing
- Winterization Analysis & Design

Management Services

- Project Management
- Construction Management
- Planning, Budgeting and Scheduling
- Procurement
- Contract Negotiations
- Commissioning/Startup
- Transport/Installation Analysis
- Quality Control & Inspections
- Procedure Development
- Database Development & Management
- Document Control Development & Management
- Computerized Labeling System
- Operations Assurance
- Field Support Services
- Engineering & Construction Inspections
- Project Certification
- Non-Destructive Testing
- HAZOP/HAZID
- Health, Safety & Environment Compliance

Experience

- Production and Drilling Platforms
- Offshore Production and Pipeline Systems
- Marine Terminal Facilities
- Compressor Facilities and Plants
- Pumping Stations
- Complete Oil and Gas Fields
- Onshore and Offshore Production Facilities
- Onshore and Offshore Water Flood System
- Quarters Buildings
- Production Modules
- Offshore Construction Equipment
- Subsea Production Systems (Interface)
- Riser Systems (Interface)
- Floating Production Systems
- Floating Drilling Rigs
- Packaged Platform Drilling Rigs
- Land Rigs

Peregrino Project
WJM Scope: Engineering & Project Management Services to refurbish topsides and drilling rigs on two platform facilities.

You envision it. We'll make it happen.

Whether your goal is to build a floating production facility, drilling rig or something in between, William Jacob Management (WJM) offers a complete range of full life cycle engineering and project management services to help you maintain a competitive edge in your respective markets. From FEED studies to commissioning and maintenance, we customize our services to meet your specific requirements and ensure that your critical capital projects will be delivered safely, on time and on budget.

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ENSURING SUCCESS FOR HIGH-STAKES CAPITAL PROJECTS. ONSHORE. OFFSHORE. WORLDWIDE.

2.0

SERVICES AND CAPABILITIES

Services and Capabilities

William Jacob Management (WJM) is an engineering company registered in the State of Texas. William Jacob Management's goals, since its inception, have been to bring value to the oil and gas industry by providing seasoned personnel in project execution. Our growth has demonstrated that our achievements have been recognized. William Jacob Management's current employee listing will show the experience level and promote a level of confidence that our customer's assets will reach their expectations.

Our array of computer driven design software is typical for the engineering industry and the William Jacob Management team is comprised of veterans in the applications. A diagram is included for review of William Jacob Management's computer network to support the software applications and the "tools of the trade".

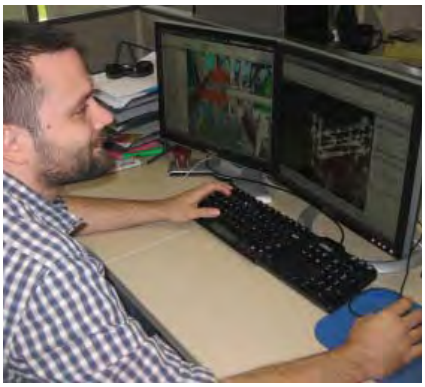
Document control and document sharing, whether internal or vendor data, cannot be over emphasized and William Jacob Management adapts to best serve the client.

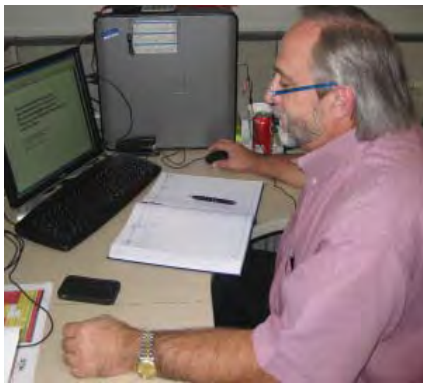
William Jacob Management's services and capabilities generally favor our talent pool as our designs are "fabricator friendly" which complements field construction and installation.

The recent projects listing is intended to give a brief overview of our capabilities and the projects William Jacob Management has successfully completed. In addition, we have included a brief description of our past and current projects as an addendum for your review.

Personnel

William Jacob Management personnel experience level averages 15 years. This experience covers a wide range of projects from offshore minimal support structures to floating, drilling, production and offloading (FDPSO), albeit our most recent experience is with platform mounted drilling rigs. The "William Jacob Management Employee Listing" further indicates the depth and breadth of the company's experience.





Tools

Engineering and Project Management

- **Primavera** - Scheduling
- **MS Project** - Scheduling
- **AutoCad** - Drafting
- **CadWorx** - 3-D Modeling
  Plant
  Isogen
  P&ID
- **NavisWorks** - Model Rendering
- **Inventor** - 3-D Mechanical Design
- **COSMOS** - Finite Element Analysis
- **SACS** - Structural Analysis & Modeling
- **Flow of Fluids** - Piping System Simulator
- **PDMS** - Plant Design Management System
- **Math CAD**
- **Adobe Acrobat**
- **Microsoft Office** - Excel
  Word
  PowerPoint
  Access
  Outlook

Document Control

- **Procosys** - Database (StatOil)
- **Citadon** - Document Control
- **Documentum** - Document Control
- **SharePoint** - Document Sharing

Services and Capabilities List

The William Jacob Management Group has provided the following services for clients worldwide:

- Project Management
- Construction Management
- Engineering Design
- Procurement Services
- Pre-Project Evaluation, Studies and Analysis
- Preliminary Design
- Cost and Feasibility Studies
- Cost Estimates
- Engineering and Construction Inspection
- Project Certification (ABS / DnV Interface)
- Startup and Commissioning
- Transport / Installation Analysis
- Safety Inspections
- Non-Destructive Testing
- HAZOP / HAZID

Projects, Operations and Facilities for which these services were provided included:

- Production and Drilling Platforms
- Offshore Production and Pipeline Systems
- Marine Terminal Facilities
- Compressor Facilities
- Compressor Facilities and Plants
- Pumping Stations
- Complete Oil and Gas Field Development
- Onshore and Offshore Production Facilities
- Onshore and Offshore Waterflood system
- Quarters Buildings
- Production Modules
- Offshore Construction Equipment
- Subsea Production Systems (Interface)
- Floating Production Systems
- Floating Drilling Rigs
- Packaged Platform Drilling Rigs

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General Information

Company Name	William Jacob Management, Inc.
Parent Company	
Address	16350 Park Ten Place, Suite 100
City	Houston, TX 77084
Contact	Michael P. Duffy
Phone	281-497-8617
Fax	281-497-8142
E-mail	MICHAEL.DUFFY@WILLIAMJACOB.COM
Website	WWW.WILLIAMJACOB.COM
Primary Work	Oil and Gas Industry Consulting Engineering & Project Management Services
Quality Program	☑ Yes
ISO 9000 Certification	☐ No, but meet the intent of current requirements.
Safety Program	☐ ISNetworld Compliance Records Management and Reporting membership in progress

Affiliates and Subsidiaries

Company	*Type of Work Performed*	*Location*

WJM and Subcontractor Capabilities

The following presents both WJM and WJM Subcontractors' capabilities based on discipline activities and deliverables.

	WJM	SubContractor	Comments
Project Management & Services			
Administration & Coordination			
Project Planning & Scheduling	☑	☐	
Lessons Learned	☑	☐	
Project Risk Assessment	☑	☐	
Interface Management	☑	☐	
EPCI Tender Preparation	☑	☐	
EPCI Tender Support	☑	☐	
Due Diligence	☑	☐	
Basis of Design	☑	☐	
Cost Estimation & Control	☑	☐	
Document Control	☑	☐	
Translation - Spanish	☑	☐	
Translation - Korean	☑	☐	
Translation - Other	☑	☐	

Process Engineering & Design			
Design Verification	☑	☐	
Process Systems Sizing & Selection	☑	☐	
Utility Systems Sizing & Selection	☑	☐	
Process Studies	☑	☐	
Steady State Simulation	☐	☑	
Dynamic Simulation	☐	☑	
Heat & Material Diagrams	☑	☐	
Process Flow Diagrams	☑	☐	
Mechanical/Utility Flow Diagrams	☑	☐	
Material Selection Diagrams	☑	☐	
Hydrostatic Test Diagrams	☑	☐	
S.A.F.E. Charts	☑	☐	
Cause & Effect Charts	☑	☐	
Loss Control Engineering & Design			
Risk Assessment	☑	☐	
Dropped Object Studies	☑	☐	
Fire & Blast Analysis	☐	☑	
Dispersion & Radiation Analysis	☑	☐	
Firewater System Design	☑	☐	
Noise Control	☐	☑	
Access/Egress Plans	☑	☐	
Safety Equipment Location Plans	☑	☐	
Mechanical/Piping Engineering & Design			
Mechanical Philosophies Development	☑	☐	
Material Handling & Selection Studies	☑	☐	
Pipe / Pressure Vessel W.T. Calculations	☑	☐	
Pipe Stress Analysis	☑	☐	
Static / Rotating Equipment Specification	☑	☐	
Equipment General Arrangements	☑	☐	
Vessel / Tank Outline Drawings	☑	☐	
2D Piping Design	☑	☐	
3D Modeling	☑	☐	
MTO, Bills of Material & Isometrics	☑	☐	
As-built Drawings	☑	☐	
Electrical Engineering & Design			
Load Studies	☑	☐	
Short Circuit & Voltage Drop Analysis	☑	☐	
Electrical Equipment Sizing & Spec	☑	☐	
One-Line & Area Class Drawings	☑	☐	
MCC Building Layouts	☑	☐	
Schematics / Wiring Diagrams	☑	☐	
Conduit & Cable Schedules	☑	☐	
Electrical Plans & Details	☑	☐	
MTO / Bills of Material	☑	☐	
Instrumentation Engineering & Design			
Instrument & Control Philosophies	☑	☐	
SIL Verification	☐	☑	
Instrument Index	☑	☐	
Instrument Sizing & Selection	☑	☐	
Instrumentation Specifications	☑	☐	
Control System Functional Specs	☑	☐	
Control Panel Specification & Design	☑	☐	
Instrument Hook-up Drawings	☑	☐	
Instrumentation Plans	☑	☐	
Loop & Wiring Diagrams	☑	☐	
MTO / Bill of Material	☑	☐	

Structural Engineering & Design			
Deck/Module Analysis & Design	☑	☐	
Flare/Vent Booms & Helideck Design	☑	☐	
Bridges Analysis & Design	☑	☐	
Jacket & Pile Design	☑	☐	
Minimum Structures Analysis & Design	☑	☐	
In-place Storm/Operational Analyses	☑	☐	
Fatigue Analysis	☑	☐	Finite Element
Seismic Analysis	☑	☐	
Collapse Analysis	☐	☑	
Vibration Analysis	☑	☐	
Loadout Analysis	☑	☐	
Lift Analysis	☑	☐	
Transportation Analysis	☑	☐	
Installation Analysis	☑	☐	
Finite Element Analysis	☑	☐	
Living Quarters Design	☑	☐	
Platform Assessment	☑	☐	
2D Structural Design	☑	☐	
3D Modeling	☑	☐	
Civil Engineering & Design			
Site Planning & Preparation	☑	☐	
Modular Structures Analysis & Design	☑	☐	
Pipe Rack Analysis & Design	☑	☐	
Tank Foundation Analysis & Design	☑	☐	
Retaining Wall Analyses & Design	☑	☐	
Architectural Engineering & Design			
Living Quarters Architectural Details	☐	☑	Popham Walter
MCC/Switchgear Buildings	☑	☐	
Operations Assurance			
RAM Studies	☐	☑	
RCM Studies	☐	☑	
Operability Management Plans	☐	☑	
Simultaneous Operations Procedures	☐	☑	
Mechanical Completion Procedures	☑	☐	
Pre-commissioning Plans & Procedures	☑	☐	
Commissioning Plans & Procedures	☑	☐	
Start-up & Maintenance Procedures	☑	☐	
Operability Reviews	☑	☐	
Spare Parts Planning	☑	☐	
CMMS Development	☐	☑	
Training Programs	☑	☐	
Pipeline Engineering & Design			
Pipeline Sizing & Spanning Analysis	☑	☐	
On-bottom Stability Analysis	☑	☐	
Pigging Assessment & Corrosion Studies	☑	☐	
Line Pipe & Cold Bend Specifications	☑	☐	
Subsea Valve & Misalign. Flg Specifications	☑	☐	
Pipeline Plans & Profiles	☑	☐	
Pipeline Alignment / Burial Profile	☑	☐	
Riser Tie-in Details	☑	☐	
Pipeline Installation, Weights & MTO	☑	☐	
As-Built Drawings	☑	☐	

Subsea, Risers & Floaters			
Sub Sea Hardware Selection & Design	☐	☑	
Sub Sea Controls System Design	☐	☑	
Hydrodynamic Analysis	☐	☑	
Model Testing	☐	☑	
Materials Engineering	☐	☑	
Mooring and Foundation Design	☐	☑	
Riser Systems Design	☐	☑	
Vessel Conversions	☑	☐	
Marine Systems	☑	☐	
Procurement			
Procurement Planning	☑	☐	
RFQ's, Bid Evals & P.O.s/Contracts	☑	☐	
Expediting, Traffic & Logistics	☑	☐	
Invoice/Payment Processing	☑	☐	
Quality Assurance / Quality Control			
Project Quality Audits	☑	☐	
Design Reviews & Verification	☑	☐	
Subcontractor/Supplier Inspection	☑	☐	
Fabrication / Construction / Installation			
Fabrication Management & Engineering	☑	☐	
Construction Management & Engineering	☑	☐	
Installation Management & Engineering	☑	☐	
Field Support Services	☑	☐	
Marine Warranty Surveying	☑	☐	
Platform Decommissioning & Removal			
Project Management	☑	☐	
On-site Visit & Analysis	☑	☐	
Well Plugging & Abandonent	☐	☑	
Engineering Analysis	☑	☐	
Risk Assessment	☑	☐	
Project Execution Plan	☑	☐	
Cost / Schedule Estimate	☑	☐	
Platform Preparation	☐	☑	
Conductor Removal	☐	☑	
Pipeline Abandonment	☐	☑	
Topsides Removal	☐	☑	
Substructure Removal	☐	☑	
Site Clearance, Remediation, & Verification	☐	☑	
Material Disposal	☐	☑	

Project, Engineering & Design Systems

Project Management & Services

Cost Control Progress Monitoring	Quickbooks	Primary Accounting software designed to provide easy access to Accounts Payable, Cash Management, Purchase Order tracking, time and expense reporting, project controls, project reporting and payroll.
	Microsoft Excel/Access	Database specialty software has been developed and programmed to produce standard project tracking and weekly project control reports utilizing Quickbooks and Microsoft products.
	Primavera	WJM exports/imports data to/from Primavera into Excel spreadsheets and Access database to monitor progress. Deliverable items, tracked by standard activity codes (WBS), are identified weekly by all personnel through timesheet and expense reporting. All project drawings and engineering documents are identified in the Drawing Control Index (DCI) and the Engineering Control Index (ECI), respectively. Earned progress is reported for each DCI and ECI element based on pre-determined percent complete as a function of milestone achievement.
Document Control	Microsoft Access/Excel	

Design & Drafting

WJM strives to meet the customers demands with the most cost effective 2D and 3D design methods. Utilizing the multiple design tools summarized below and being staffed with software fluent personnel, WJM can offer our clients the most cost effective design services.

Commercial Software

AutoCad 2006	*Computer Aided Design*
ADVANTAGE Pipe	*2D Facilities pipe arrangement package*
ADVANTAGE ISO	*Facilities isometric package*
ADVANTAGE P&ID	*Facilities P&ID application package*
Aveva PDMS v.11.5	*3D Plant/Platform Design*
CADWorx Plant 2006	*2D/3D Plant & Platform Design*
CADWorx Equipment 2006	*3D Equipment package*
CADWorx P&ID 2006	*P&ID application package*
CADWorx Isogen	*Automated Isometric generation package*

Process Engineering

Commercial Software

Hysys	*Process Simulation*
Flarenet	*Relief System Analysis*
Flaresim	*Radiation Analysis*

In-house

Process Line Sizing (Two-phase, single phase gas and single phase liquid)
Centrifugal & Reciprocating Pump Sizing Spreadsheets
Vessel Sizing Spreadsheets (separators, scrubbers, horizontal, vertical)
Air Receiver Sizing, Crank Time Spreadsheet
Vent / Flare Boom Sizing Spreadsheet (Dispersion / Radiation)
PSV Piping Lateral Equivalent Lengths Spreadsheet
PSV Inlet Line Loss Pressure Drop Calculation Spreadsheet
PSV Relieving Load Calculation Spreadsheet
Pressure & Temperature Alarm Setpoint Calculation Spreadsheet
Vessel & Tank Level Setpoint Calculation Spreadsheet
Compressor Sizing Spreadsheet

Heat Exchanger Duty Calculation Spreadsheet
Estimation of Emulsion Viscosity Spreadsheet
Oil Viscosity Calculation from API Gravity / Temperature

Mechanical Engineering

Commercial Software

Caesar II	*Pipe stress analysis - Engineering Design Automation, U.S.A.*

In-house

Wall Thickness Calculations (pipe/vessels)
Skid Weight Calculation Spreadsheet

Loss Control Engineering & Design

Commercial Software

HAZOP Manager	*HAZOP Analysis/Reporting*
PIPENET Sprinkler	*Fire Water System Design*
PIPENET Transient	*Fire Water System Design*

Electrical Engineering & Design

Commercial Software

CAPTOR / DAPPER	*Electrical System Analysis*
ETAP	*Electrical System Analysis*

Instrument Engineering & Design

Commercial Software

Intools	*Instrument Engineering & Design*

In-house

PSV Sizing Calculation
Relieve Valve Sizing Calculation (various vendors)
Control Valve Sizing Calculation (various vendors)
Chokes Sizing Calculation (various vendors)
Meter Run Sizing (various vendors)
Rupture Disc Sizing (various vendors)

Pipeline Engineering & Design

Commercial Software

OLGA	*Pipeline Transient Analysis*
Pipesim	*Pipeline Analysis*

In-house

Pipeline MAOP Calculations
Weymouth Line Sizing
Pressure Buildup for Shut In of Gas Pipeline Spreadsheet
Collapse and Buckling Spreadsheet
Minimum Free Bending Radius Spreadsheet
Pipe Properties Spreadsheet
Pipeline Anode Design Calculation Spreadsheet
31.4 & 31.8 Pipeline Wall Thickness Calculation Spreadsheets

Structural Engineering

SACS Capability

WJM utilizes SACS, an integrated suite of more than 25 program modules developed by Engineering Dynamics, Inc. (EDI) for the analysis and design of steel structures. Specifically, the programs offer the user a tool to perform static and dynamic analysis, code checking and automatic redesign of linearly elastic structures. SACS can be used for non-linear static analysis when coupled with pile-structure interaction (PSI) module. SACS was originally developed for the offshore structures industry and includes capabilities unique to the requirement of that industry, such as static, dynamic and hydrodynamic load generation.

SACS	
PRECEDE	*Interactive Input Data Generation*
SACS EXECUTIVE	*Batch Mode Module Generation*
Launch/Flotation	*Launch and Flotation Analysis*
SACSTOW	*Calculation of Inertial Loads*
PREVUE	*Deformed and Un-Deformed Structure Plots*
MTO	*Material Take-off and Cost Estimation*
SACS IV	*Finite Element Stiffness Analysis and Redesign*
SACSCAD	*Computer Aided Drafting and Redesign*
Pile	*Isolated Pile Analysis*
GAP	*Structures with One-Way Elements*
Superelement	*Automatic Substructure Creation and Use*
PSI	*Pile-Structure Interaction*
Combine	*Modifies or Combines Two Solution Files*
Dynpac	*Efficient Eigenvalue Solution*
Wave Response	*Dynamic Response to Waves*
DYNAMIC RESPONSE	*General Dynamic Response Analysis*
Joint Can	*Code Checking and Redesign of Tubular Joints*
Fatigue	*Fatigue Life Evaluation and Redesign*
Cone	*Design and Code Check for Cones*
Interactive Fatigue	*Interactive Program to Resize Joint for Fatigue*
POSTVUE/PREVUE	*To Review Solution Graphically*
Seastate	*Generate Wave Loads and Dead Loads*
COLLAPSE	*Non-Linear elastic-plastic analysis*
COLLVUE	*Interactive Graphic Post Processor*
SACS3D	*Model 3 dimensional plot*
In-house	
Anodes	*Determines number of anodes per NACE*
Base Plate	*Base plate design for concentric load and moment*
Bearing Stiffener	*Bearing stiffener design*
Boat Impact	*Boat impact analysis*
Bolted Connections	*Designs bolted connections for shear and tension loads*
Column	*Designs wide flange column*
Connection Stiffeners	*Designs stiffeners for beam-column connection*
Deck Plate	*Deck plate design*
Flat Circular Annular Ring	*Flat circular annular ring design*
Flat Circular Ring	*Flat circular ring design*
Grout Shear Keys design	*Grout shear keys design*
Helideck Plate (DNV)	*Helideck plate design using DNV method*
Helideck Plate (Roark)	*Helideck plate design using Roark's plate formula*
Hydrostatic Collapse	*Checks tubular sections stresses due to loads & hydrostatic pressure*
Jacket-Pile Crown	*Jacket-Pile crown design*
J-Tube Force	*J-Tube pull force calculations*
J-Tube Radius	*J-Tube coordinates and load calculations*
Lateral Support	*Beam lateral support design*
Overhead Lug	*Overhead lug design*
Padeye	*Padeye design & checking weld stress*
Pile-Caisson Envelopes	*Determines pile and caisson allowable moments*
Plate Girder	*Designs plate girder*
Punching Shear	*Checks tubular sections for punching shear stresses per API RP 2A*
Trolley Bridge	*Trolley bridge design*
Trolley Under hung Runway	*Trolley under hung runway design*
Vortex Shedding	*Checks tubular for stresses due to wind/current and wave vortex effects*
Wave Pressure	*Determines wave pressure profile*
Concrete Beam	*Designs simply supported reinforced concrete beams*
Concrete Slab-CONT	*Designs continuous reinforced concrete slab*
Concrete Slab-SS	*Designs simply supported reinforced concrete slab*
Concrete CMB-Footing	*Designs reinforced concrete combined footing*
Concrete Wall Footing	*Designs reinforced concrete wall footing*

General Computer Network System Information

WJM LAN	Microsoft 2003 Servers
Engineering Workstations	Microsoft Windows XP/Vista
CAD Workstations	Microsoft Windows XP/Vista
Electronic Mail	Microsoft Outlook 2003/2007 on Exchange
Desktop Publishing	Microsoft Office 2003/2007 Suites
Presentations	Microsoft Powerpoint 2003/2007
Database	Microsoft Access 2003/2007 Microsoft SQL Server 2000/2005

Topside Facilities Design Experience

		Comments
Drilling Systems	☑	
Production Facilities	☑	
Separation	☑	
Gas Compression	☑	
Gas Lift	☑	
Gas Injection	☑	
Water Injection	☑	
Sour Service	☑	Amine Reacting
Sweetening Units	☑	
Materials Engineering	☑	
Corrosion Inhibition	☑	
Heavy Crude Treating/Handling	☐	No
Flow Assurance	☐	
HPHT/ Sour Production	☑	No
Offshore LPG Plant	☐	No
Offshore LNG Plant	☐	No

Manpower

Discipline	No. of Engineers	No. of Draftsmen	Discipline	No. of Support Per.
Structural				
Marine			Procurement	
Naval Architecture			Scheduling	
Mooring Systems			Plan/Control	
Pipelines & Risers			Administration	
Sub Sea Wells			Quality Assurance	
Sub Sea Manifolds				
Process				
Mechanical				
Electrical				
Instrumentation/Controls				
Architecture				
Loss Prev./Fire & Safety				
Materials/Corrosion				
Technician				
Contract Employees				

Comments: Technical/Specialist personnel included above with the following distribution:
* Distributed 3-Mechanical, 3-Electrical & 1-Instrumentation
** Distributed 2-Mechanical, 2-Electrical & 1-Architectural

3.0

QHSE

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MANAGEMENT

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Safety Record

- 0.0 Incident Rate since company startup in 2004
- No First Aids
- No Lost Time Incidents
- No Recordables
- 2,000,000 + man-hours worked to date offshore, in manufacturing shops or in fabrication yards
- Commended by Murphy on the Azurite Project
- Commended by Anadarko on the Peregrino Project

SEMS

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HEALTH, SAFETY AND ENVIRONMENTAL POLICY

William Jacob Management, Inc. (WJM) is committed to conducting its business in a safe and responsible manner for all stakeholders, protecting the environment through pollution prevention and using all resources efficiently. Health, safety and environmental considerations shall have top priority in making all company business decisions.

WJM believes that the safety of our employees and the safety of the general public is our primary responsibility. The company shall make every effort to maintain a safe work environment and improve upon the safety and environmental conditions found in the workplace. WJM will regularly track the safety performance of the company, set safety and environmental objectives, and reward employees, supervisors, and management for outstanding performance. WJM will supervise all designs within accepted and current construction codes and regulations. Our company will also embrace SEMS and actively work to have the WJM health, safety, and environmental management programs fully implemented in accordance with SEMS.

Finally, WJM believes that all work related injuries and illnesses are preventable. Because of this belief, WJM recognizes that each WJM employee and each subcontractor has a shared responsibility to make safety and environmental performance their primary goal in conducting the business of WJM. All employees can expect training in identifying and overcoming safety and environmental issues in the workplace. Further, all employees carry the responsibility and authority to stop work when an unsafe work practice or hostile environmental condition is encountered.

Michael P. Duffy
President

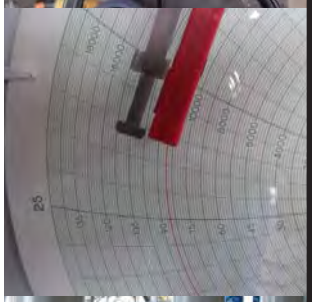
April 8, 2014 - Rev.2

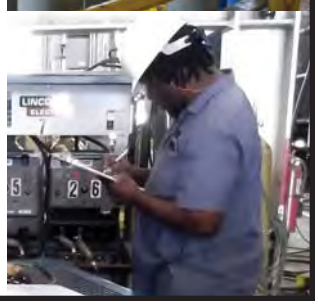
QUALITY ASSURANCE / QUALITY CONTROL POLICY

William Jacob Management, Inc. (WJM) is an engineering and project management company providing services to a worldwide market of major and independent oil companies engaged in hydrocarbon search, exploration, production activities and drilling services. The company defines quality as the ability to exceed our customer's requirements and expectations. To this end, William Jacob Management has developed a quality management system designed to foster leadership and continuous improvement in the management of daily and strategic business planning and operations.

The role of the quality organization in this effort is to provide documented policies and procedures; control, maintain, and improve WJM's business processes; suggest and coordinate improvement to the business; and provide guidance and consultation for performance measurement, assessment, and improvement.

To accomplish this role, WJM shall provide on-going development and refinement of the quality management system identified in the body of documentation detailing the policies and procedures of William Jacob Management, Inc. While the content of this system is the primary responsibility of senior management, the quality organization will provide organizational input, content advice and communications, organizational training and an annual performance measurement of the system.





Michael P. Duffy
President

April 8, 2014 - Rev.2

4.0

OFFSHORE DRILLING FACILITIES WORKFLOW

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INPUT

- Well Data
- Development Plan
- Environmental Conditions
- Basic Design
- Functional Specification
- Regulatory/ Certification
- Project Philosophies
- Reliability Criteria
- HSE
- Local Content

PREFEED

Project Management
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Preliminary Schedule
* Preliminary Design Concept
* Define Drilling Requirements
* Estimate Man-hours for FEED

Process/ Piping
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Conceptual Studies/Layouts
* Design Concept
* P&ID (Process & Flow Diagram)
* Estimate Man-hours for FEED

Mechanical/ Drilling
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Input into Studies/Layouts
* Preliminary MEL
* Review Long Lead Items
* HVAC Verification
* Estimate Man-hours for FEED

Electrical/ Instrumentation
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Input into Studies/Layouts
* Single Line Diagram
* Preliminary Load Analysis
* Preliminary Control & Communication Philosophies
* Estimate Man-hours for FEED

Structural
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Input into Studies/Layouts
* Preliminary Loadings
* Preliminary Weight Estimate
* Estimate Man-hours for FEED

Safety
* Review Client Contract
* Define Scope of Work
* Preliminary Design Basis
* Input into Layouts
* Fire & Personnel Protection Philosophy
* HAZID
* Estimate Man-hours for FEED

[* *]

FEED (DESIGN OPTIMIZATION)

Project Management
* Progress Design Basis
* Review Scope of Work
* Contract Monitoring
* Cost Budget Review
* Schedule Review

Operability
* P&ID's
* Redundancy
* Power & Control Systems
* Equipment Review
* HVAC Design

Maintainability
* Equipment Arrangements
* Maintenance Area
* Equipment Access
* Redundancy
* Corrosion Monitoring

Constructability
* Schedule
* Weight & Dimensions
* Equipment Layout
* Equipment Availability
* Equipment Installation
* Structural Loadings
* Installation Plan
* Commissioning Plan

HSE
* Hazard Register
* Waste Stream Matrix

Procurement Plan
* Long Lead Equipment
* Contracting Philosophy
* Equipment Qualification Testing
* Approved List of Suppliers

Regulatory
* Documentation Requirements
* Approval Cycle
* Supplier Certification
* Filing System

[** **]

Project Management Feed Activities
* Update Design Basis
* Identify all Operating Cases
* Develop CTR's
* Identify all Regulatory Issues
* Schedule for Design & Construction Engineering
* Input to HAZOP
* Interface to Topsides
* Interface to 3rd Parties
* Budget Review

[# #]

Feed Deliverables
* SOW Detail Design
* CTR's
* Design Basis
* Schedule for Design & Construction Engineering
* Interface Schedule
* Operational Philosophy
* Budget Monitoring

Mechanical/Piping Feed Activities
* Equipment Specifications
* MEL
* Input into P&ID's
* Size Major Equipment
* RFQ Packages
* Material Handling Study
* Long Lead Equipment
* Input into HAZOP
* Specialty Item List
* Piping Material Specification
* Pipe Support Standards
* Develop Layouts
* Escape Routes
* Develop 3D Model

[# #]

Feed Deliverables
* SOW Detail Design
* CTR's
* Update MEL
* Update S/P Items List
* Update P&ID's
* Update Equipment Sizes
* Piping Material Specification
* Preliminary Layouts
* Major Equipment Budget Quotations
* Preliminary Equipment Specifications
* Preliminary Material Handling
* Update 3D Model

Electrical/Instrument Feed Activities
* E&I Specifications
* Control & Communication System Design Philosophy
* Input into P&ID's
* Single Line Diagrams
* Load Analysis
* Calculations
* Develop 3D Model
* Input into HAZOP

[# #]

Feed Deliverables
* SOW Detail Design
* CTR's
* Control & Communication System Design Philosophy
* Single Line Diagrams
* Load Analysis
* Update 3D Model

Structural Feed Activities
* Models (Primary Steel only)
* Analysis & Loadings
* Develop 3D Model

Feed Deliverables
* SOW Detail Design
* CTR's
* Drawings (Primary Steel only)
* Steel MTO (Primary only)
* Steel Estimate (Secondary & Tertiary)
* Update 3D Model

Cost Estimating Feed Activities
* Establish Work Breakdown Structure (WBS)
* Project Costs
* Equipment & Material
* Man-Hour Estimate Budget Inquiries

Safety Feed Activities
* Update Design Basis
* Fire Protection Plan Input into GA's
* Fire Protection for EPC Contract
* HAZOP Study
* HAZID Study
* Review Area Classifications
* Input into Discipline Specifications
* Input into Safe Charts

[# #]

Feed Deliverables
* SOW Detail Design
* CTR's
* Fire Protection Plan Input into GA's
* HAZID Study

[^ ^]

DETAIL DESIGN & EXECUTION

Project Management Detail Design
* Finalize Design Basis
* Finalize Equipment Specifications
* Finalize Operation Philosophy
* Provide Support to Disciplines
* Resolve all HAZOP and Operability Issues
* Issue HAZOP Close-out Report
* Monitor Fabrication Schedule & Budget

Mechanical/Piping Detail Design
* Finalize Design Basis
* Finalize Equipment Specifications
* Provide Support to Disciplines
* Finalize MEL
* Finalize Piping Design
* Finalize S/P List
* Finalize Pipe Support Drawings
* P&ID Development: Issue for HAZOP, Design & Construction
* Escape Routes
* RFQ's & Bid Evaluations
* Pre-Award Meetings
* Issue PO's
* Supplier Data Review
* Inspection, Testing/FAT
* Construction Support
* Update 3D Model

Electrical/Instrument Detail Design
* Finalize Design Basis
* Provide Support to Disciplines
* Finalize Equipment Specifications
* Finalize Electrical Studies
* Finalize Load Analysis
* Finalize Control & Communication System Design
* Area Classification Drawings
* RFQ's & Bid Evaluations
* Pre-Award Meetings
* Issue PO's
* Supplier Data Review
* Inspection, Testing/FAT
* Construction Support
* Update 3D Model

Structural Detail Design
* Provide Support to Disciplines
* Detailed Structural Models
* Finalize Weight Report
* Structural Drawings
* MTO
* Fabrication Schedule & Budget
* Update 3D Model

Safety Detail Design
* Input into SAFE Charts
* Input into GA's & Area Classification
* Input into Escape Routes
* Safety Management System
* Input into Risk Analysis
* Input into Noise Study
* Provide Support to Disciplines
* Review Firewater System
* RFQ's & Bid Evaluations
* Inspection, Testing/FAT
* Construction Support
* Final HAZOP

[+ +]

Constructability
* Schedule
* Interface
* Coordination
* Installation
* Campaign
* Packages
* Weight
* Dimensions
* Limitations
* Load-Out Philosophy

Deliverables
* Complete, Functional Packages
* Sea Fastening
* Clearances & Permits
* Final Documentation
* Test Reports
* Operation and Maintenance Manuals

KEY STAGE GATES

- [* *] Agreed on General Concept
- [** **] Development
- [# #] Hazop Input
- [^ ^] Approved for Detail Design
- [+ +] Approved for Construction

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INPUT

Basic Design

- Basic Design Philosophy
- Subsea Systems (Refer to sheet 2 of 4)
- Hull & Mooring (Refer to sheet 3 of 4)
- Export P/L (Refer to sheet 4 of 4)

Project Philosophies

Reliability Criteria

H S E

Functional Spec.

Regulatory / Certification

Development Plan

Metaocean Data

Geophysical Data

Local Content

PREFEED

Process

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Conceptual Studies
- Design Concept
- Block Flow Diagram
- Define Process Requirement
- PFD (Process Flow Diagram
- Process DS For long Lead Equip.
- Estimate Manhours for FEED

Mechanical Piping

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Conceptual Studies
- Design Concept
- Preliminary Equipment List
- Preliminary Equipment Sizing
- Preliminary Equipment Layout
- Preliminary Weight Estimate
- Estimate Manhours for FEED

FLOW ASSURANCE

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Conceptual Studies
- Preliminary Hydraulics
- Estimate Manhours for FEED

Electric / Control Instrumentation

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Power Generation Study
- Electrical Design Concept
- Preliminary Load List
- Control Philosophy
- Preliminary Weight Estimate
- Estimate Manhours for FEED

Structural

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Conceptual Studies
- Design Concept
- Preliminary Weight Estimate
- Estimate Manhours for FEED

Safety

- Review Client Contract
- Preliminary Design Basis
- Define Scope of Work
- Input to GA Plan & Equipment
- Fire and Personnel Protection Philosophy
- HAZID
- Preliminary Weight Estimate
- Estimate Manhours for FEED

1

FEED
DESIGN OPTIMIZATION

OPERABILITY

- Flow Schematic
- Redundancy
- Control System

MAINTAINABILITY

- Equipment Arrangement
- Maintenance Area
- Equipment Access
- Redundancy
- Corrosion Monitoring

CONSTRUCTABILITY

- Schedule
- Weight and Dimensions
- Equipment Layout
- Equipment Availability
- Equipment Installation
- Installation Plan
- Commissioning Plan

FLOW ASSURANCE

- Pressure & Flow Diagram
- Heat and Material Balance
- Flow analyses
- Chemical Inj. Requirement

H S E

- Hazard Register

PROCUREMENT PLAN

- Long Lead Equipment
- Contracting Philosophy
- Equipment Qualification Testing
- Approved List of Suppliers

REGULATORY

- Documentation Requirements
- Approval Cycle
- Supplier/Vendor Certification
- Filing System

2

Process Activities

- Update Design Basis
- Identify all operating cases
- Update PFDs, MSDs and Heat Material Balance
- Identify all Regulatory Issues
- Develop preliminary P&IDs
- Calculations
- Schedule for Detail Engineering
- Input to Course HAZOP

3

Deliverables

- Scope of Work-Detail Design
- CTR's
- Process Design Basis
- Heat and material Balance
- Process Simulation
- Block Flow Diagram
- Process Flow Diagram
- Preliminary P & ID's
- Schedule for Detail Engineering

Mechanical/ Piping Activities

- Update Design Basis
- Equipment Specifications & Data Sheets
- Equipment list
- Input to P&ID and MSD, Equipment Layout
- Size Major Equipment
- RFQ Packages
- Budget Inquires
- Material Handling Study
- ITT long lead Equipment
- Schedule & Man Hours
- Input to Coarse HAZOP
- Specialty Item List
- Piping Material Spec.
- Piping Stress Analyses
- Pipe Support Standards

3

Deliverables

- Scope of Work-Detail Design
- CTR's
- Update Equipment List
- Update S/P Items List
- Update Equipment Sizes
- Piping Material Spec
- Preliminary Piping Layout plan
- Major Equipment Budget quotes
- Schedule for Detail Engineering
- Pipe Support Location Plan
- Preliminary Equipment Data Sheets & Specifications
- Preliminary Material Handling Reports

Elect/Inst/Control Activities

- Update Design Basis
- F&G, HIPPS, HPU, MCC,and UPS Specifications
- Control System Design Philosophy
- Input to P&ID
- Sizing Control Valves
- Wiring Diagrams
- Electric Consumption Studies
- Load List
- Electric Power Studies

3

Deliverables

- Scope of Work-Detail Design
- CTR's
- Power Generation Study
- Electric Design Concept
- Update Load List
- Control Philosophy
- Schedule for Detail Engineering

Structural Activities

- Update Structural Design Basis
- Structural Models (Primary Steel only)
- Structural Analysis

Deliverables

- Scope of Work-Detail Design
- CTR's
- Structural drawings (primary steel only)
- Steel MTO (primary steel only)
- Steel Estimate (secondary, tertiary)
- Specifications
- Schedule
- Budget
- Execution Plan

Cost Estimating

- Establish Work Breakdown Structure (WBS)
- Project Costs
- Equipment & Material
- Man Hour Estimate

Safety Activities

- Update Design Basis
- Fire Protection Input to General Arrangement Plans
- Fire Protection for EPC Contac
- Coarse HAZOP Study
- HAZID Study
- Review Area Classifications
- Input to other disciplines specifications
- Input to Safe Charts

3

Deliverables

- Scope of Work-Detail Design
- CTR's
- Fire Protection Input to GA Plan & Equipment
- Fire Protection Utility Flow Diagram
- HAZID
- Schedule for Detail Engineering

4

DETAIL DESIGN & EXECUTION

Process Details

- Finalize Design Basis
- Finalize PFD, MSD and Material Balance
- Finalize all Process studies and calculations
- Finalize Equipment Process Datasheets
- Finalize SP/Instruments Process Datasheets
- Finalize Operation Philosophy
- Provide support for other disciplines
- P&ID Development: "Issue For Hazop", "Issue For Design" and "Issue for Construction"
- Resolve all HAZOP and operability issues and issue HAZOP close-out reports to Client.

Mechanical /Piping Details

- Finalize Design Basis
- Finalize Equipment Specifications & Data Sheets
- Input and Interface with other disciplines
- Finalize Equipment List
- Piping Design & Piping stress analyses
- Finalize S/P List, Pipe Support Drawings
- RFQ's & Bid Evaluations
- Pre Award Meetings
- Issue P.O.'s
- Vendor Data Review
- Inspection, Testing & FAT
- Construction Support
- Finalize Weight Estimate

Elect/Inst/Control Details

- Finalize Design Basis
- Finalize Electrical Studies & Load List
- Electrical Design Basis/Load list
- F&G, HIPPS, HPU, MCC, UPS, Generator. Motor, Transformer Specifications
- Short Circuit Analysis, Relay Coordination, Power Factor, Harmonic Analysis.
- MCC Building Design Specifications
- Marine Cables Design Specification
- Instrumentation For Packaged Equipment
- RFQ's & Bid Evaluations
- Pre Award Meetings
- Issue P.O.'s
- Vendor Data Review
- Inspection, Testing & FAT
- Construction Support
- Finalize Weight Estimate

Structural Details

- Finalize Design Basis
- Detailed Structural Models (Primary Steel)
- Weight Report
- Structural Drawings (Secondary Steel)
- MTO (Primary, Secondary, Tertiary)
- Specification, Fabrication, Materials, Installation
- Fabrication Schedule and Budget.
- Finalize Weight Estimate

Safety Details

- Input to SAFE Charts, GA's & Area Classification Plans
- Pre-Start-Up Safety Review
- Safety Management System
- Specialty Subcontractor Management - Risk Analysis
- Specialty Subcontractor Management – Noise Study
- Fire Protection Input other discipline Specifications
- Review Fire Water System Piping Isometrics
- RFQ's & Bid Evaluations
- Pre Award Meeting
- Issue P.O.'s
- Vendor Data Review
- Inspection, Testing & FAT
- Construction Support
- Final HAZOP
- Finalize Weight Estimate

Constructability

- Schedule
- Interface
- Coordination
- Installation
- Campaign
- Functional
- Packages
- Weight
- Dimensions
- Limitations

Deliverables

- Complete, Functional Packages
- Documentation
- Test Reports
- Operation and Maintenance Manuals

KEY STAGE GATES

1. Agreed On General Concept
2. Development
3. Hazop Input
4. Approved For Detailed Design

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RELEVANT EXPERIENCE

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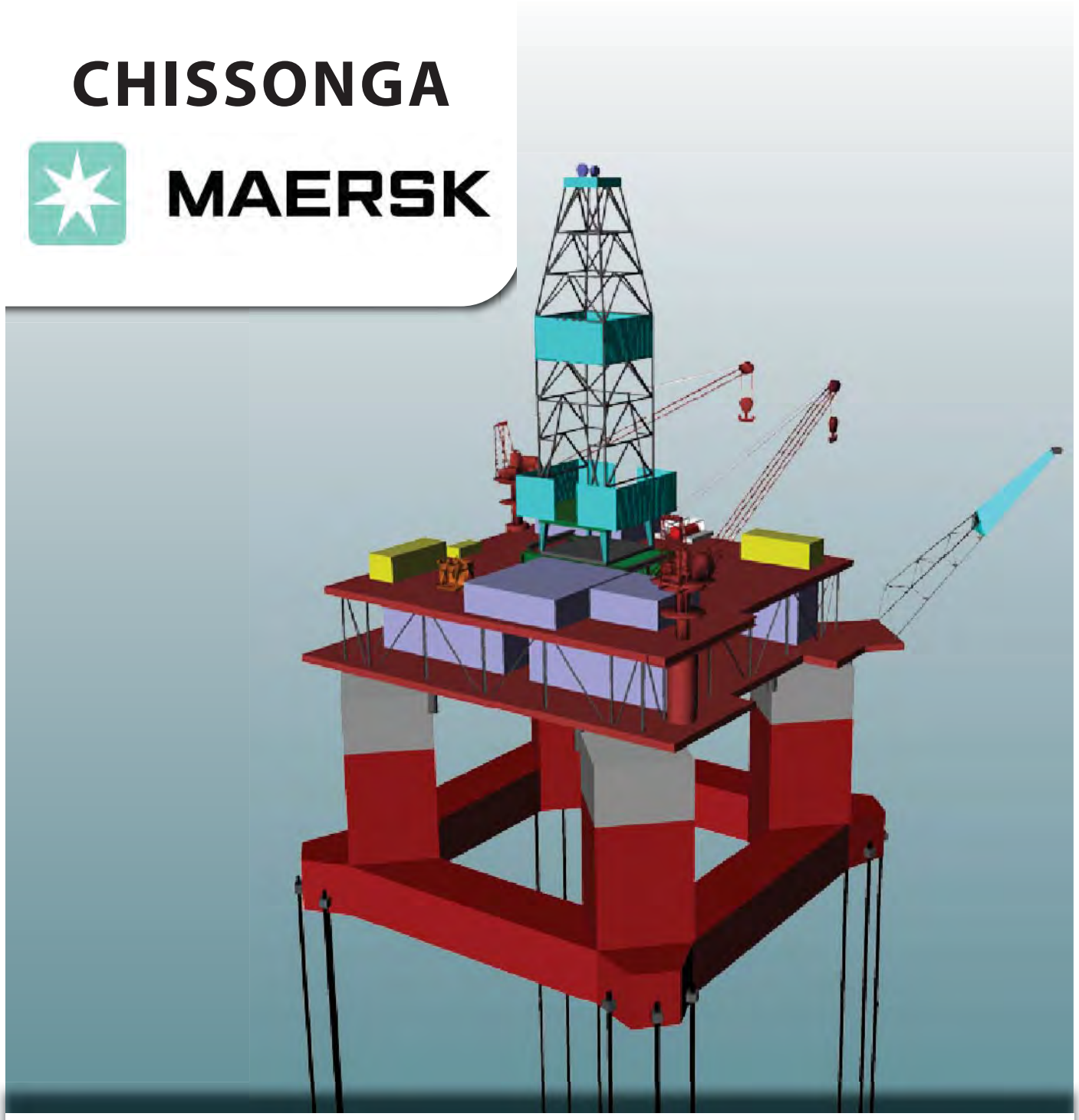
Completed Drilling Facility Projects

PROJECT	CLIENT	PROJECT VALUE, $	CONTRACTUAL DELIVERY DATE	ACTUAL DELIVERY DATE
POLVO	Devon Energy	$180 million	May 2007	May 2007
AZURITE	Murphy Oil	$1.5 billion	August 2009	August 2009
PEREGRINO	Statoil	$140 million	January 2010	January 2010
LIBERTY	BP	$56.5 million	August 2011	August 2011
BERKUT SAKHALIN I	ExxonMobil	$1.5 billion	January 2012	January 2012

Note 1: The list includes only a few projects to show what WJM has executed. This does not repre-sent the entire list of completed projects from the last 10 years.

CHISSONGA

MAERSK



Chissonga EPCI Consortium

HYUNDAI

EDG CONSULTING ENGINEERS

FloaTEC

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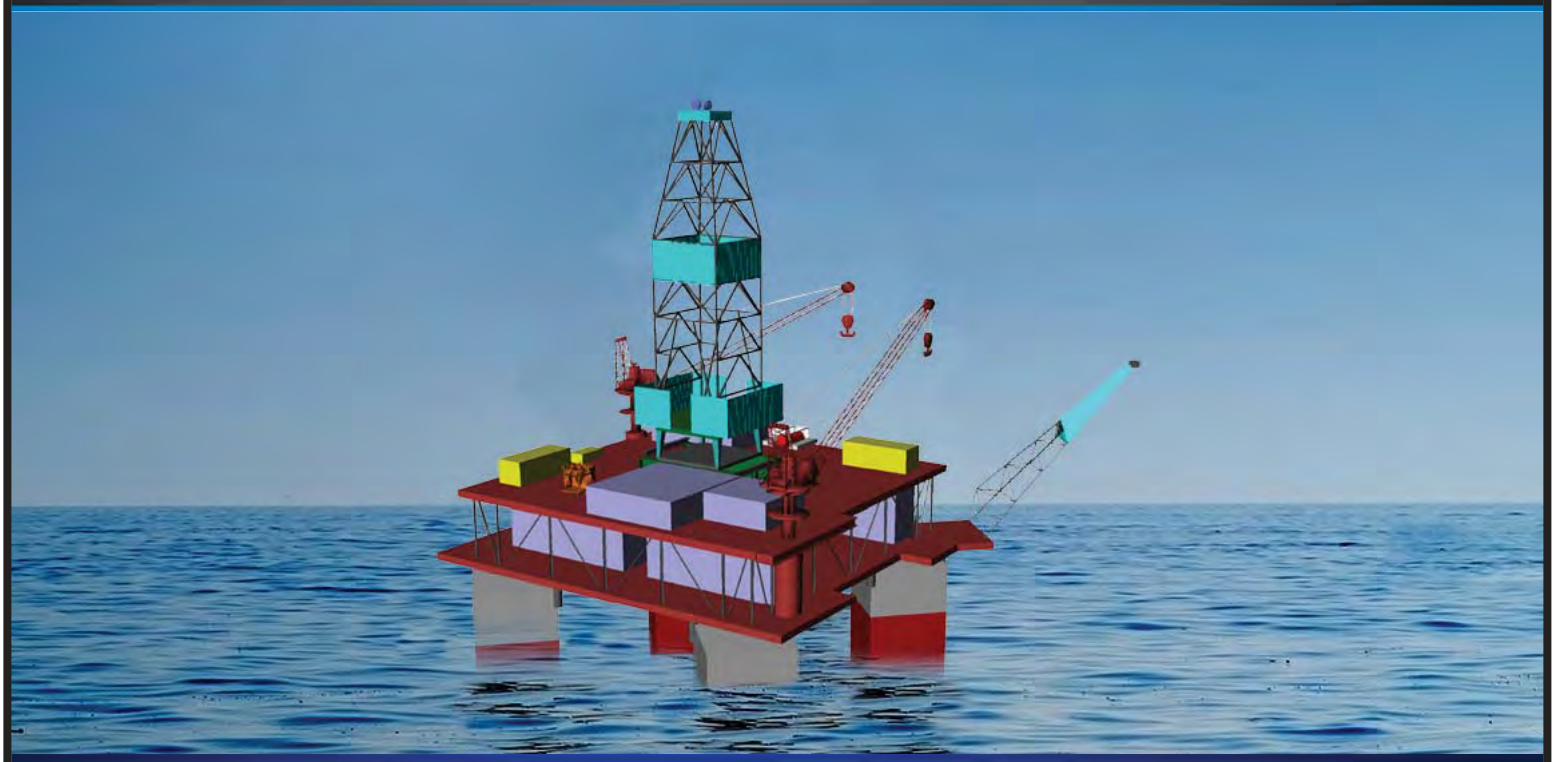
CHISSONGA - TLWP



HISTORICAL DATA

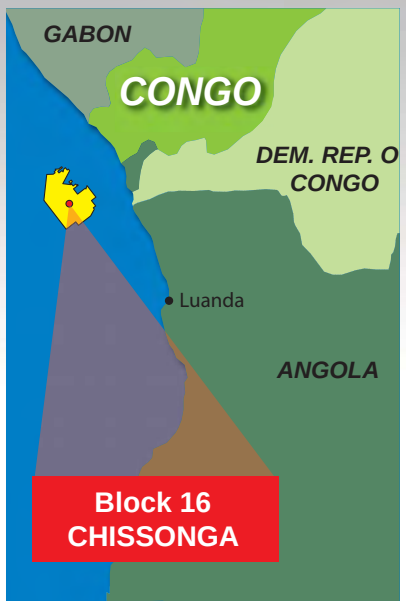
COMPLETION/DELIVERY: 2013 - In Progress

CLIENT: Maersk, Sonangol and Odebrecht / Hyundai Heavy Industries, EDG and FloaTEC

FIELD LOCATION: Angolan Block 16

PROJECT DESCRIPTION:

- Tender engineering bid to supply a 32-slot tension-leg platform (TLWP) for the Chissonga project.
- The field development plan is estimated to include 15 production wells and 15 water injectors, with oil production expected to lie in the range of 140,000 to 160,000 barrels per day and with nearly 200,000 bpd of water injection.
- The TLWP, which will be moored in about 1,300 meters (4,265 ft.) of water, is expected to be delivered by mid-2016. First oil from Chissonga is anticipated to be in 2017-2018.



SCOPE OF WORK:

William Jacob Management is providing engineering and design services for a self contained drilling rig that will be mounted on the field development TLWP.

PROJECT MANAGER: Trevor Smith

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MAERSK

Maersk – Chissonga TLWP

- Pre-tender front-end engineering design services for the self contained drilling rig that will be mounted on a field development TLWP of the coast of Angola.
- The TLWP, which will be moored in about 4,265 ft. of water, is expected to be delivered by mid-2016. First oil from Chissonga is anticipated to be in 2017-2018.

ODOPTU

ExxonMobil

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ODOPTU - LAND RIG

HISTORICAL DATA

COMPLETION/DELIVERY: 2014 - In Progress

CLIENT: Exxon Neftegas Ltd

FIELD LOCATION: Odoptu Field - Sakhalin Island, Russia

PROJECT DESCRIPTION:
The Odoptu drill rig will be a modular design to facilitate timely movement between locations, and will consist of three basic module components:

- Drilling Module (DM)
- Drilling Support Module (DSM)
- Pipe Barn Module (PBM)

These components will accommodate existing infrastructure, utilities, well equipment, well consumables and fluids, as well as, fuel and third party services which are outside the modules (PBM). The load and sizing constraints for the modules will be optimized from the current configuration during the initial FEED optimization phase.

SCOPE OF WORK:
Engineering and design responsibility for:

- Drilling Support Module (DSM)
- Piping, electrical and HVAC for the entire rig including the Derrick Equipment Set (DES) and the Pipe Barn (PBM)

PROJECT MANAGER: Gordon Gamble

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PARKER DRILLING

Parker Drilling – Odoptu Rig

- Modular drill rig with three basic module components: Drilling Module, Drilling Support Module and Pipe Barn Module.
- Provide engineering and design for the Drilling Support Module, as well as, piping, electrical and HVAC for the entire rig including the Derrick Equipment Set and the Pipe Barn.

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BERKUT - PLATFORM

HISTORICAL DATA

COMPLETION/DELIVERY: 2010 - 2012

CLIENT: Exxon Neftegas Ltd

FIELD LOCATION: Sakhalin Island, Russia

PROJECT DESCRIPTION:
- Sakhalin-1 Arktun-Dagi Field Development
- Drilling Rig Re-Design and Certification Support

SCOPE OF WORK:
- Engineering and Detailed Design support and supervision
- Review Equipment Specifications.
- Material Handling Engineering and Design
- Drilling/Mechanical Engineering input and support
- Structural Load Analysis support
- 3-D Piping Design support
- 3-D HVAC Design support
- Construction Design/ Field support

PIPING COORDINATOR: Rod Snow

STRUCTURAL DRILLING COORDINATOR: Peter Van Dongen

PROJECT COORDINATOR: Robert Wheeless

ENGINEERING CONSULTANT: Trevor Smith

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ExxonMobil – Sakhalin Island I

- ExxonMobil – Sakhalin Island I Drill Rig working with WorleyParsons and supporting the drill rig portion of the project since March, 2010

POLVO

BRASIL BM-C-8

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POLVO FIELD DEVELOPMENT

HISTORICAL DATA

COMPLETION/DELIVERY: 2004 - 2007

CLIENT: Devon Energy

FIELD LOCATION: Brazil / BMC-8

PROJECT DESCRIPTION:

- On-site Surviellance and Construction Management.
- WJM was involved in the entire life cycle of the project from concept through commissioning; as well as, start up for the rig, platform and FPSO. Included refurbishment of an Ensco drilling rig and related equipment to be installed on a new wellhead platform and merge with new production equipment.

SCOPE OF WORK:

- Manage FEED and E & C of entire project.
- Purchase existing 3000 hp SPAR platform rig from Ensco.
- Evaluate existing rig and equipment and make recommendations for refurbishment or replacement.
- Write specifications for new equipment.
- Provide Scope of Work for refurbishment.
- Evaluate technical bid(s) content and make recommendations.
- Provide 3-D piping design, P&IDs for all systems, PLC design and interface, 3-D electrical design and interface and equipment expediting / inspection.
- Milestone endorsement / progress payments.
- Construction Management and planning.
- Onsite QA/QC during construction / installation.
- Provide onshore commissioning of Rig systems.
- Provide offshore hook-up and commissioning.
- Prepare Ibama regulatory documents.
- Manage all importation for entire development and all interface with Brazilian Navy and prepare, submit and defend all regulatory submittals.

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POLVO Project

In November, 2004 WJM was retained to manage a pre-FEED study For Devon Energy Corporation associated with a possible field development in Campos Basin, offshore Brazil. WJM managed the pre-FEED study which was executed by Paragon Engineering from October – December 2004. Following completion of the pre-FEED study in early 2005 WJM was made part of Devon Energy's Integrated Project Management Team (IPMT). WJM continued to provide project support by acting as the Devon Engineering and Construction Manager for the project. WJM personnel were located at Devon's Houston offices.

During Q1 2005 WJM prepared RFQs, developed bid lists, issued bid packages, received submittals, evaluated bids technically and commercially, made award recommendations and participated in final contracting with selected suppliers on the following:

- PMSC – Project Management Services Contractor
- BESC – Brazilian Engineering Support Contractor (WJM traveled to Brazil to interview potential contractors.)
- FDE – FEED and Detailed Engineering Contractor (The COMPANY requested that WJM make the final selection for the FDE Contractor.)

As the E&C Manager for Devon during 2005 WJM continued to lead / oversee and/or participate in all facets of the field development including but not limited to:

- Authoring the Project Execution Plan;
- Oversight of the PMSC, BESC and FDE in the US and Brazil;
- Platform design effort including review and approval of drawings;
- Development of the Design Basis with the FDE;
- Budget development and management;
- Assist with the development of the Local Content Plan;
- Cost reporting;
- Participation in quarterly partner meetings;
- Assist in compilation of the Development Plan (POD);
- Participation in meetings with ANP and ONIP;
- Cash flow forecasting;
- Participate with COMPANY on tax mitigation planning with US and Brazil reps of Demitted and Touche;
- Developing contracting strategies with Devon and US / Brazil outside legal counsel;
- Support for EIA and various other IBAMA submittals;
- Attendance at the IBAMA public hearing to provide support as required;
- Sole source, direct negotiations with primary FPSO supplier;

- Preparation and issue of FPSO RFQ package (required as a result of stalled contract negotiations with primary supplier), technical and commercial evaluation support and award recommendation input;
- Preparation and issue of RFQ package for flexible pipelines and power cable technical and commercial evaluation support and award recommendation input;
- Preparation and issue of RFQ package for the soil boring and bottom survey, technical and commercial evaluation and award recommendation; contract development and negotiation and contract management;
- Prepared RFQs, developed bid lists, issued bid packages, received submittals, evaluated bids technically and commercially, made award recommendations and participated in final contracting with selected suppliers on the following:
  - Jacket, Deck and Interconnect Piping Fabrication
  - Pile Fabrication
  - Platform and Drill Rig Installation
  - Living Quarters and Workshop / Storage Buildings
  - ESP / VSD Modules
  - MCC / Control Room
  - Multiphase Pumps
  - Production Strainer
  - Water Injection Manifold
  - Pig Launcher
  - Production Manifold
  - Submarine Cable
  - Survival Crafts including Fast Rescue Boat
  - Seawater Lift / Jockey Pumps
  - Relief Scrubber
  - Fire Water Pumps
  - Diesel Transfer Pump
  - Instrument and Utility Air Compressor
  - Multiphase Meter and Flow Computer
  - Flare Tip Assembly
  - Sewage Treatment Unit
  - Sump Tanks and Pumps
  - Platform Cranes
  - Mid Water Arch

  - Derrick Package
- Develop contract language for US and Brazil vendors
- Organized and participated in platform and drill rig HAZOPs and HAZIDs
- Interface with FPSO provider

In March of 2005, William Jacob Management was requested by Devon to assume responsibility for the front end effort for the platform drill rig. This included interface with the Devon drilling team to determine the rig requirements to support the drilling campaign. Following this a design basis was assembled. WJM then proceeded with an industry survey, contacting various drilling companies to discuss their interest in selling specific platform rigs in their inventory. WJM requested quotes for the short listed rig prospects, completed a technical and commercial evaluation and provided a recommendation to Devon.

In Q3 of 2005, Devon requested William Jacob Management to take responsibility for the negotiation and contract for the purchase of the platform rig. An LOI was put in place in August 2005 and the final sales contract was signed in September 2005.

In September of 2005, Devon submitted the Development Plan (DP) to ANP. WJM provided support during the preparation of the DP. Also in September William Jacob Management worked with the Devon's Brazil office to start initial discussions with the DPC (Brazilian Navy). The first meeting with the Brazilian Navy was a presentation and reception hosted by Devon at Navy Headquarters in Rio de Janeiro. Approximately 45 Navy personnel attended. This followed every successive month through December 2006 with monthly technical meetings in Brazil with the various departments of the Navy responsible for approving the installation and operation of the platform.

In December 2005, Devon requested that William Jacob Management assume all field development scheduling activities from the PMSC.

Throughout 2005 William Jacob Management assisted directly in Brazil in numerous meetings with ANP, ONIP, IBAMA, DPC and DAERM.

In January 2006, William Jacob Management was requested by Devon to assume all responsibilities associated with refurbishing the drill rig and readying it for operation offshore Brazil from the PMSC. At this same time Devon assigned to William Jacob Management all responsibility for all US support of the regulatory and import / export issues necessary for installation and startup of the field development. William Jacob Management went on to prepare specifications and bid packages for the Devon drilling team for numerous items such as cuttings cleaning package, drill string and the Drilling Operations and Maintenance contract.

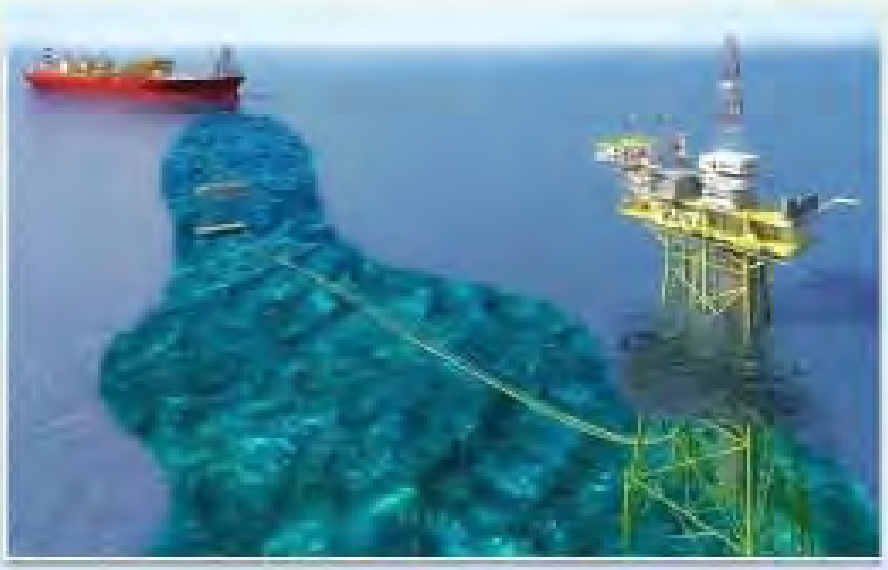
Throughout 2006, William Jacob Management was fully engaged in management of the drill rig refurbishment, regulatory oversight, import / export oversight, field development schedule management, providing technical support for the drilling team, and support for loadout, transport, and installation of all components of the field development.

Devon - Polvo

- First independent into Brazil without Petrobras
- Fastest lead time to first oil for a Devon project
- WJM managed the FEED study by Paragon Eng. (27 development concepts)
- WJM instrumental in selecting the development scenario
- WJM managed the Brazil regulatory and importation scopes of work
  - Commended by the Brazilian Navy

Devon – Polvo, continued

- WJME managed the drill rig scope of work
- WJM acted as E&C Manager of the overall project
- Assisted with offshore hookup and commissioning
- WJM greatest challenge – new territory



WILLIAM JACOB MANAGEMENT, INC.

GLOBAL MANAGEMENT SERVICES

Date: May 15, 2008

To: Michael P. Duffy,
William Jacob Management

RE: Devon Energy POLVO Development Regulatory Support

Dear Mike,

The following note from Coaracy regarding the comments from the head of the DPC (Brazilian Navy) should make you and the POLVO team proud of the work you put into the POLVO DPC submittals. Apparently, the DPC was very impressed with our safety plan and are using our project as an example of what they expect to see from others.

Thank you for your efforts and thoroughness and please pass on our appreciation and congratulations to your team.

In appreciation of your commitment to Devon and your countless hours of tortuous labor making the Polvo Project successful, Devon would like extend its appreciation.

Sincerest Regards,
Steve Seat
Devon Energy Corporation

To: Bernardo Franco - Devon Energy do Brasil, Ltda.

In a recent telephone conversation with a Head of Department of DPC, I was told that "POLVO A" was quoted as good example of a project that complied promptly with the Navy requirements for the approval of the Safety and Firefighting Plan. The example of "POLVO A" was given to a local constructor of another fixed platform who submitted this week to DPC the 10th (!!!) revision of the Safety Plan. The Head of Dept. stressed that Devon´s achievement was even more remarkable by the fact that the designers and constructors were foreign companies, not familiarized with the Brazilian Maritime Regulations (NORMAMs). I thought you and your colleagues would be pleased with this information.

Regards,
Coaracy da Silva
CDS CONSULTORIA NAVAL E OFFSHORE LTDA.

WILLIAM JACOB MANAGEMENT, INC.

GLOBAL MANAGEMENT SERVICES

Record Breaking Time to First Oil Offshore Brazil

Devon Energy's POLVO project takes it's name from the Portuguese word for "octopus." Long reach, highly deviated well bores extend like tentacles from a central fixed drilling platform to numerous reservoirs at varying depths throughout the field. POLVO also marks the first instance of an independent working directly with the Brazilian government to complete a project without the involvement of Petrobras, the state-owned oil company.

Here's how Steve Seat, Devon's project manager recalled the challenges and WJM's contribution:

"As the first offshore development in Brazil without Petrobras as a partner, Devon was essentially operating in "uncharted waters". We had to discover everything for ourselves with regard to regulations, importation, and the expectations and capabilities of local contractors. WJM was involved in the project from the beginning and played a major role in regulatory matters and importation, helping ask the right questions to the right people at the right time. As new issues and requirements became known, WJM repeatedly stepped up, adapted and delivered."

Another major risk to the project was the long lead-time required for construction of the new drilling platform and associated rigs called for by the reservoir development plan. WJM helped the project team "think outside the box" and look at the possibility of sourcing used hardware. The option to buy and refurbish salvaged drilling rigs was not only faster, but also cheaper. In the end, the aggressive rig refurbishment program enabled the project to achieve fastest time to first oil in the region.

PEREGRINO
CAMPOS • BASIN
CREATING VALUE FOR BRAZIL

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PEREGRINO - DRILLING UNITS

HISTORICAL DATA

COMPLETION/DELIVERY: 2006 - 2010

CLIENT: Kerr McGee / Norsk Hydro / Anadarko / Statoil

FIELD LOCATION: Brazil / BMC-7

PROJECT DESCRIPTION:

- Surviellance for refurbishment of two H&P (DR-1 / DR-2) drilling rigs and related equipment onto two wellhead platforms and merge with new equipment.
- Project management, engineering, construction management, onshore and offshore commissioning for drill rigs.

SCOPE OF WORK:

- Assist in procurement of two existing 3000 hp platform drill rigs.
- Evaluate existing rig and equipment.
- Make recommendations for refurbishment or replacement.
- Write specifications for new equipment.
- Provide Scope of Work for refurbishment.
- Evaluate technical bid(s) content and make recommendations.
- Provide 3-D piping design.
- Provide P&IDs for all systems.
- Provide PLC design and interface.
- Provide 3-D electrical design and interface.
- Provide equipment expediting / inspection.
- Milestone endorsement / progress payments.
- Construction Management.
- Onsite QA/QC during construction / installation.
- Provide onshore/offshore/commissioning team.
- Prepare Ibama regulatory documents.(HAZOP)

PROJECT MANAGER: Gordon Gamble

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Peregrino Project

WJM was originally engaged on the Peregrino Project by Kerr McGee in September of 2006. WJM's initial role on the project was to oversee the task of completing a survey of available rigs, complete physical inspections and make purchase recommendations. WJM completed these tasks and two 3,000 hp API modular platform drill rigs were purchased from H&P.

After Anadarko Petroleum purchased Kerr McGee WJM was requested by Anadarko to oversee the entire refurbishment of the two rigs including project management, engineering, purchasing, construction management associated with preparing the rig for operation offshore Brazil based on WJM's experience on Devon's POLVO Project.

After Statoil purchased Anadarko's 50% share in Peregrino to become the sole owner/operator of BM-C-7 WJM was requested to take on additional responsibilities. WJM provided a construction management and engineering team at the Kiewit yard in Ingleside, Texas. WJM also provided inspectors to monitor quality of workmanship on behalf of Statoil.

During the course of the engineering and construction phase WJM provided insight and recommendations on the various Brazilian regulations. WJM engineers considered all applicable regulations during the detailed design phase. Just one example of this was the installation of dual language pipe labels and equipment identification tags. During the construction phase WJM personnel fabricated and installed labels for all of the piping on the drill rigs. WJM owns a portable computer controlled system for the manufacture of labels. The labels identify the contents of a pipeline in dual language and by color code and the direction of flow. This is a requirement of the Ministry of Labor – Normative Rules (NR 26). WJM also completed all of the dual language labeling of all of the drill rig equipment as required by the Normative Rules.

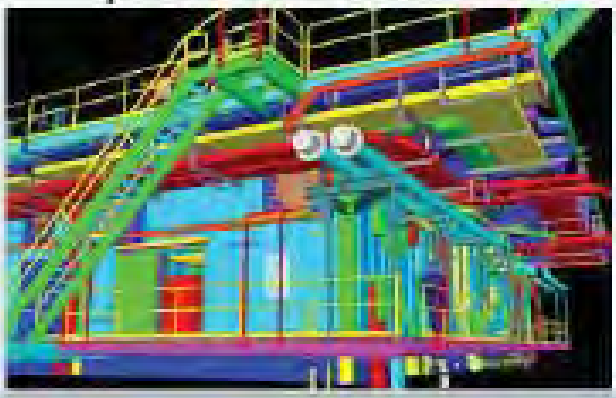
WJM was further requested by Statoil to fully support the onshore and offshore commissioning and startup and initial operations of the drill rigs. WJM assembled a team and developed all of the commissioning procedures related to the drill rigs on behalf of Statoil. Working with Statoil the commissioning team from WJM entered all check sheets and relevant data into Statoil's offshore construction / commissioning / startup database – ProCoSys. During the course of the preparation of this database WJM commissioning personnel entered 40,000+ detailed line items to ensure a smooth offshore installation and startup. The team then mobilized to offshore Brazil in January 2010 and is still on active rotation. The team is now supporting topsides commissioning and is expected to remain on rotation through June 2011 to support FPSO tie in and commissioning.

Statoil - Peregrino

- Engineering and management of refurbishment on two platform drill rigs
- Project started with Kerr McGee in 2006 then in 2008 transferred ownership from Anadarko to StatoilHydro
- On site at Kiewit Offshore in Corpus Christi, Max Welders in Houma and ESI in Houma from 1/07 – 12/09
- Provided mechanical, process and electrical engineering and design

Statoil – Peregrino, continued

- Procurement of new equipment
- Refurbishment of existing equipment
- Provided ongoing engineering support through 2/11
- Provided 15 man team for commissioning services of drill rigs, topsides and FPSO offshore Brazil through 6/11
- Greatest challenge – multiple changes in operating partner with differing requirements



Peregrino BMC 7

Item	Equipment List	New	Rebuilt
1	SCR VFD Building	X	
2	Derrick DR-2	X	
3	Drillers Cabin and Controls	X	
4	Mud Loggers Cabin DR-1 and DR-2	X	
5	Derrick DR-1	X	
6	Rig Transport Package	X	
7	U1A Docs for Mud Pumps	X	
8	Data Books for Accumulator Bottles	X	
9	Rig Pipe Markers	X	
10	API Gap Analysis	X	
11	Jacking System EW	X	
12	Rig Skidding System	X	
13	Deadline Anchor	X	
14	Winches	X	
15	Monorail Hoists	X	
16	BOP Trolleys	X	
17	Jib Crane	X	
18	Tree Handling Bridge Crane	X	
19	Jacking System NS	X	
20	Draw Works Draw Works Brake	X	
21	Brake Cooling Package	X	
22	Topdrive	X	
23	Re-Testing of DR-2 Top Drive	X	
24	Iron Roughneck	X	
25	HP Mud Pumps	X	
26	Mud Pump Replacement Parts	X	
27	Charging Pumps ABC	X	
28	Riser Drainage Pump Skid	X	
29	Drainage Pumps	X	
30	Rig Valves	X	
31	Agitators	X	
32	Shale Shaker ABCD	X	
33	Trip Tank Pumps AB	X	
34	Air Compressors	X	
35	Water maker	X	
36	Drillers Intake Fan Motors	X	
37	Ventilation Fans Motors	X	
38	Generators	X	
39	HP Hoses	X	
40	Manifold Hoses	X	
41	LP Hoses	X	
42	Salt Water Pumps AB	X	
43	Drill Line Spooler	X	
44	Sewage Water Treatment	X	
45	Rig Valves	X	
46	DR1 - Rig Valves	X	
47	DR2 - Rig Valves	X	
48	Replacement Piston Rods for Valves	X	

Item	Equipment List	New	Rebuilt
49	Lost-Damaged Valves	X	
50	Hydraulic Torque Package	X	
51	Bulk Tank	X	
52	Air Receivers	X	
53	Poor Boy Degasser	X	
54	Welding Machines	X	
55	Drill Line	X	
56	11271-03-434.0 Lube Oil Pumps	X	
57	Gauge Instrumentation	X	
58	Level Gauges	X	
59	Specialty Items	X	
60	Titan Replacement Hose	X	
61	Engine Exhaust Silencers (DR-1 Only)	X	
62	Flexible Connectors	X	
63	Mud Mixer-Eductors	X	
64	Surge Tanks	X	
65	Auger #1	X	
66	Choke Installation Parts	X	
67	Diesel Tank	X	
68	Reserve Mud Module	X	
69	P-Tank Walkways	X	
70	BOP Riser and Ancillary Equipment	X	
71	Diverter Control Panel	X	
72	NOV Brandt	X	
73	Expansion Joints	X	
74	Generators	X	
75	Rotary Table Motor	X	
76	HP Mud Pumps	X	
77	Degasser Unit Pump	X	
78	Cold Start Compressor	X	
79	Sewage Treatment Unit	X	
80	BOP Test Stump	X	
81	Power Washer Skid	X	
82	Diverter Lift Test Tool	X	
83	Mud Gas Separator	X	
84	Iron Roughneck DR-1	X	
85	BOP Control Panel	X	
86	Battery Charger and Batteries	X	
87	Transformers	X	
88	MCC's	X	
89	Public Address Systems	X	
90	Close Circuit TV	X	
91	Satellite System	X	
92	Telephone system	X	
93	Weather Station Control System	X	
94	Reconditioned DC Traction Motors	X	
95	Rotary Table Hydraulic Drive Unit	X	
96	Rotary Table Joystick and Console	X	

Item	Equipment List	New	Rebuilt
97	Main Transformer	X	
98	Customs Clearance for Transformer	X	
99	Lighting Distribution Panels	X	
100	Aviation Beacon	X	
101	Derrick Lighting	X	
102	Accumulators and Panels	X	
103	HPU	X	
104	Drilling Instrumentation	X	
105	Fire and Gas Detection System	X	
106	Fire & Gas Replacement	X	
107	ICSS	X	
108	DBS Brake Servo	X	
109	Safety Equipment	X	
110	CO2 Bottle Racks	X	
111	Sound Absorptive Baffles	X	
112	Damping Tiles	X	
113	3000 Horsepower Drawworks		X
114	Drawworks Brake		X
115	Mud Pump & Pulsation Dampners A / B / C		X
116	Rotary Table A-375 w/Master Bushing		X
117	Iron Roughneck		X
118	Traveling Block		X
119	BOP - Stack Annular		X
120	BOP - Stack Double Ram		X
121	BOP - Stack Single Ram		X
122	BOP Test Stump		X
123	Cold Start Compressor		X
124	Diverter Housing Assy and Valves		X
125	Diverter Control Panel		X
126	Deadline Anchor		X
127	Degasser Unit		X
128	Choke and Kill Manifold		X
129	Swaco Control Panel		X
130	Hydraulic Choke		X
131	Crown Blocks		X
132	Mud Standpipe Manifold		X
133	Cement Manifold		X
134	Brake Cooling Package		X
135	Mud Gas Separator		X
136	Mixing Hoppers A / B		X
137	Welding Machine		X
138	Drill Floor Tool (Sets)		X
139	Hook		X
140	Swivel		X

Rebuild Equipment Matrix

Step 1	Step 2	Hold	Step 3	Step 4	Step 5	Step 6	Hold	Step 7	Step 8	Step 9	Step 10	Hold	Step 11	Step 12	Step 13
Prioritize	*Flow*	*Hold*	*Initiate*	*Dismantle*	*Analyze*	*Approval*	*Hold*	*Decision*	*Test*	*Preserve*	*Coordinate*	*Hold*	*Deliver*	*Install*	*Finalize*
Priority Identified by the RFQ and Mngt Team	Monitor Shop Load Establish a Continuous Feed of Equipment for Rebuild		Introduce Rebuild Equipment into the Machine Shop "Router System"	Dismantle Equipment and Formalize a Detailed Inspection Report	Prepare Final Cost Analysis Based on the Step-4 Detailed Inspection Report	Publish Detailed Equipment Inspection Report to the Team for Approval		Rebuild Equipment to OEM Specs Dispose of Rejected Equipment	Final Testing on Completed Refurbished Equipment	Preserve the Equipment Against Environmental Factors	Provide Equipment to the On-site Construction Team as Needed		Delivery to On-site Construction Team at Kiewit in Ingleside	On-site Construction Team to Utilize Mechanics to Install Equipment on the Rigs as Delivered	Close-Out All Activities, Including, Budget, Documentation, Warranty, etc..

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ANADARKO PETROLEUM CORPORATION 1201 LAKE ROBBINS DRIVE, THE WOODLANDS, TEXAS 77380
P.O. BOX 1330 HOUSTON, TEXAS 77251-1330 U.S.A. PH. (832)636-1000

Anadarko Petroleum Corporation

February 25, 2008

To: The Rig Team

Congratulations on one year of operations with ZERO injuries!

The rig refurbishment team recently passed the one year anniversary of our drilling rig refurbishment field operations work. We began in Max Welder yard on February 12, 2007. We accomplished a lot of good work there – piping demolition, electrical strip out, derrick removal, pressure vessel inspection, SCR building removal, etc. Often times that work was done in 110 degree + heat index. Then we moved to the Kiewit Yard in Ingelside; barges loaded out at the end of September from Louisiana to start their journey to Texas. We have already achieved great work at KOS – more demolition work, engine removal for overhaul, mud pump removal for overhaul, crane removal, etc. All of this work is "high risk" to safety of personnel. We saw the other extreme of weather conditions in KOS yard....wind chill factors of in the "teens".

We accomplished all of this significant work with ZERO injuries to any personnel! That is a tremendous accomplishment; something that the Peregrino Project Leadership...and I personally...Thank You for a job well done!

This accomplishment didn't "just happen". It took the continuous vigilance of all personnel to observe safe working practices. It took the conduct of daily safety meetings. It took routine JSAs being performed by the work teams. It took the leadership at Max and at KOS to champion a safety culture in the workplace that expected Zero injuries! It took our site representatives to always be mindful and to voice the need for safety as a priority in everything that was done. It took on site safety representatives to be diligent in their walkabouts and safety inspections to remind and reinforce proper safe working procedures. It took each and everyone of you to be mindful that we accomplish our vision of respecting our personnel by being "our brother's keeper". We look out for one another. We want everyone to go home every night to their families and loved ones...safely, just as they came to work that day.

What lies ahead? Keep it going!! Our vision and our commitment remain the same...Zero injuries. Help us to achieve another year of Zero!

Thank You!

Jim Grinnan,
Drilling Rig Refurbishment Contract Manager

WILLIAM JACOB MANAGEMENT, INC.

GLOBAL MANAGEMENT SERVICES

Anadarko/Statoil Hydro Project Capitalizes on WJM's Successful Experience Offshore Brazil

After contributing to the success of the first project in the region to be completed without the involvement of Brazil's state-owned oil company Petrobras (Devon Energy's POLVO), William Jacob Management has been tapped for another major project in the shallow water Campos Basin.

Peregrino is a joint venture of Anadarko and Statoil Hydro (formerly Norsk Hydro). Statoil Hydro recently bought Anadarko's interests in the block. With installation scheduled for December 2009/January 2010, the facility layout includes two platforms, two rigs and a single FPSO. To achieve the project's aggressive cost and schedule objectives, the project team has opted for refurbishment of existing equipment over fabrication of new hardware.

WJM's project manager Gordon Gamble is supervising refurbishment of the drill rigs that is taking place at two sites – Gibson, LA and Corpus Christi, TX – by Kiewit Offshore Services. From WJM's home office in Houston, another team is overseeing the refurbishment of individual equipment packages in Houma, LA.

"In our experience, fast track projects are most vulnerable during the earliest phases of development," reports Gamble. "With critical path tasks underway in multiple locations, our team puts extra emphasis on communications and daily progress reports as well as coordinating closely with the Brazilian government. To us it's not project management so much as it is *planning for success*."

AZURITE

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AZURITE - F(D)PSO/ VLCC

HISTORICAL DATA

COMPLETION/DELIVERY: 2006 - 2009

CLIENT: Murphy West Africa Ltd.

FIELD LOCATION: Republic of Congo

PROJECT DESCRIPTION:
- 40,000 BOP/D and 18 MMSCF/D
- Storage Capacity 1.3MM Barrels of Oil
- Positioned in 5000 FT W.D.
- 3000 HP Drill Rig

SCOPE OF WORK:
- Provided all the interface management and engineering between the FPSO production facilities, sub-sea and drilling modules.
- Provided on-site construction management in Singapore.
- Provided on-site construction management in Batam, Malaysia.
- Engineer and design drilling modules for integration onto FDPSO vessel deck.
- Engineer and design drilling substructure for integration over the vessel moon pool.
- Engineer and design of tensioner system.
- Liaise with drilling module transportation and installation companies (Batam-Singapore).
- Co-authored paper for presentation at the 2010 Offshore Technical Conference.
- DnV Interface.

PROJECT MANAGER: Trevor Smith

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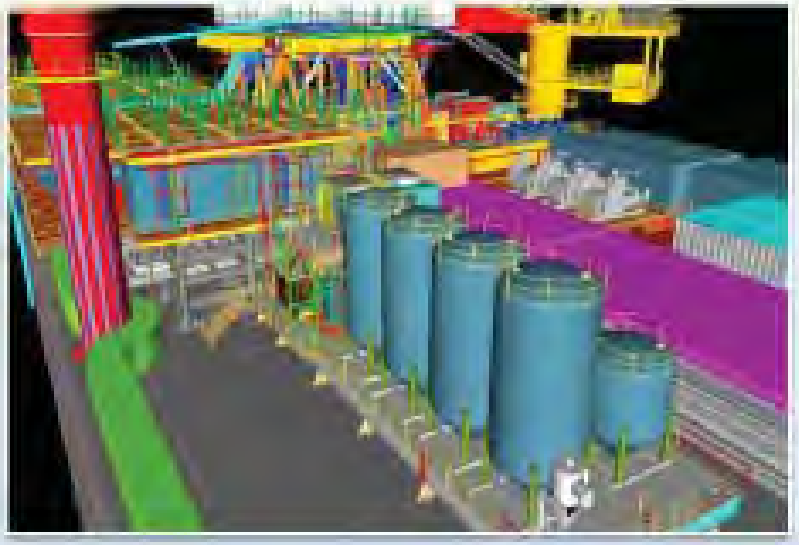
Engineering & Project Management Solutions

Murphy – Azurite

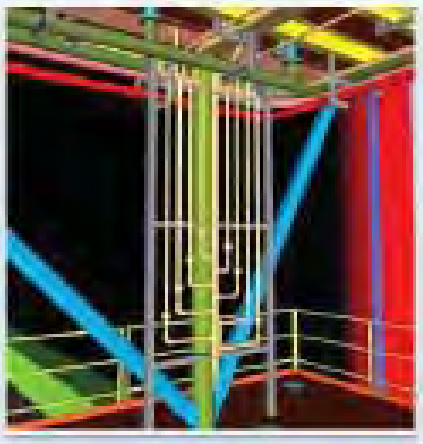
- Industry first ever FDPSO
- WJM was Drilling Interface Coordinator for Murphy Exploration
- WJM provided on site support in FELS in Singapore and PT Citra in Indonesia



Murphy – Azurite, continued

- The William Jacob Management engineering group provided detailed design of numerous system components including pony decks and riser handling
- Vendor coordination
- Greatest challenge to William Jacob Management – change of scope






LOBAL EXPLORATION & PRODUCTION NEWS • TECHNOLOGY UPDATES • ANALYSIS

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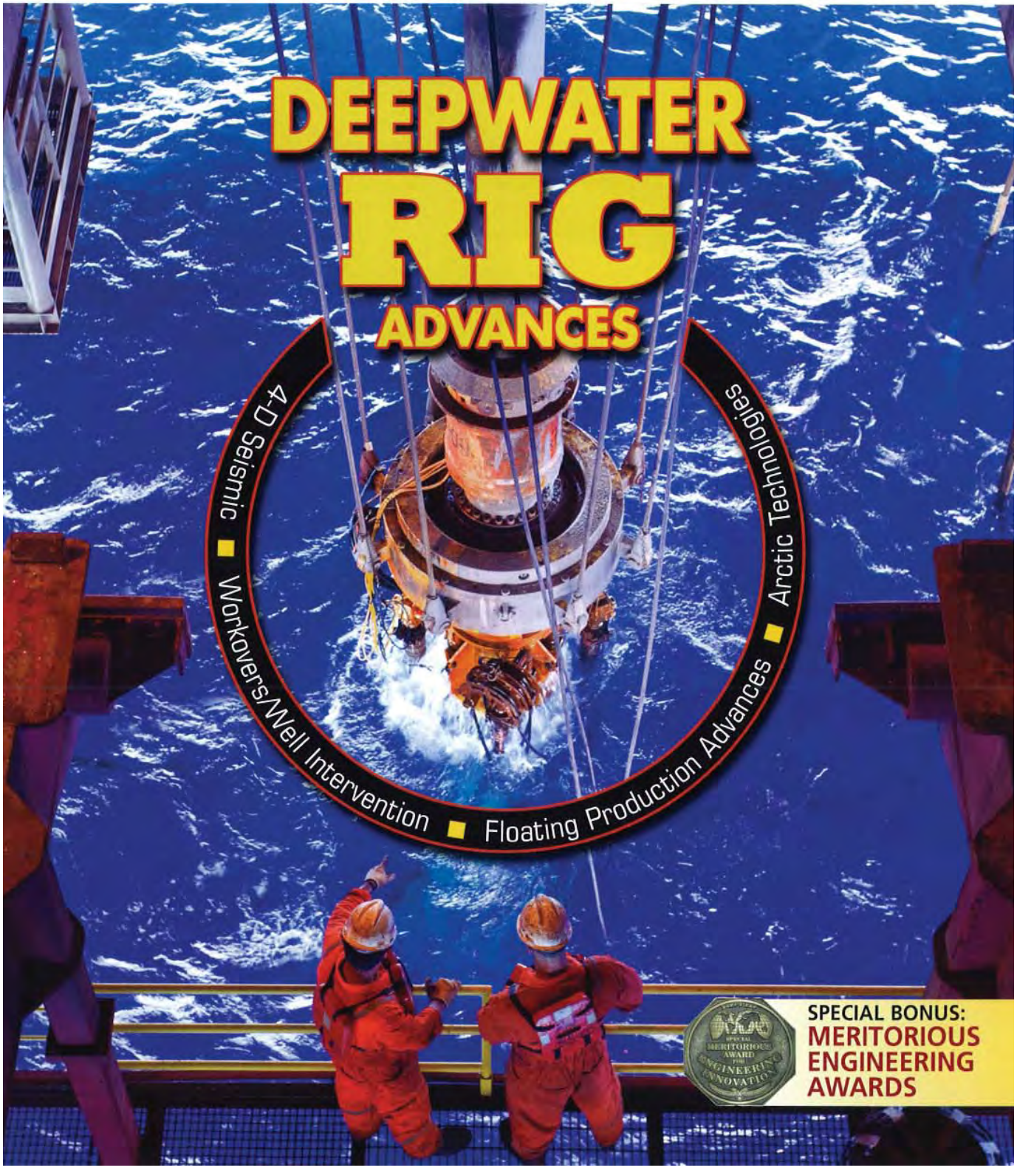
May 2009



DEEPWATER RIG ADVANCES

4-D Seismic ■ Workovers/Well Intervention ■ Floating Production Advances ■ Arctic Technologies

SPECIAL BONUS:
MERITORIOUS ENGINEERING AWARDS

First drilling FPSO goes to work offshore Africa

In 2Q, 2009, Murphy West Africa Ltd, Societe Nationale Des Petroles du Congo, and PA Resources AB will put the world's first FDPSO into operation on the Republic of Congo's Azurite field.

By JUDY MAKSOUD, Executive Editor

The deepwater Azurite field lies offshore the Republic of Congo in 4,600 ft (1,400 m) of water in the Mer Profonde Sud block approximately 80 nautical miles offshore.

The field development program for Azurite consists of a spread-moored floating, drilling, production, storage, and offloading (FDPSO) vessel tied to a subsea manifold. The manifold has 10 slots — six for oil and gas production and four for water injection — and is connected to the FDPSO by three flexible high-pressure risers that were designed, fabricated, and installed by Technip. Two of the risers are production risers, and one is for water injection. Ten enhanced vertical deepwater trees, provided by FMC Technologies, are tied in to the subsea manifold by flexible well jumpers. A multiphase pump will provide artificial lift for the field.

The making of an FDPSO

In October, 2006, Murphy Oil Corp. subsidiary Murphy West Africa Ltd. issued Prosafe a letter of intent for the conversion and operation of the world's first FDPSO. The US $400 million contract that was signed in November 2007 gave Prosafe responsibility for converting the very large crude carrier *M/T Europe* into the *Azurite* FDPSO. The vessel underwent conversion between July 2007 and February 2009 at the Keppel Shipyard in Singapore.

After awarding the conversion project to Prosafe, Murphy selected drilling contractor Nabors Industries Ltd. for the drilling component of the system. Nabors, which supervised the rig fabrication, was to provide and erect the drilling rig on the FDPSO such that the completed vessel would be equipped with a modular drilling package that could be removed and reused elsewhere when the drilling work on the Azurite field was completed.

Murphy's decision to go with a new type of floating production system was based in part on the fact that Azurite would be a fast-track project. With high rig rates and limited availability of suitable mobile offshore drilling units, the company was in a position to consider less traditional options that would allow it to achieve first oil in 2009.

After evaluating a number of production concepts, including a spar/FPSO arrangement like the one used on the Kikeh field offshore Malaysia and a production semisubmersible option like the one being used on Thunder Hawk in the Gulf of Mexico, Murphy decided that the most suitable solution was the FDPSO.

Murphy remained schedule-driven throughout the project and worked closely with the other companies involved to make sure the schedule was kept. One of the keys to success on the project was the focus on interfaces — interaction between operator and contractors and among the contractors working together on the project. Communication and cooperation were critical.

This project marked the first time an FPSO would be developed with a mobile drilling rig. Because no such project had been undertaken before, the construction of the FDPSO brought with it a number of significant challenges.

Dealing with those challenges became the purview of William Jacob Management (WJM) Inc. of Houston.

The company's initial involvement was straightforward — to determine loading limits for the deck and hull for Prosafe. When the time came to place the drilling rig on the deck, however, WJM's role changed.

According to Trevor F. Smith, technical director at WJM, the unique nature

WJM designed and built another deck to support the drilling structure on the FDPSO. (Image courtesy of William Jacob Management Inc.)

of the project brought together two specialized groups (an FPSO operator and a drilling contractor) that had no experience working together. That lack of experience led to construction and installation challenges when it came time to place the rig on the deck.

"The first concept was to put the rig and all of its equipment directly onto the deck of the vessel," Smith explained, "which wouldn't work because the deck is cambered and can't support the drilling structure that way. The rig also needs to have clearance underneath the drilling decks because the tanker is storing petroleum at the surface, and a buffer is required to allow for foam firefighting capability. We proposed some concepts, layouts, and ideas that we eventually ended up building."

The Azurite *FDPSO will produce the Azurite field offshore Republic of Congo. (Image courtesy of Murphy Oil Corp.)*

The most critical component of the solution was the concept of a support structure for the rig. "We took the deck, moved it up three meters (10 ft), and built another deck to support the drilling structure," Smith explained. "That was our first work scope, but as the project progressed, the scope of work continued to change."

Michael Duffy, president of WJM, said the work his company did addressed what he called the "gap scope" — "the work that fell clearly under neither the drilling scope nor the vessel scope."

Running piping throughout the drilling area and into the rig substructure was the next challenge.

"We took the vessel specification and the rig specifications and had to build almost a cross-breed between the two to make it work," Smith said. "It was a bit of trial and error, and there were challenges because there were schedule concerns, and the inspection authorities had to class the vessel."

In the end, WJM designed the rig decks and piping and oversaw their construction in the PT Citra yard in Indonesia. The rig installation and commissioning were done in Keppel's Benoi facility under the supervision of Murphy and Nabors.

In a class by itself

DNV's Singapore Offshore Class Centre carried out the classing exercise. The life extension program involved assessing global and local strength, fatigue life analysis for critical connections, and replacement of structural steel as well as preparations for periodical in-water surveys.

Problems that required solutions during the conversion and classification processes included the physical arrangement of adjacent process and utilities modules with their associated structures, such as piping and cabling. Mitigating the effect of motions was also necessary.

DNV also assisted Prosafe in creating a coherent safety philosophy when combining two ongoing activities that are subject to different regulations. The society examined topics such as defining accidental loads, shutdown logic, area classification, and fire fighting. These issues were addressed within the framework of existing DNV offshore specifications and standards with a certain amount of interpretation and prioritizing.

DNV verified the process plant design guided by the company's Offshore Standards and Rules as templates that had been modified according to Prosafe's specification. The majority of the topsides equipment also required DNV certification.

In mid-December 2008, the vessel underwent commissioning in the Keppel Shipyard before beginning its journey to Republic of Congo.

The completed vessel is a spread-moored FDPSO with a storage capacity of 1.4 MMbbl of oil and a processing capacity of 60,000 b/d of total liquids and 40,000 b/d of oil.

Another in the works

In early September 2008, Brazil's Petroserv SA awarded Sembcorp Marine subsidiary Sembawang Shipyard Pte Ltd. a contract to convert a 111,567-dwt tanker into a dynamically positioned FDPSO with extended well testing drilling capability.

When the new FDPSO is completed, it will have a drilling and storage capacity of 300,000 bbl. The vessel, to be named *Dynamic Producer*, is to be delivered to the owners in 4Q 2009.

Dynamic Producer Inc. will operate the new DP FDPSO on a long-term charter to Petrobras. The vessel will work in the Espírito Santo, Campos, and Santos basins off Brazil. E&P

WILLIAM JACOB MANAGEMENT

AZURITE

MURPHY WEST AFRICA, LTD.

Certificate of Appreciation

This Certificate is Awarded to

WILLIAM JACOB MANAGEMENT

in recognition for the leadership and contributions to the

Azurite Field Development Project

and in recognition of

5.5 MILLION MAN HOURS
January 01, 2007 – May 01, 2008

5.0+ MILLION MAN HOURS
June 27, 2008 – Present

without a lost time injury

First Oil – August 09, 2009

HARRY J. HOWARD
General Manager – Europe/Africa/Latin America Operations

KENNETH C. HAMPSHIRE
Azurite Field Development Manager

KENNETH J. BAYNE
Azurite Project Manager

OYO FIELD DEVELOPMENT

HISTORICAL DATA

COMPLETION/DELIVERY: 2009

CLIENT: Allied Energy / Camac International / ENI

FIELD LOCATION: West Africa

PROJECT DESCRIPTION:
- 40,000 BOP/D & 60 MMSCF/D FPSO
- Water Injection & Gas Lift/Injection

SCOPE OF WORK:
Validated detail design.

Specific activities included:
- Surveyed and Inspected FPSO Candidate (Romania).
- Evaluated Technical Bid(s).
- Interface engineering between subsea company, flexible flowlines, ship's system and topsides design.
- HAZOP review in U.K. / Indonesia.
- Design review in Singapore and Italy.
- On site construction surveillance in Singapore
- ABS interface coordination in Kuala Lumpur.
- Review/approval of vendor drawings
- Review/approval of P&ID's.

PROJECT MANAGER: John Weaver
Fred Weikert
Peter Cutt

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GLOBAL MANAGEMENT SERVICES

OYO OML 120
DEVELOPMENT
Offshore Nigeria

Allied
ENI
NAE
CAMAC

Innovative Development Strategy Set for Fast-Track FPSO offshore Nigeria

With just 14 months from the call for bids to first oil, partners ENI and Allied Energy Resources have an aggressive schedule planned for development of Nigeria's OYO field. With the clock running, it was imperative that the $600 million project "hit the ground running"; there simply was no margin for false starts or delays.

To help ensure the quality and timeliness of project initiation, the Project Manager, OCEANIC tapped William Jacob Management (WJM) for assistance on a number of critical tasks. The first was to examine the feasibility of executing the project with an existing FPSO, then determining industry availability of qualified facilities. The project specifications call for a capacity of 40k barrels/day and onboard storage of 1 MM barrels.

With the core hardware component identified, the project team turned its attention to its second key assignment, compilation of the bid package. Here, WJM helped to develop technical performance specifications and responded to technical clarifications from the various bidders. The accuracy and completeness of scope and cost information are vital to project success. Now that the contracts are awarded and the project is running at full speed, WJM is providing project and interface management, technical support, scheduling and document control.

Mid 2009 is the target to ring in a prosperous year for the project team and their Nigerian partners with the delivery of first oil from OYO.

Allied Energy Resource Nigeria Ltd.

Oceanic Consultants

Eni GROUP

Nae

1500 SOUTH DAIRY ASHFORD, SUITE 400
HOUSTON, TEXAS 77077
OFFICE 281-497-8617 FAX 281-497-8142
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PEMEX

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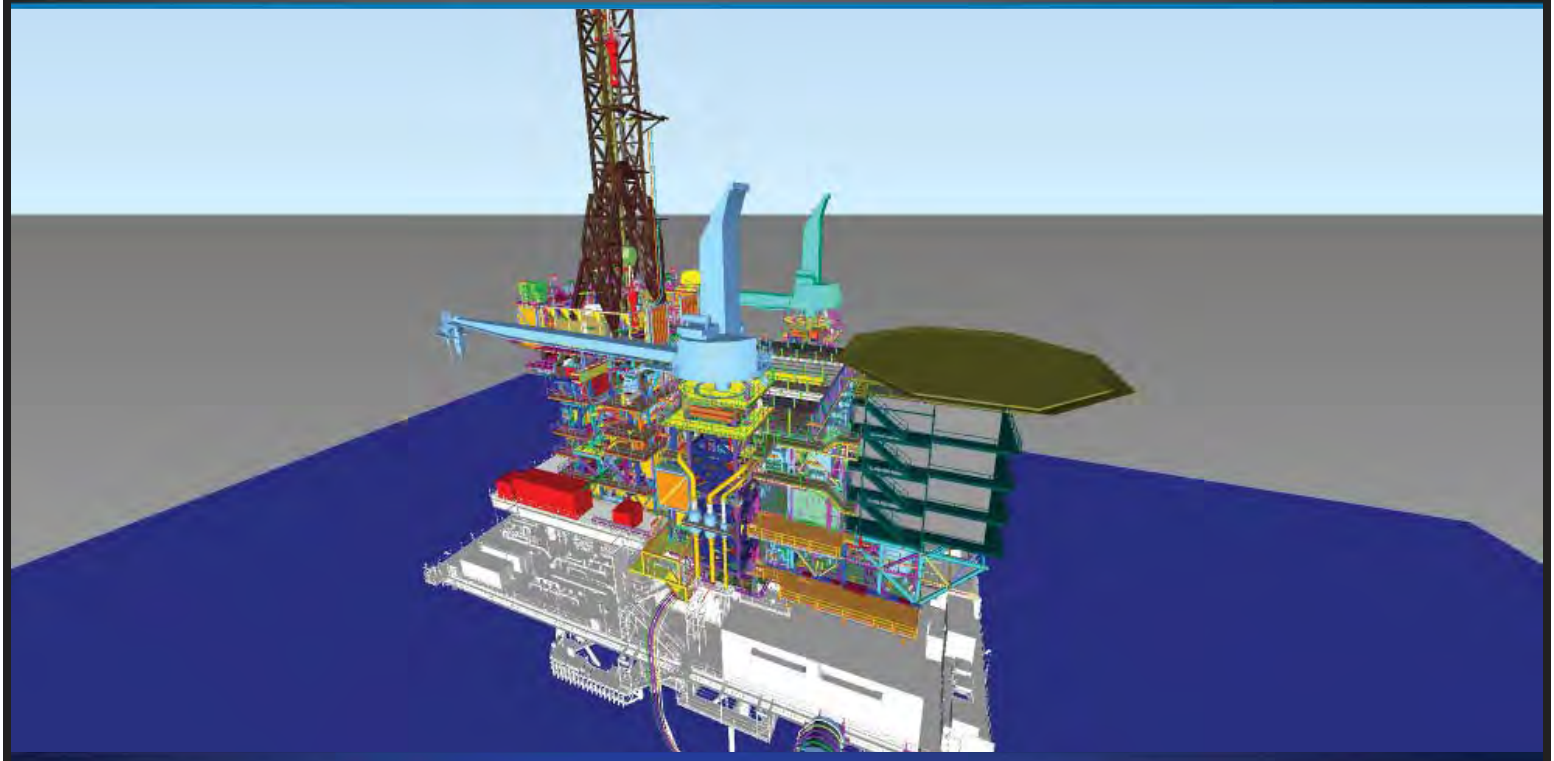
3,000 HP DRILLING RIG (1 & 2)



HISTORICAL DATA

COMPLETION/DELIVERY: 2013 - 2014

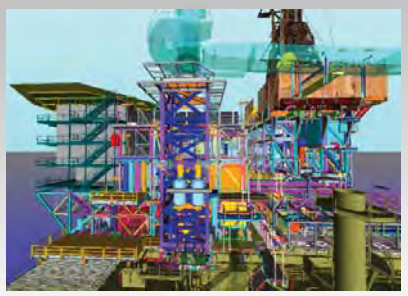
CLIENT: Pemex

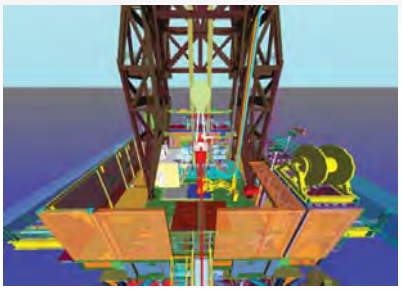
FIELD LOCATION: Ayatsil Field - MX Bay of Campeche

PROJECT DESCRIPTION:
- Design of two 3,000HP Modular API Offshore Drilling Rigs
- Project Management, Concept Design and Engineering and Design of new concept, low weight module drilling unit.

SCOPE OF WORK:
- Supply Engineering and Detailed Design
- Produce Construction drawings
- Write Equipment Specifications
- Review Equipment Scope of Supply
- Provide 3-D Structural design
- Provide Structural Load Analysis
- Provide Main Deck Analysis review
- Provide bill of materials
- Provide 3-D Piping design and interface
- Provide P&IDs for all systems
- Provide Electrical design and interface
- Provide 3-D electrical design
- Review interfaces with Quarters
- Review interfaces Main Platform
- Provide Offshore Field Engineering

PROJECT MANAGER: Gordon Gamble





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Engineering & Project Management Solutions

Undisclosed International Major

- Fast track new design modular drill rigs for international major oil company
- Engineering and design of two 3,000 hp API platform rigs for use in the Bay of Campeche on new drilling and production platforms.

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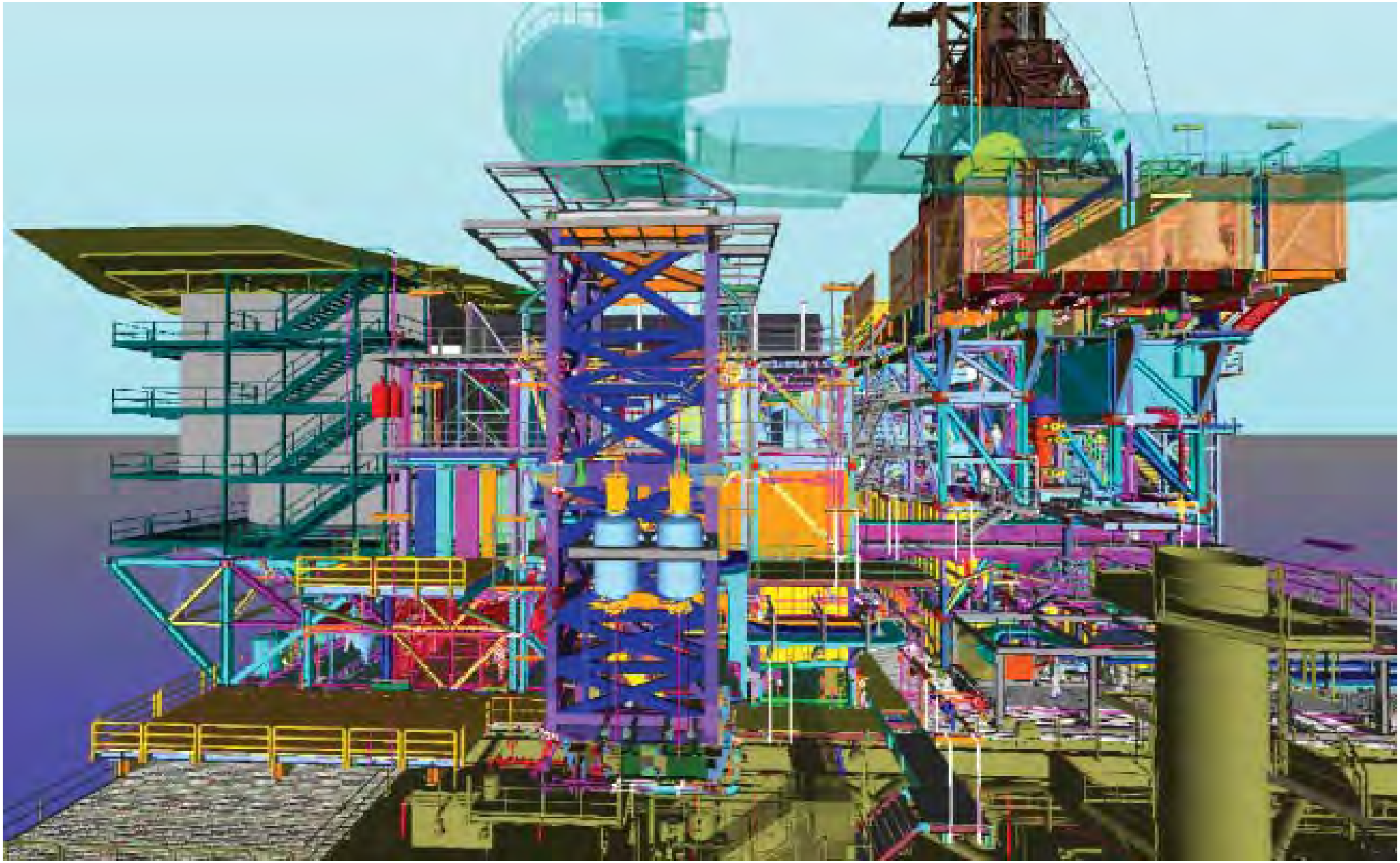

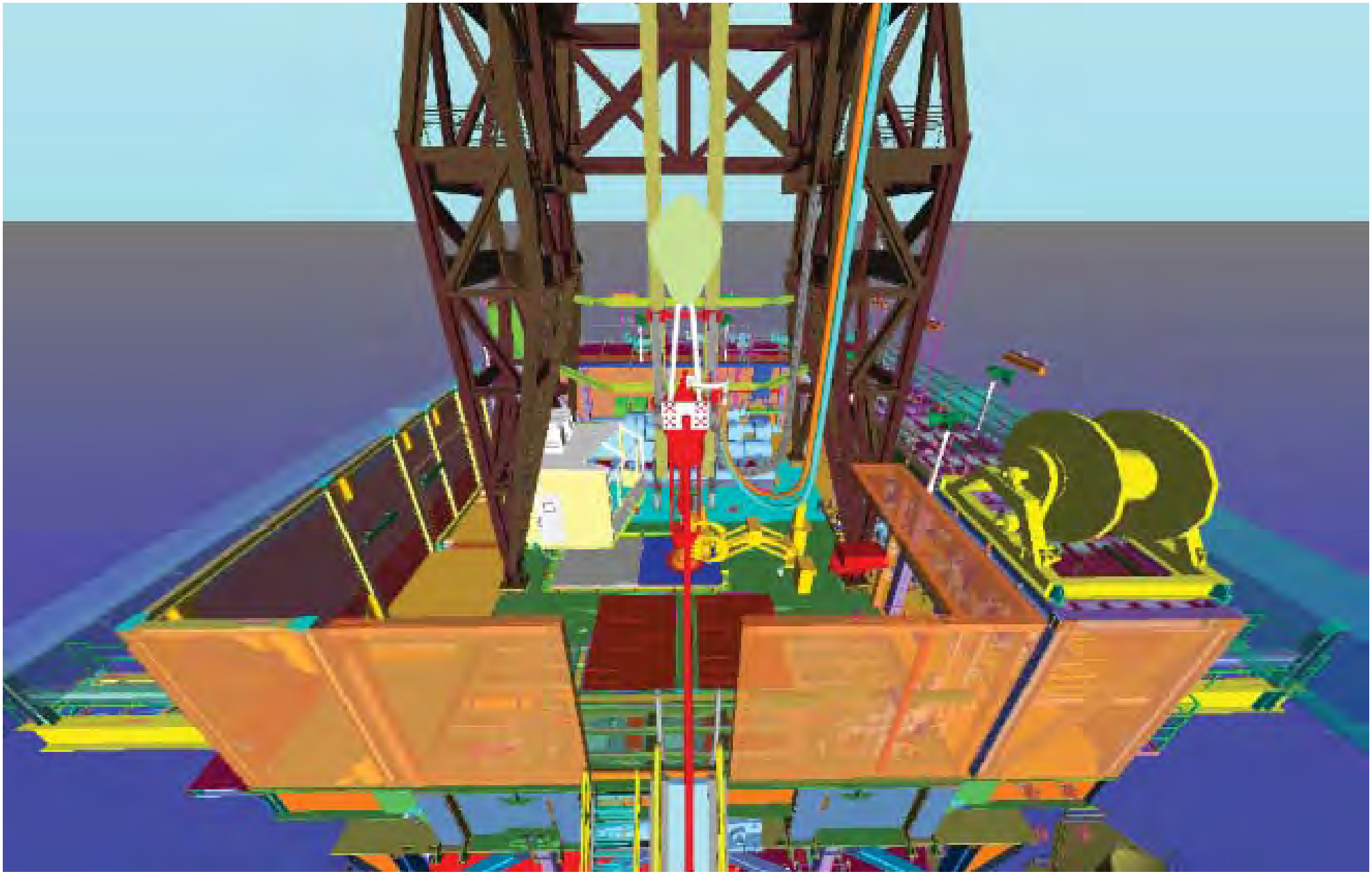

FURIE
Operating Alaska LLC

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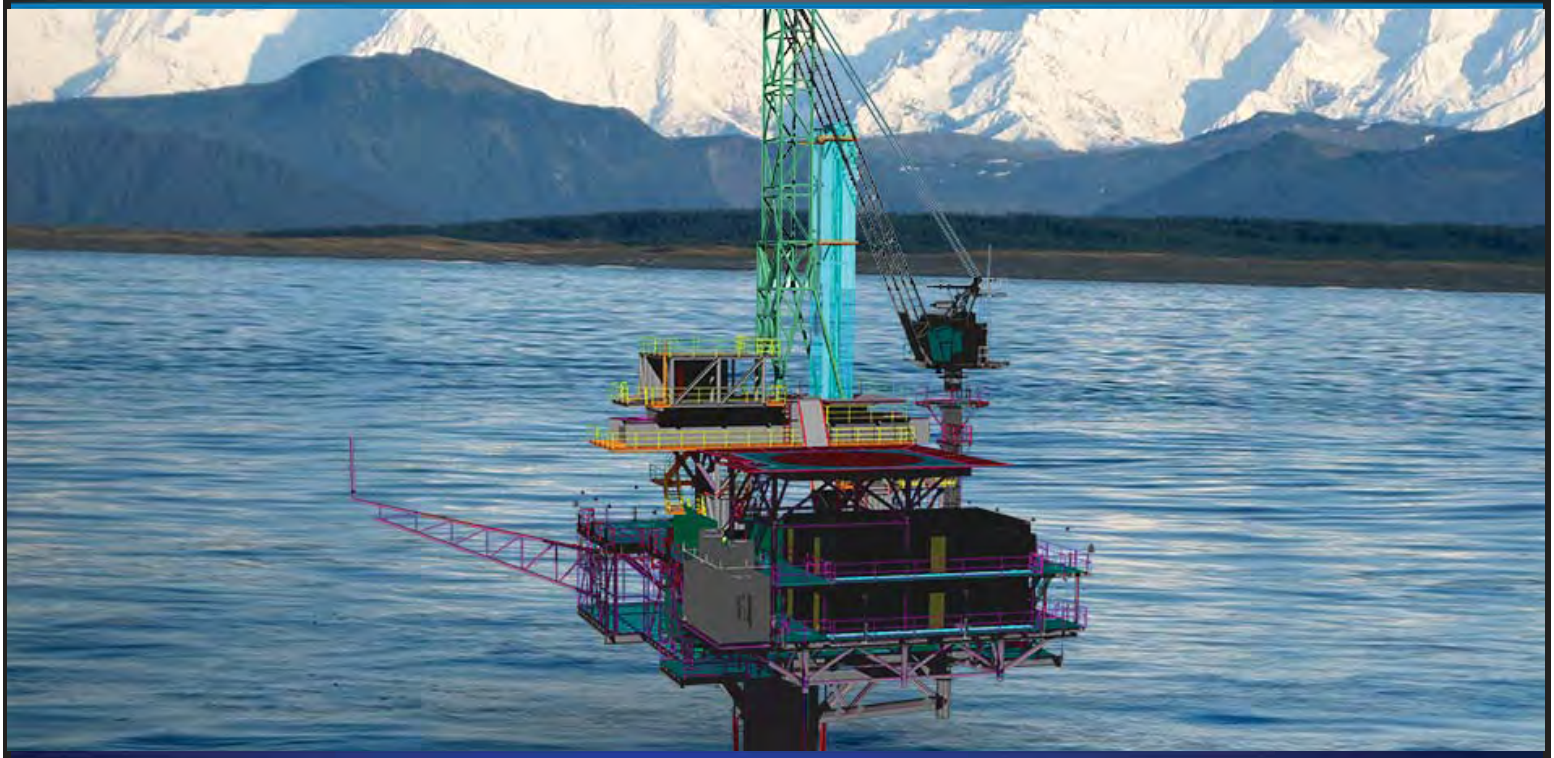
KITCHEN LIGHTS - MONOPOD



HISTORICAL DATA

COMPLETION/DELIVERY: 2012 - 2014

CLIENT: Furie Operating Alaska, LLC

FIELD LOCATION: Kitchen Lights Development Cook Inlet, Alaska

PROJECT DESCRIPTION:

- Well Test and Central Production Facility
- Offshore Platform with utilities to support Drilling and Well Testing
- Onshore Separation Facility designed for 100 MMSCF/D and 8000 BLP/D
- Final Separation, Compression, Produced Water Disposal, Dehydration and Sales Gas Metering Tie-in. Design includes future oil production and pipeline
- PLC Communication between Offshore Test Facility and Onshore Separation Plant.
- Production equipment enclosed in climate control buildings.

SCOPE OF WORK:

- AFE Estimate
- Equipment Arrangement
- Process Flow Diagrams
- Permit Documents
- Facility Bid Packages
- Interconnect Piping Design
- Electrical Design
- Instrument Control System / PLC
- Civil / Structural Design
- Work Over Drilling Rig

PROJECT MANAGER: John Weaver

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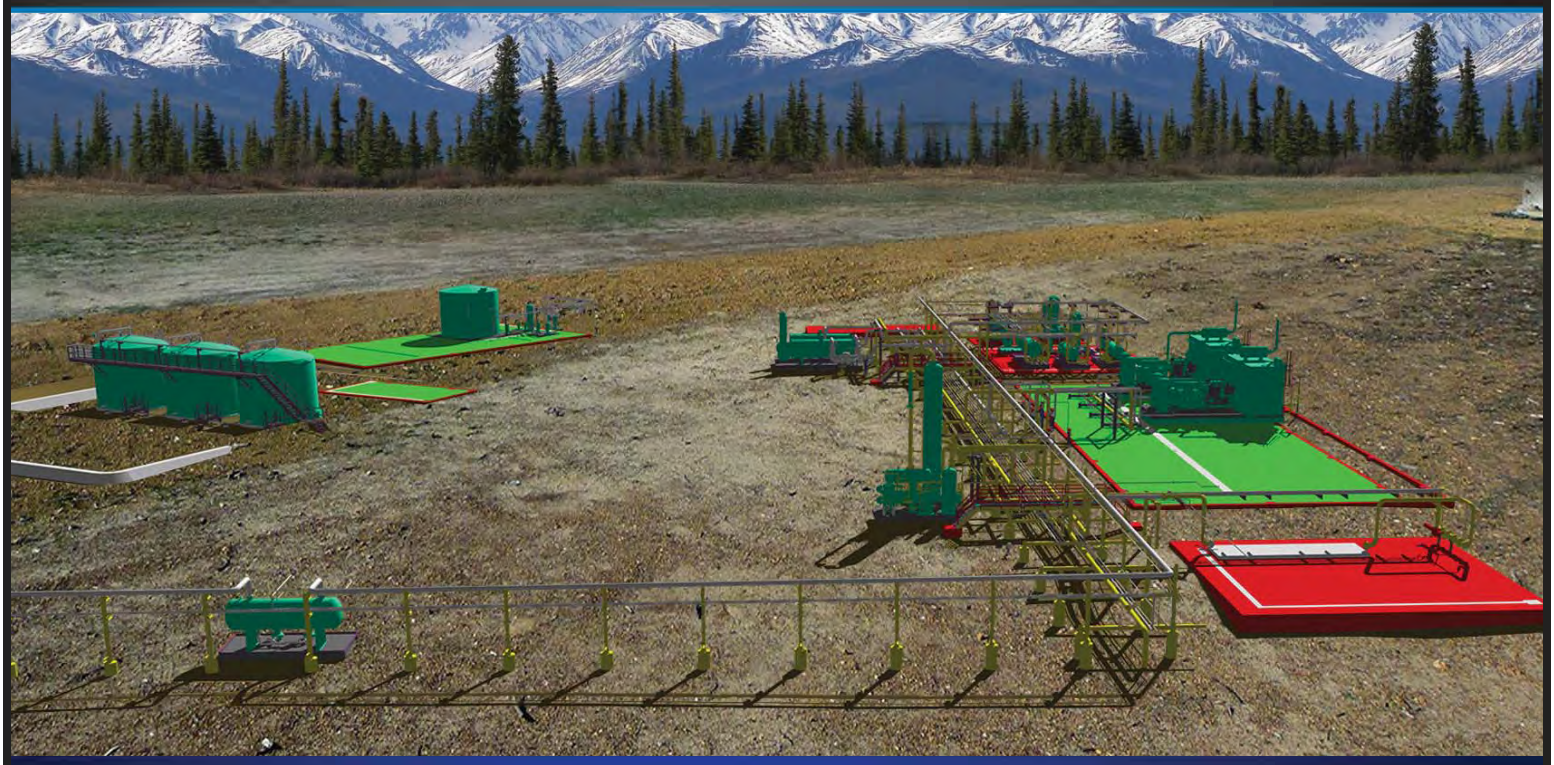
KITCHEN LIGHTS - PRODUCTION FACILITY



HISTORICAL DATA

COMPLETION/DELIVERY: 2012 - 2014

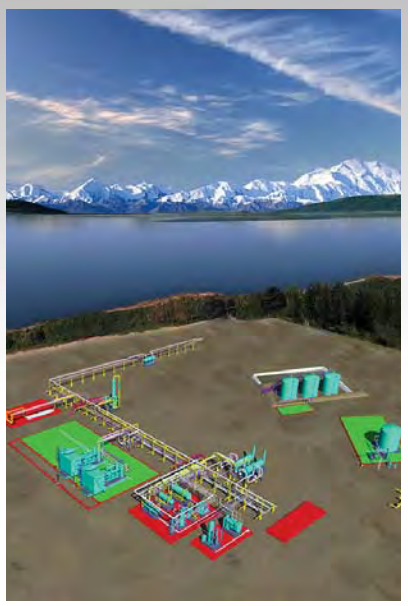
CLIENT: Furie Operating Alaska, LLC

FIELD LOCATION: Cook Inlet, Alaska

PROJECT DESCRIPTION:
- Central Production Facility
- 100 MMSCF/D, 8,000 BLP/D Separation Facility.
- Final Separation, Compression, Produced Water Disposal, Dehydration and Sales Gas Metering Tie-in to MOC Pipeline.
- Communication between Offshore Test Facility and Onshore Separation Plant.
- Production equipment enclosed in climate control buildings.
- Interface with Permit Agency.

SCOPE OF WORK:
- AFE Estimate
- Plot Plan
- Equipment Arrangement
- Process Flow Diagrams
- Process / Instrument Diagrams
- Permit Documents
- Construction Bid Packages
- Interconnect Piping Design
- Electrical Design
- Instrument Control System / PLC
- Civil / Structural Design
- Future Oil Production

PROJECT MANAGER: John Weaver



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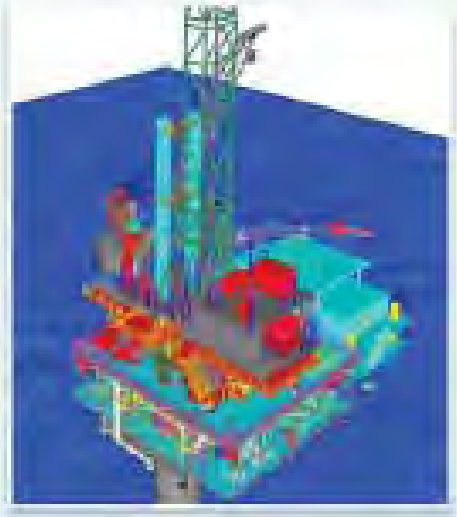
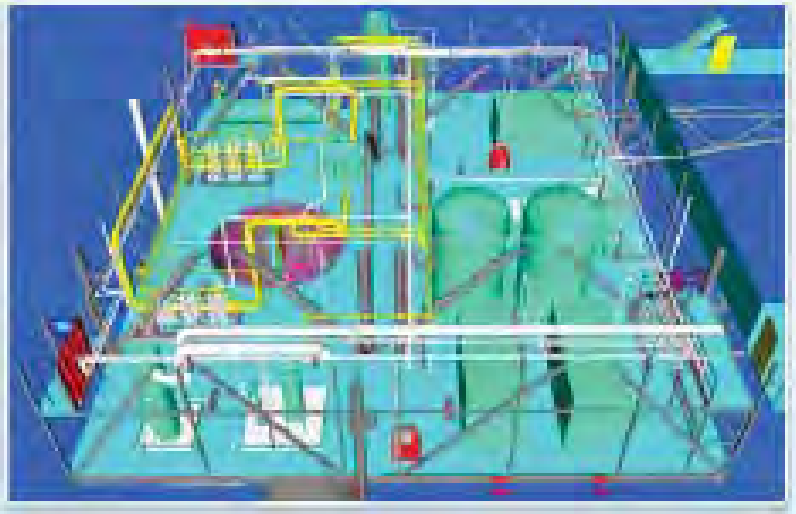
FURIE
Operating Alaska LLC

Furie Operating, Alaska – Cook Inlet Monopod

- Prepared GoM jack up for Cook Inlet service
- Currently designing monopod, topside facilities, new workover drill rig, pipeline and onshore facilities





7.0

COMPANY INNOVATIONS

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Breakthrough Modular Design Erases High Installation Costs

CHALLENGE: Develop an offshore modular rig facility that would bring down deployment costs and increase speed-to-production.

SOLUTION: The WJM team based its design on compact modules specifically downsized to streamline installation. The modules can be delivered using the client's service fleet and assembled with "leap-frog" type cranes from the platform and rig facility.

BENEFITS: Generates significant savings from elimination of a heavy lift barge. The design of modules and interconnects provides flexibility for a wide range of environments. It also enables efficient decommissioning and redeployment for the next drilling program.

EXPERIENCE: This latest addition to William Jacob Management's portfolio continues the firm's tradition for technical innovation that drives business performance.

ENGINEERING & PROJECT MANAGEMENT

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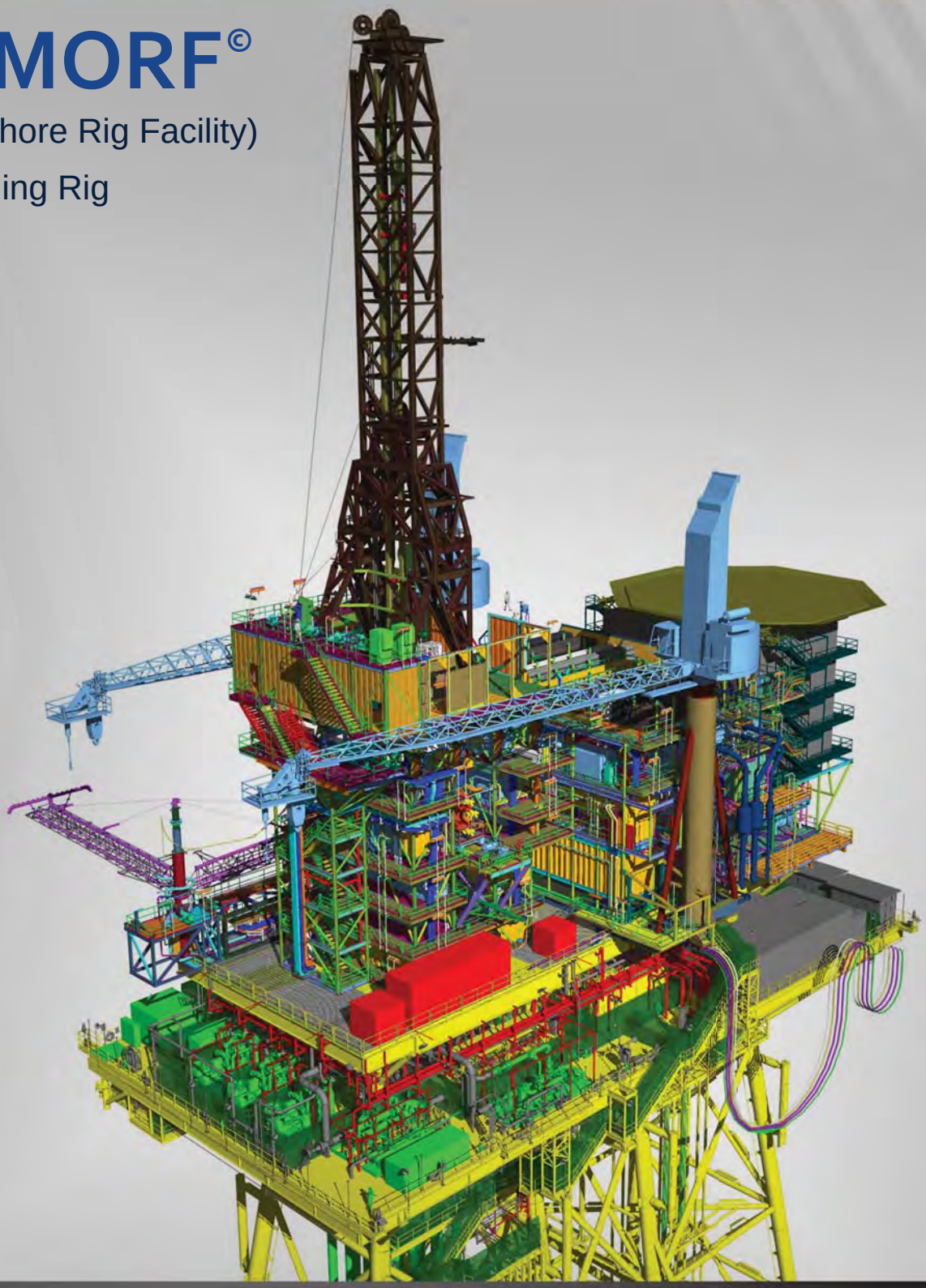
WJM MORF©

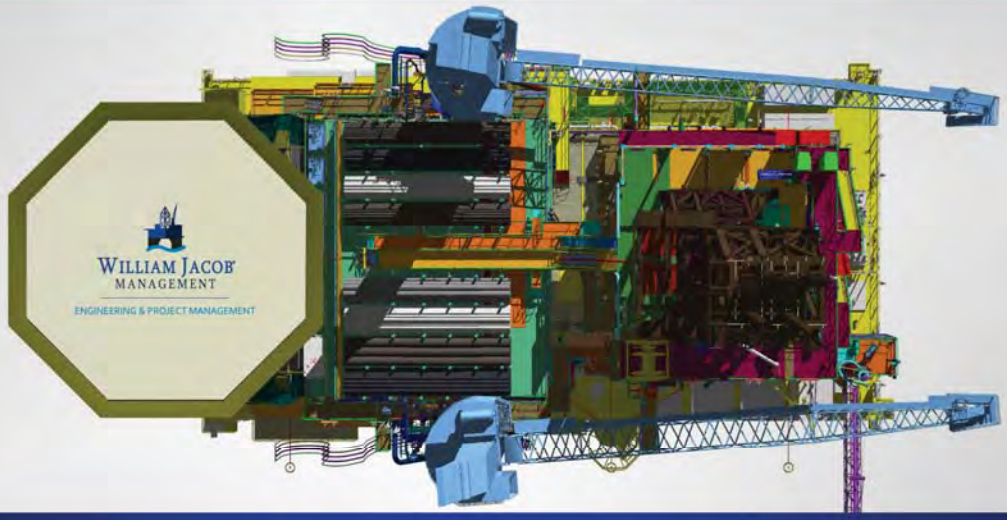
(Modular Offshore Rig Facility)

3,000 HP Drilling Rig



WJM MORF© Specification_11/8/16

WJM MORF© (MODULAR OFFSHORE RIG FACILITY)



SPECIFICATIONS

DRILLING EQUIPMENT STRUCTURE (DES) – DRILLFLOOR STRUCTURE

MAST
152 ft freestanding mast with API rated hook load of 1,500,000 lb. Racking capability of 30,000 ft of 5-1/2" drill pipe (or 5-1/2" & 4-1/2").

DRAWWORKS
3,000 HP unitized gear driven electric drawworks with dual disc brakes, sized for 1-3/4" drill line. Driven by three (3) 1,150 HP AC electric motors. Equipped with one (1) crown block protecting device.

TOPDRIVE
1,150 HP AC topdrive. Rated at 63,000 ft-lbs continuous torque.

ROTARY
49-1/2" rotary table. Hydraulically driven torque capacity of 40,000 ft-lbs. Maximum speed of 40 rpm.

DRILLING EQUIPMENT STRUCTURE (DES)

SOLIDS CONTROL
- Four (4) dual motion, Triple Deck Shale Shakers (550 gpm each)
- One (1) Desilter/Desander Cones (mounted over 4th Shaker)
- Two (2) Centrifuges
- One (1) Horizontal Vacuum Degasser

BOP
- One (1) 37-1/2" Integral Diverter x 0.5K
- One (1) Shaffer 18-3/4" x 5K Annular
- Two (2) Shaffer 18-3/4" x 10K Double Rams

DRILLING SUPPORT MODULE (DSM)

MUD TANKS

• DES Process Tank Capacity:	712 bbls
• Active Mud Tank Capacity:	1,084 bbls
• Reserve Mud Tank Capacity:	696 bbls
Mud Tank System Total Capacity:	**2,492 bbls**

MUD PUMPS
Three (3) 1,600 HP x 7.5K Triplex Mud Pumps. Each powered by two (2) 1,150 HP AC electric motors. Equipped with pulsation dampeners and pressure relief valves.

BULK STORAGE

• Bulk Barite Capacity:	4,200 cu. ft.
• Bulk Cement Capacity:	4,200 cu. ft.
• Pallet Storage Capacity:	2,000 sacks

GENERATORS
- Four (4) Main CAT diesel engines, rated at 2,000 kW.
- One (1) Auxiliary CAT diesel engines, rated at 1,200 kW.

PLATFORM PEDESTAL CRANE MODULE

PLATFORM PEDESTAL CRANES
Two (2) Offshore Pedestal Cranes rated for 100 Tons SWL with 120 foot Lattice Booms

QUARTERS
- One (1) 100 man Quarters Facility
- One (1) Helideck, rated for Bell 412 Helicopter or similar

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WILLIAM JACOB®
MANAGEMENT

ENGINEERING & PROJECT MANAGEMENT SOLUTIONS

MULTI-PURPOSE SEPARATOR (MPS™)

Safety Oriented / Production Driven

PATENT PENDING

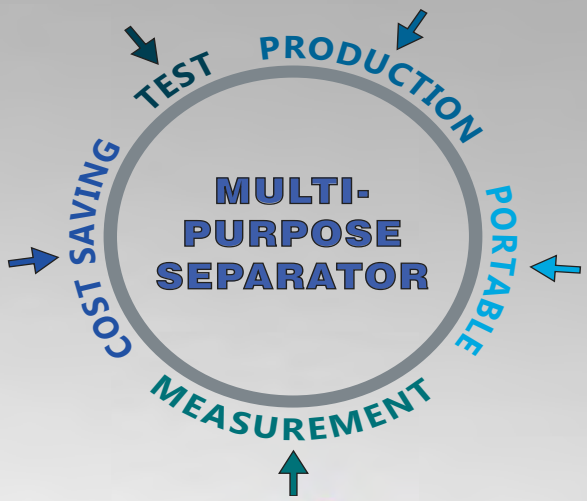
William Jacob Management's code compliant Multi-Purpose Separator is designed for simultaneous Well Testing and Production in one vessel.

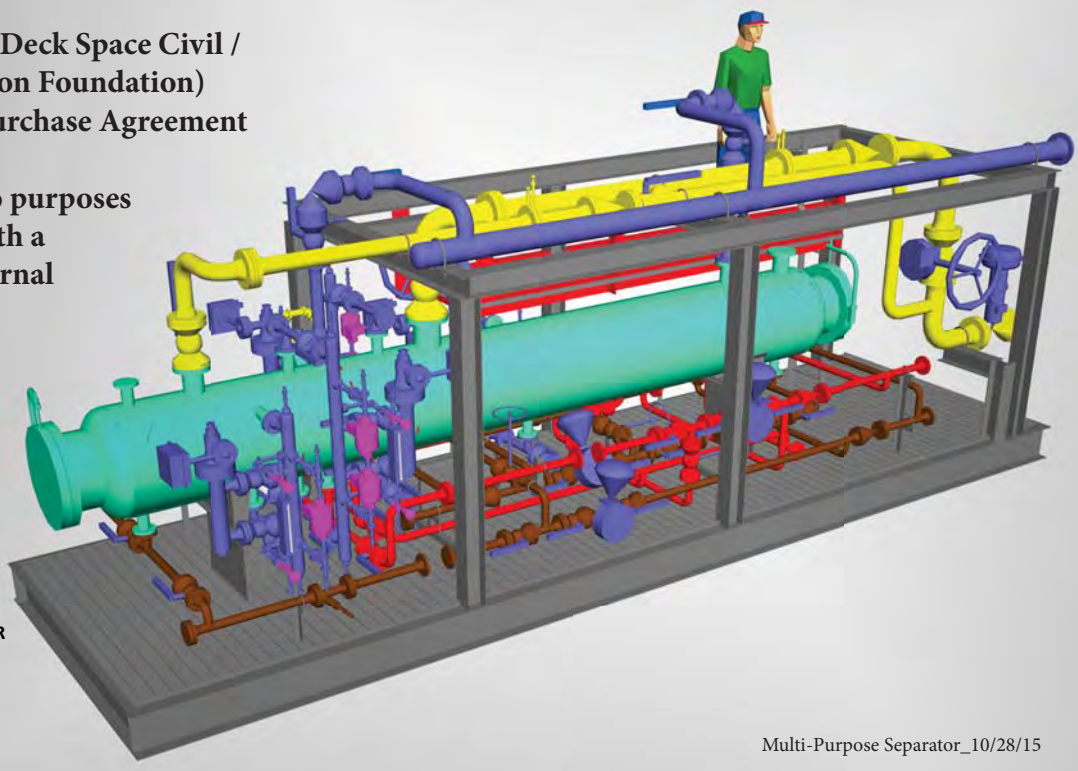
This innovation was created for ease of operation and operator safety as key drivers.

William Jacob Management's Multi-Purpose Separator, will provide the following benefits:

- **Cost Savings (One Vessel serving Two Applications)**
- **Offshore Platform Deck Space Civil / Structural (Common Foundation)**
- **Onshore Lease / Purchase Agreement**

One vessel serving two purposes which is achievable with a pressure balanced internal seal plate between the Test and Production section.





PRODUCED WATER
CONDENSATE
GAS PRODUCTION
FLARE

Multi-Purpose Separator_10/28/15

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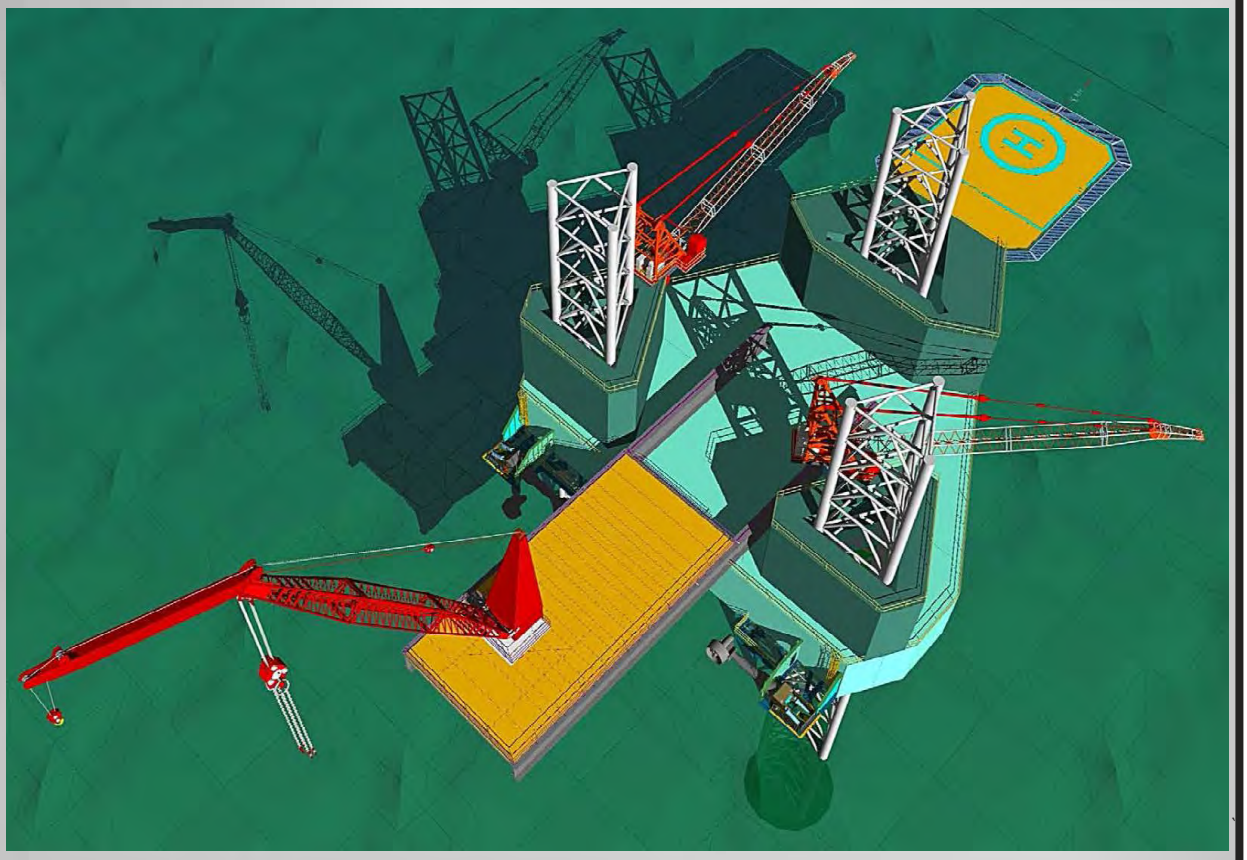
MOBILE OFFSHORE SUPPORT SERVICES VESSEL (MOSS V™)

- MOSS V™ can be utilized for P&A (including rigless P&A), flotel, platform decommissioning, tender assist, platform construction and maintenance, transport and installation support, wireline support, workover support, storm damage repair and support of a skid off rig.
- MOSS V™ maintains original JU equipment below decks providing DSM capability.
- MOSS V™ can transport and install equipment, pancakes, temporary cranes, modules.
- Crane capacity includes one (1) 500 ton crane on the cantilever and three (3) 65 ton cranes.
- Can utilize a mat rig or an independent leg rig.
- Self propelled with navigation bridge.
- Enclosed welding and machine shop.
- 10,000+ sq ft of deck space.
- 85 man LQ with helideck.



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Relevant News

WILLIAM JACOB® MANAGEMENT

ENGINEERING & PROJECT MANAGEMENT SOLUTIONS

Houston-based Engineering & Project Management Firm Marks 10th Anniversary with another Breakthrough Innovation

Houston, TX – July 24, 2014 – William Jacob Management, Inc. (WJM) has just introduced a game-changing Modular Offshore Drilling Rig design that slashes deployment costs and dramatically improves speed-to-market for upstream operations. The revolutionary *Modular Offshore Rig Facility (MORF)* is a copyrighted design for a 3,000 hp modular drilling facility. Our MORF is the FIRST OF ITS KIND in size and configuration; as well as, a first for the Gulf of Mexico.

Developed initially for a national oil company with a major presence in the Gulf of Mexico, the design program was driven by the client's demand for improved cost performance across its offshore operations. In order to make a big impact, the design team opted to *think small.*

"Our team of design engineers deliberately downsized the individual modules so they could function like a set of interlocking building blocks and be lifted in-place by "leapfrog" cranes, explains VP of Drilling Facilities Engineering, Trevor Smith. "This solution enables the modular rig to be configured for drilling and integrated production below, while providing significant cost savings in deployment."

The rig has two main modules: the Drilling Equipment Set (DES) and the Drilling Support Module (DSM). The DES has the capacity to access 15 wells arranged in a 3 x 5 matrix and is capable of drilling wells up to 25,000 feet. The DSM is equipped with a pair of rig cranes that streamline installation. Thanks to their compact size, the modules can be delivered using the client's service fleet, and then assembled using a combination of crane systems. The blocks containing the cranes are installed using a temporary "leapfrog" crane package. Once the rig cranes are operational the installation is then completed using the rig's own cranes. This strategy effectively eliminated the need to contract a costly lift barge. With the expense and

shortage in large derrick barges throughout the industry, this opens up opportunities to many WJM clients to reduce costs in their offshore developments.

“WJM set out to create not just a drilling unit, but also a strategic asset,” says WJM President, Michael Duffy. “The design of modules and interconnects provides flexibility for a wide range of environments – and enables efficient decommissioning and redeployment for the next opportunity. We are extremely pleased to be able to make this propriety design available to the industry.”

About William Jacob Management

Headquartered in Houston, Texas, William Jacob Management, Inc. is an independently owned, Engineering and Project Management services firm. WJM provides full lifecycle support for the most demanding and complex capital projects in the energy industry, and is recognized for its elite-level proficiency in interfacing drilling and production facilities. With a multinational workforce and over 375 collective years of executive experience, William Jacob Management offers comprehensive capabilities and world-class expertise in: Engineering, Project Management, Procurement, Construction, Commissioning / Startup, Operations, Maintenance and Regulatory Compliance.

ENSURING SUCCESS FOR HIGH-STAKES CAPITAL PROJECTS.
ONSHORE. OFFSHORE. WORLDWIDE.

For more information, visit www.williamjacob.com.
SOURCE William Jacob Management, Inc.

Contact: Michael P. Duffy, President
Tel: 281.497.8617 | michael.duffy@williamjacob.com

WILLIAM JACOB®
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ENGINEERING & PROJECT MANAGEMENT SOLUTIONS

William Jacob Management Celebrates 10 Years of Engineering & Project Management Excellence

Houston, TX – August 25, 2014 – William Jacob Management, Inc. (WJM), a world-class engineering and project management firm, announced today it is celebrating 10 successful years of providing critical capabilities, disciplined expertise and technical support for high-stakes capital projects in the international oil and gas industry.

To kick-off the special occasion, WJM will host a cocktail soirée later in the year at their new office suite. It is located in the Park Ten energy district - 15810 Park Ten Place, Suite #300, Houston, Texas 77084 – where build-out of the new space is currently under construction.

William Jacob Management was founded by Michael P. Duffy, President, in 2004 when he was contracted to work for CalDive on a project involving the Q4000 semisubmersible. That work, as well as a survey project for The Offshore Drilling Company (TODCO) on their Barge Rig 49, was what led to the formation of William Jacob Management, Inc. The company was named after Mike's two sons – Jake and Will. By the end of 2004 WJM was established and engaged in projects for clients including Devon Energy, CalDive, Mill and Safety Supply and TODCO.

During the past 10 years, WJM has experienced growth with a multinational workforce and over 375 years of collective executive experience. The Company's core team of experts has deep industry roots that stem from some of the industry's most prominent projects including the Sakhalin Island platform - Berkut, Peregrino, Polvo, Azurite, Liberty, Kizomba A & B, Mad Dog, Holstein, Thunderhorse and more.

WJM serves a global client base with a longstanding reputation for interfacing drilling rigs with production facilities. Most recently, William Jacob Management completed design work on the drill rig for the Olympus TLP, Shell's largest ever to be deployed to the US Gulf of Mexico waters.

"William Jacob Management's ten year anniversary is a major milestone for our company", said Duffy. "WJM has had the opportunity to work with many wonderful clients on some of the most unique and challenging projects in the oil and gas industry over the past decade. I am incredibly proud to be leading a team of immensely talented people who constantly take on challenges and resolve them in unique ways that benefit our clients. The commitment of the people at William Jacob Management has allowed our company to grow and mature into an industry leader in engineering, design and project management. I look forward to the future, to meeting new clients, new employees and to taking on even greater challenges."

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SOURCE William Jacob Management, Inc.

Contact: Michael P. Duffy, President
Tel: 281.497.8617 | Michael.Duffy@williamjacob.com

WILLIAM JACOB® MANAGEMENT

ENGINEERING & PROJECT MANAGEMENT SOLUTIONS

William Jacob Management establishes presence in London

Houston, TX – May 12, 2015 – William Jacob Management, Inc. (WJM) is pleased to announce the hiring of Mike Emans as Vice President of Marketing (UK and Europe). He will be located in London. Mike brings considerable experience to WJM and his new role. He has been a Project Manager for 30 years, responsible for bid management and engineering on key drilling facility projects such as the Piper Bravo/Saltire redevelopment; Shell Brent Upgrades; BP/AIOC Chirag first western rig in Caspian Sea; Statoil's Kvitebjorn; ExxonMobil's Ringhorne in Norway; Orlan in Sakhalin; Chevron Texaco's award winning Benguela Belize Project in Angola. More recently Mr. Emans held key positions in ExxonMobil's Hebron project in Canada and the FEED for Premier Oil's Sea Lion Falklands TLP. Mr. Emans also has extensive experience in numerous MODU upgrades/SPS and various brownfield efforts.

"We are very pleased to have Mike Emans join WJM to lead our marketing efforts in the UK and Europe", stated WJM president and founder, Michael P. Duffy. "Mike has had a distinguished career in the oil and gas industry to date and having him on the team will give WJM a new perspective with regard to our efforts to best serve our clients around the world."

About William Jacob Management

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For more information, visit www.williamjacob.com.
SOURCE William Jacob Management, Inc.

Contact: Michael P. Duffy, President
Tel: 281.497.8617 | michael.duffy@williamjacob.com

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CONTACT US

WILLIAM JACOB®
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Tel: 281-497-8617: Fax: 281-497-8142 | info@WilliamJacob.com | www.WilliamJacob.com

Contact Us

William Jacob Management

16350 Park Ten Place, Suite 100

Houston, Texas 77084, USA

Tel: +1 281-497-8617

Fax: +1 281-497-8142

Email: info@WilliamJacob.com

Web: www.WilliamJacob.com