MCARTHUR RIVER WASH SYSTEM

TENDER

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Date	Revision	Revision Comment	Prepared	Reviewed	Approved
11/12/13	0	Issued for Tender	AKe	CHe	CHe

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1 INTRODUCTION

1.1 OVERVIEW OF COMPANY

Primero Group is a multi-disciplinary design consultancy and construction services company specialising in the resources and infrastructure industries. Our team are very experienced in the delivery of projects from the full complement of civil, structural, mechanical and electrical backgrounds.

Our ability and flexibility allows our group to cater for all client needs on an individual basis. Our commitment to quality safety and performance are all part of the company's core values and where we strive to achieve excellence on an even basis.

Primero Group are a growing company of professionals specialising in the design and construction fields, with a common goal of 'driving projects forward' for clients. Clients can be assured they are getting the 'A team' for their implementation requirements, and can be re-assured that the team they are dealing with have direct ownership of the company across all platforms within the group.

Primero Group recently achieved 3rd place out of approximately 400 companies Australia wide in the 'start-up smart awards 2013'. The awards were adjudicated over a number of categories based upon growth, innovation, revenue, financial capability and overall business structure. Further information is available on request.

1.2 CAPABILITIES

Our project delivery capability varies across a number of disciplines within the resources industry, ranging from hydrocarbons storage and gas compression facilities all the way through minerals processing and infrastructure development. This broad range of capability is due mainly to the exposure and experience possessed by our group of directors, which all play a 'hands on' approach to the company's project delivery strategy. At present our capability would extend to projects up to the value of $40M within a calendar year time frame, as a single major project.

1.3 PAST PROJECTS

Our engineering and design team for the works have all had significant experience in the areas of facility civil, structural, mechanical, piping and electrical engineering and design. The team including the directors of the company have been directly responsible for the delivery of projects up to the value of $120M across the resources and energy sectors, as listed in the team profiles.

Primero Group have been in operation for 2 years, and with the rapid expansion and complex projects delivered successfully to date, we are more than comfortable with our teams ability to deliver on demand. Our previous project briefs are included in **Error! Reference source not found.**.

1.4 KEY STAFF

As a brief outline the key staff Primero is proposing for the works are as follows.

Cameron Henry – Managing Director

Cameron heads up the company from an operational background, rather than financial, with his efforts focusing on the company delivering projects and services to a client base that is satisfied with the solution to their engineering issues. Cameron's background is of an engineering/project management nature across energy, resources and infrastructure sectors within Australia. He has held senior project and contract management roles on various projects up to the value of $120M, bringing to the company significant experience from both the technical and commercial aspects of projects.

Dean Ercegovic – Operations Manager/Director

Dean is the operations manager of the company working in a 'hands on' position ensuring that our project delivery strategy and implementation is upheld through our individual project managers. His extensive experience in Project Management and delivery execution in projects across the energy and minerals sectors range in values from $2M - $85M. Dean has an extensive knowledge of the requirements of such projects and the commitment required to deliver such projects to the end user.

Nathan Marr – Project and Commissioning Manager

Nathan is a degree qualified Metallurgist with significant experience of Fortescue operations and projects. His extensive knowledge, practical background and previous involvement in a number of iron ore beneficiation plants make him a valuable asset to the group. From up front feed design and process engineering through the project execution phase, and through commissioning Nathan is a highly sought after commodity and is well entrenched within the Primero Group.

Ben Davies – Mechanical Engineer/Director

Ben has been working in Australia now for 10 years, originally from the Canadian oil sands background and has mastered Australian industry engineering standards and principles to make him a 'desired' commodity within engineering circles in Perth. His attention to detail and ability to ensure jobs are followed through to their completion from conception through the commissioning and handover phase, are mirrored well within our engineering office and fit well with our overall company profile.

Ashley Kennington – Project Manager

Ashley is an experienced engineering project manager with a background of projects of up to $200M of value under his control. His most recent experiences as an Area Manager for RTIO on large scale infrastructure projects make Ashley a perfect fit for this project. His knowledge and engineering background give him additional aptitude to ensure the technical outcomes of the project are met and well managed, including financial control.

Nathan Matthews – Lead Electrical and Instrumentation Engineer

Nathan has been a great addition to the Primero team. His experience and practical background coupled extensive design and commissioning experience makes Nathan a very valuable part of the team, and an asset to any project. His specific knowledge of Power and Control Systems allows him to lead the Primero electrical team.

Mick Walker – Construction Project Manager

Mick has been a construction project manager with Primero Group for approximately 15 months to date. His background and experience in multi-disciplined projects, including Power Stations, Gas processing facilities, minerals processing plants qualifies him as a solid fit for the proposed works. His attention to safety and quality is second to none, and pays particular attention to project controls to ensure the project management of the works forefront is his delivery. Mick's team oriented attitude makes him an asset to any project and client that we work with.

John Gianoncelli – Construction Manager

John is a new addition to the Primero team and comes handpicked as a construction manager with trade background. His trade skills gained at Hoffman's Engineering and significant experience with large balance machines and rotating equipment give him significant skills that are hard to replicate within the industry today. His further learning's with scheduling and planning have developed his skills and enhanced his construction management capability. John forms another integral part of the team.

1.5 HSE MANAGEMENT PLAN AND SAFETY CULTURE

Primero Group has developed a strong safety culture in our 2 years of operation. Our company wide statistics demonstrate an exemplary safety record to date, which has been driven through our company by a strong management structure and operational presence of our directors.

Our safety motto – ***'PRIMED FOR SAFETY'*** is an ever developing culture statement that has become a major part of our operational activities from off-site office based work crews, through our fabrication and logistics areas and ultimately to our most prevalent 'workface' being our construction and commissioning crews.

OSH accreditation in accordance with AS 4801 was granted on 4 September 2013. The third party certification was completed with Bureau Veritas. Primero Group places a very high priority on maintaining a safe workplace for all employees, contractors and the wider community within our project scopes.

PRIMED FOR SAFETY

AS/NZS 4801
BUREAU VERITAS
Certification
No. AUS13000190

1.6 HSE RECORD

Primero Group have been trading now for nearly 2 years and have an exemplary HSE record with a significant number of hours already undertaken on various projects. The combined figures and statistics are contained in the table below. These hours represent PGR's commitment to safety and also represent a significant number of consultant engineering hours that have been done on site across our projects.

1. MANHOURS	
Primero	**144,246**
HSE STATISTICS	
2. RECORDABLE INJURIES	**Company**
Lost Time Injuries (LTI)	0
Restricted Work Injuries (RWI)	0
Medical Treatment Injuries (MTI)	2
Total Recordable Injuries	2
6. HSE ACTIVITIES & KPI'S	
Toolbox Meetings (1 per week)	78
HSE Committee Meetings	30
Hazard Observations (*HAZOB*)	1080
Safe Act Observations (*SAO*)	289
Workplace Inspections	169
Job Start Cards *(JSC) & Take 5's*	3,067
Emergency Response Drills	19
7. HSE TRAINING	
HSE Training (*hours expended*)	257
Verification of Competency (VOC's) completed	71

1.7 QUALITY SYSTEMS AND MANAGEMENT

Primero Group is currently going through the ISO 9001 certification process with Bureau Veritas as its nominated certifier of choice. An internal project for certification commenced in June 2013, with the aim of final audit compliance and certification being granted by December 2013. Primero Group currently work as a very structured organisation with business process maps fully complete, and supporting procedure documents fully developed for around 80% of companywide processes. Operating as a design company for such large scale projects, our engineering department drives consistency with documented procedures ensuring conformity, traceability and compliance across all Project and Activities.

Inset – Windimurra Vanadium – Materials handling circuit designed and constructed by Primero

1.8 COMPANY RESOURCES

As an indication of current, Company direct resources, Primero Group provides the following breakdown of at-hand engineering, support and construction crews. These are our current permanent staffing levels being maintained across three projects. Site trades and labour resourcing fluctuates relative to work-at-hand, while engineering and management levels remain constant, unless demand dictates an increase in resources.

Description	Permanent Staff
Directors	5
Project Managers	3
Admin/Payroll/HR	5
Doc Control	1
Engineering – Design and Project	
Engineers	7
Designers	10
Site Management	
Construction Management	3
Supervision	5
Trades and Labour	
Civil/Structural	18
Mechanical/Piping	40
Electrical/Instrumentation	14
Commissioning	
Commissioning Engineers	3
Commissioning Trades	6

Table 1 Company Resources

1.9 REFERENCES

Primero Group has included a number of references that have worked specifically with the Company Directors on Projects similar to this in scope, scale and complexity. Primero Group confidently invites the Engineer to contact the below references for further information:

1. **Greg McRostie** – General Manager Forge Group Ltd (outgoing) – Minerals and Resources Division

   Mobile Number: 0409 887 229

2. **Graham Arvidson** – Engineering Manager Atlantic Ltd

   Mobile Number: 0406 509 326, Site Direct: 08 6161 7281

3. **Ian Mcguire** – Manager Operations – Global Advanced Metals

   Mobile Number: 0418 633 339

4. **Matt Biddle** – Project Manager - Empire Oil and Gas

   Mobile Number: 0430 368 203

Inset – MidWest Vanadium – Materials handling circuit designed, installed & commissioned by Primero Group

2 PROJECT SCOPE

Project scope is as follows:

Works Included

- Installation of all free issued equipment
- Supply, fabrication & installation of all piping & electrical works including
    - Piping – clarified as galvanised pressfit piping & fittings
    - Cable & cable tray to all points required
    - Inlet power feed – assumed 50M only
    - MCC Kiosk
    - PLC & Marshalling panel
    - HMI interface & programming
    - LCS – stop/start panels
    - Temp & pressure sensor/indication;
- Commissioning of system – 4 days allowed only

Works Excluded

- Supply of free issued materials and equipment;
- Site Offices, Crib Room, Ablutions for Primero Group's site based workforce;
- Supply of fuel for construction; and
- Flights to and from site, accommodation and messing for Primero Group's workforce.
- Civil/concrete works
- Craneage – including offloading of all materials

3 KEY DATES

No dates have been indicated however Primero Group clarifies the following timeframes for completion:

- Procurement/Fabrication of piping & electrical components – 10 weeks from award
- Construction – site works 4 weeks from mobilisation
- Total project timeframe/program – 14-16 weeks.

4 PRICING

Primero Group's lump sum price in Table 3.

Item	Description	Amount (A$)
1	Design Component	$ 85,440.00
2	Mobilisation/Demobilisation	$ 104,362.50
3	Indirects - Equipment & Management	$ 164,064.75
4	Materials	$ 270,450.83
5	Labour	$ 97,936.08
6	Commissioning	$ 19,440.00
Total		**$ 741,694.16**

Table 2 Pricing Summary

5 TENDER SUBMISSION SCHEDULES

5.1 TECHNICAL CLARIFICATIONS AND EXCLUSIONS

Item	Exceptions / Clarifications / Deviations
1	All government / shire / statutory licences, permits, approvals to access site have not been allowed for by the sub-contractor.
2	Flights, accommodation and messing have been excluded. Potable water is to be free issued.
3	Fuel is free issued.
4	Road access to each site is to be provided by others and will be trafficable by road train to allow access for sub-contractor.
5	No allowance has been made for delays to the construction programme due to interface with others.
6	No allowance has been made for removal of rubbish from site.
7	An allowance for internal VOCs for all works required on site. No third party assessment has been allowed for.
8	Sub-Contractor defines that practical completion will be achieved on issuance of Area Completion Certificates for each area. Area Completion Notices will be issued on completion of all construction verification completion documents for that package of work.
9	Provision for dust control and water truck is excluded.
10	Trenching for earthing and conduits has been excluded.
11	
12	
13	

5.2 COMMERCIAL CLARIFICATIONS AND EXCLUSIONS

Item	Exceptions / Clarifications / Deviations
1	Notwithstanding any other provisions of the contract, Primero's maximum liability is capped at 5% of the contract value;
2	Sub-Contractor has made no allowance and excludes any deductible costs for claims arising from Company supplied Insurance;
3	No allowance has been made for night shift works – schedule of rates will attract 25% loading;
4	Sub-Contractor qualifies the following as possible qualifying causes of delay:
5	· Company caused delays due to excessive review delays, and directions about documents that are critical to the progression of the contract; · Inclement weather occurring before the scheduled date for Practical Completion; · Variations; · Latent conditions; · Access to areas with interfacing workfronts; · Late delivery of Company supplied drawings and documents; · Late delivery of Company supplied services – potable water, power, air and any other tie-in points; Sub-Contractor qualifies that its price is based on clear un-interrupted access at all times on site; Liquidated Damages has not been allowed for.
6	Securities have not been allowed for;
7	Sub-Contractor has based its labour rates on the Primero Group Enterprise Agreement.
8	Provision of site offices and crib facilities is excluded.

5.3 DAYWORKS

Variations to the Scope of Work for which there is no applicable rate in the Schedules or a lump sum price has not been agreed prior to the commencement of work on the Variations may at the option of the Company be regarded as Daywork and shall be paid for at the rates nominated in the Daywork Schedule.

All labour, plant and equipment, and materials to be used on Daywork shall be approved in writing by the Head Contractor prior to commencement of the item of work. Changes in resources employed on any items of Daywork, may be made only with the written permission of the Company.

All Daywork must be recorded daily on time sheets and approved by the Company to qualify for payment.

5.3.1 Labour Rates

Wages for plant operator/driver shall be reimbursed as labour and shall not be included in the rate for plant.

5.3.2 Plant & Equipment

Unless otherwise agreed, payment for plant and equipment, related costs and profit will be in accordance with the rates for plant set out in the Daywork Schedule below. The rates shall apply only to time actually worked on Daywork and authorised in writing by the Head Contractor.

The plant listed in the Schedule is that which the Contractor uses in the course of and for the purpose of performing the Contract Works and which may be made available for Daywork from time to time. In the

event that additional equipment is required for the purpose of Daywork, this may be administered as a third party service or mobilisation and demobilisation costs may be negotiated at the time.

The rates do not include the cost of attendants or driver/operator's wages. The rates do include water, oil and consumables stores, maintenance, overheads, profit and all other things of whatever nature required for the efficient and safe working of the plant, including but not limited to spare parts, service, repair and insurance.

5.3.3 Standby Rates

Standby (excluding suspension as directed in accordance with the contract) may be authorised by the Company if:

1. Access to the Works is not possible (through no fault of the Contractor);
2. The personnel and plant involved cannot be redirected to other duties after all possibilities have been explored; and
3. The personnel and plant involved are required for subsequent work under the Contract.

5.3.4 Materials

Unless otherwise agreed, materials required for Daywork shall be paid for on the basis of the quantities actually used in the performance of the work and authorised by the Company.

The Company will pay for the delivered cost of material based on evidence of purchase price, transport and other charges applicable to the materials plus the percentage addition stated in the Daywork Schedule below to cover the Contractor's profit, overheads, and all other things necessary to perform the works.

5.3.5 Costs Generally

All costs and expenses of the Contractor to perform works covered by this Schedule which are not expressly stated in this Schedule to be reimbursable to the Contractor shall not be reimbursable costs and shall be deemed to be included within the rates and mark-ups set out in this Schedule.

LABOUR RATES

Classification	All Hours ($/hr)
Director / Manager of Projects	220.00
Project Manager	180.00
Construction Manager	180.00
Project Engineer	180.00
Discipline Engineers	180.00
Graduate Engineers	100.00
Drawing Office Manager	180.00
Designer	160.00
Tracer	100.00
Supervisor	134.00
Safety Officer	130.00
Project Planner	125.00
Project Admin	90.00
Welder (Coded)	109.27
Electrician	108.00
Electrician – (Dual Trade instro)	109.00
Boilermaker / Carpenter	108.16
Mechanical Fitter/Pipe fitter	108.16
Rigger / Grano Worker / Steel Fixer	108.96
Scaffolder	108.96
Trades Assistant	98.51
Franna/Crane Driver/Operator < 100t	108.96
Crane Driver/Operator 100 – 250t	110.32
Crane Driver/Operator 250 – 450t	126.08
Surveyor	210.00

PLANT AND EQUIPMENT RATES

Item	Working Rate Excluding Operator ($/hr)	Standby Rate Excluding Operator ($/hr)
Articulated Boom Lift (diesel) 60ft - boom lift, EWP, Scissor lift	65.00	55.00
Compressor (diesel) 180 cfm	45.00	35.00
Fuel Trailer 1250 Ltr	17.50	15.00
Generator (diesel) 100 kVa	45.00	35.00
Generator (diesel) 25 kVa	35.00	25.00
Light truck 4t	45.00	35.00
Light Vehicle / Utility 4WD/2WD	25.00	15.00
Low loader - Float 50t Semi	285.00	220.00
Mobile Crane 20t - Franna	110.00	85.00
Slewing Crane 250t	650.00	540.00
Slewing Crane 150t	420.00	383.00
Telehandler 4t - Forklift	80.00	65.00
Trailer	40.00	30.00
Bobcat	95.00	85.00
Excavator C/with Rockbreaker 8t	145.00	125.00
Water Cart	125.00	115.00
Pipe Threader	250.00	day
Excavator or Similar 20t	195.00	170.00
Compactor	30.00	30.00
Ancillary Equipment		
Scaffold materials (Rate per Tonne per Week) Varies	70.00	50.00
Scaffold materials - Aluminium	100.00	day
Painting Spread (excludes consumables) Varies	95.00	80.00
Abrasive Blasting spread Varies	130.00	90.00

MATERIALS

	Mark-up (%age)
Percentage mark-up over and above the actual material cost delivered to site to include overhead and profit.	15%

5.4 INSURANCE STATEMENT

The Sub-contractor submits that the following information applies to its insurance cover currently in force:

i) Public/Products Liability Insurance

Insurer:	Liberty International
Policy No:	11070198
Expiry:	31/07/2014
Limit of Liability	$20,000,000

ii) Workers' Compensation Insurance

Insurer:	QBE Insurance (Aust) Ltd
Policy No:	PE1921987GWC
Expiry:	31/07/2014
Limit of Liability	$ 50,000,000
Does this include:	

- Principal's Indemnity: Y/N

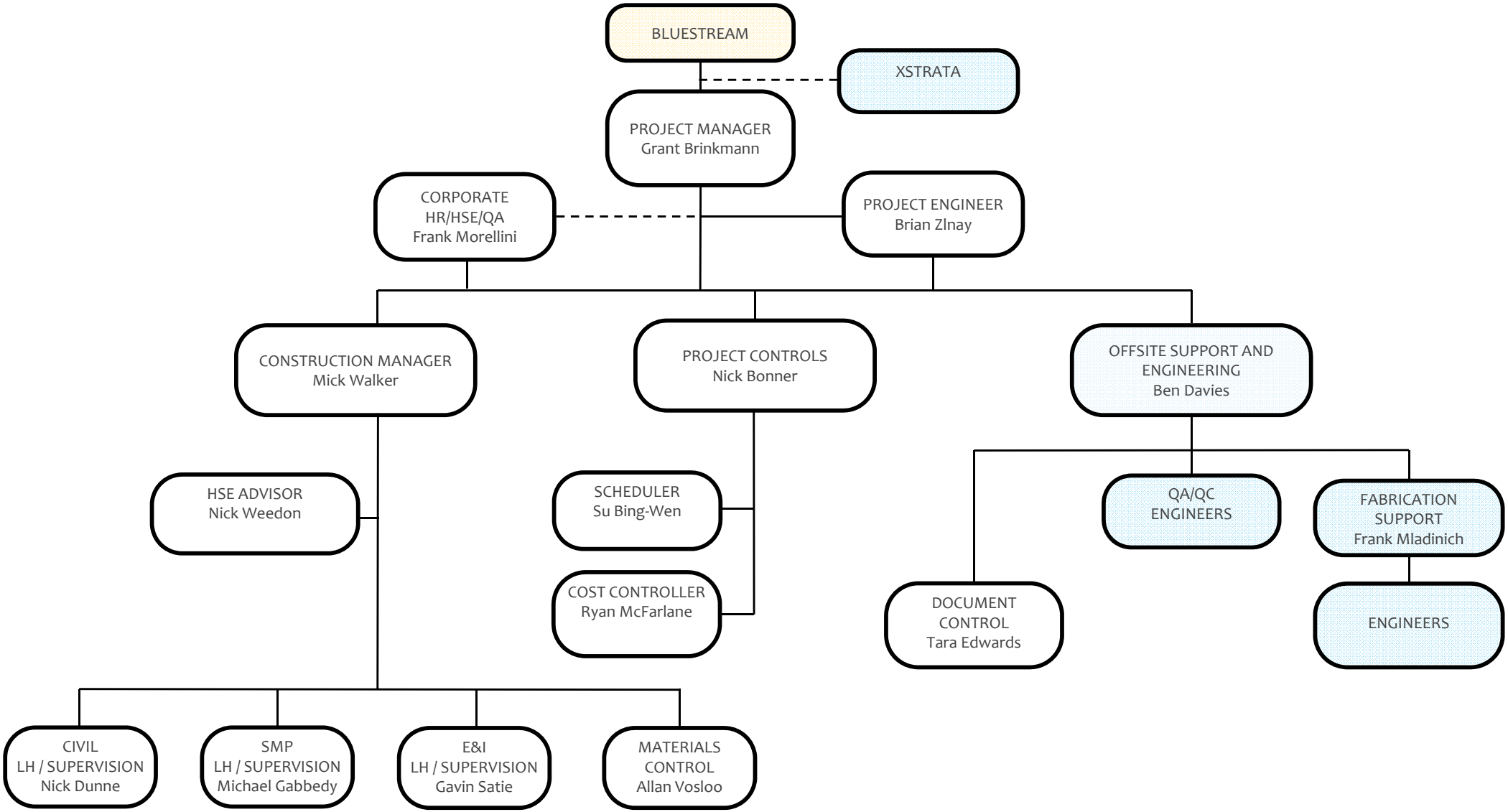
iii) Industrial Special Plant (Third Party Liability)

Insurer:	QBE Insurance (Aust) Ltd
Policy No:	11070198
Expiry:	31/07/2014
Limit of Liability	$20,000,000

iii) Professional Indemnity Insurance

Insurer:	Liberty International
Policy No:	PLPESPC13505073
Expiry:	31/07/2014
Limit of Liability	$5, 000,000

APPENDIX A PROJECT ORGANISATIONAL CHART


BLUESTREAM
XSTRATA
PROJECT MANAGER
Grant Brinkmann
CORPORATE
HR/HSE/QA
Frank Morellini
PROJECT ENGINEER
Brian Zlnay
CONSTRUCTION MANAGER
Mick Walker
PROJECT CONTROLS
Nick Bonner
OFFSITE SUPPORT AND
ENGINEERING
Ben Davies
HSE ADVISOR
Nick Weedon
SCHEDULER
Su Bing-Wen
COST CONTROLLER
Ryan McFarlane
QA/QC
ENGINEERS
FABRICATION
SUPPORT
Frank Mladinich
DOCUMENT
CONTROL
Tara Edwards
ENGINEERS
CIVIL
LH / SUPERVISION
Nick Dunne
SMP
LH / SUPERVISION
Michael Gabbedy
E&I
LH / SUPERVISION
Gavin Satie
MATERIALS
CONTROL
Allan Vosloo

APPENDIX B PREVIOUS PROJECT PROFILES

PRIMERO GROUP

RED GULLY GAS & CONDENSATE PROCESSING FACILITY

Red Gully Gas and Condensate Processing Facility is located near Gingin Western Australia.

The processing facility consists of the development of two on-shore wells, Gingin West-1 and Red Gully-1, which feed gas and condensate through a processing facility that produces 8 terajoules/day of natural gas and 400bbl/day of condensate.

With a strong background in hydrocarbon facilities and pipelines, and zero recorded injuries, Primero Group was engaged to construct civil works; detail, fabricate, deliver and install over 2,500m of piping; install gas processing equipment; and install electrical equipment and 25km of electrical reticulation, compliant to required hazardous area classification.

Primero Group proudly delivered the works within budget, schedule, and over 50,000 man-hours injury free.

To support its client further, Primero Group developed the commissioning plan and completions procedures required for start-up and handover of the plant.

PROJECT DETAILS

End Client
Empire Oil & Gas NL

Location
Gingin, Australia

Commodity
Natural Gas

Project Value
$29m+

Time-frame
Nov 12 - May 13

Solution Provided
Procurement, Fabrication & Construction

RELATED SERVICES

MANAGEMENT:
+ Project management & controls
+ Construction & OHS management
+ Commissioning management

CONSTRUCTION:
+ Shop detailing, fabrication and delivery
+ Civil construction
+ SMP and E&I installation
+ QAQC: Structural NDT, piping hydrotesting, E&I inspections and verification
+ Commissioning

DRIVING PROJECTS FORWARD

PRIMERO GROUP

WINDIMURRA VANADIUM BENEFICIATION PLANT UPGRADE

Windimurra Vanadium is located near Mount Magnet in Western Australia. The vanadium processing plant is operated by Midwest Vanadium (MVPL) which is 100% owned by Atlantic Limited. The plant consists of a crushing, high pressure grinding, beneficiation, roasting and refinery stages.

The front end of the plant was suffering from a large amount of fines in the circuit. MVPL planned to add additional screening capacity to the existing crushing circuit, Primero took the concept and turned it into an operating screening plant. The turnkey project involved the design, construction and commissioning of multiple pieces of machinery including magnetic separators, conveyors, double deck screens, vibrating feeders and pumps.

Primero completed civil, structural, mechanical, piping and electrical design works as well as procurement, fabrication and site installation.

The project works commenced in February 2012 with successful commissioning of the works completed in July 2012.

PROJECT DETAILS

End Client
Atlantic Resources

Location
Mt Magnet, Australia

Commodity
Vanadium

Project Value
$15m

Time-frame
Feb 12 - Jul 12

Solution Provided
Turnkey Upgrade

RELATED SERVICES

+ Engineering, management and construction
+ Tie-ins and upgrades to existing infrastructure
+ Fabrication management and delivery
+ Project procurement and controls
+ Construction management and supervision
+ Commissioning

DRIVING PROJECTS FORWARD

PRIMERO GROUP

RIO TINTO FUEL INFRASTRUCTURE WEST ANGELAS & BROCKMAN FUEL HUBS

The West Angelas and Brockman fuel hubs are located in the Pilbara region of Western Australia and are two important nodes in Rio Tinto iron ore's fuel storage and distribution infrastructure.

With a strong background in hydrocarbon facilities and safety in design, Primero Group was engaged to undertake the process and detailed design of the fuel infrastructure for both sites.

The solution consisted of rail tank car unloading, three 25m diameter diesel storage tanks, road tanker loading and all associated pipework, structures and amenities.

Primero Group delivered the detailed design of civil, structural, mechanical and piping elements to meet the process design criteria, and exceed client and statutory compliance requirements.

PROJECT DETAILS

End Client
Rio Tinto

Location
Pilbara, Australia

Commodity
Diesel

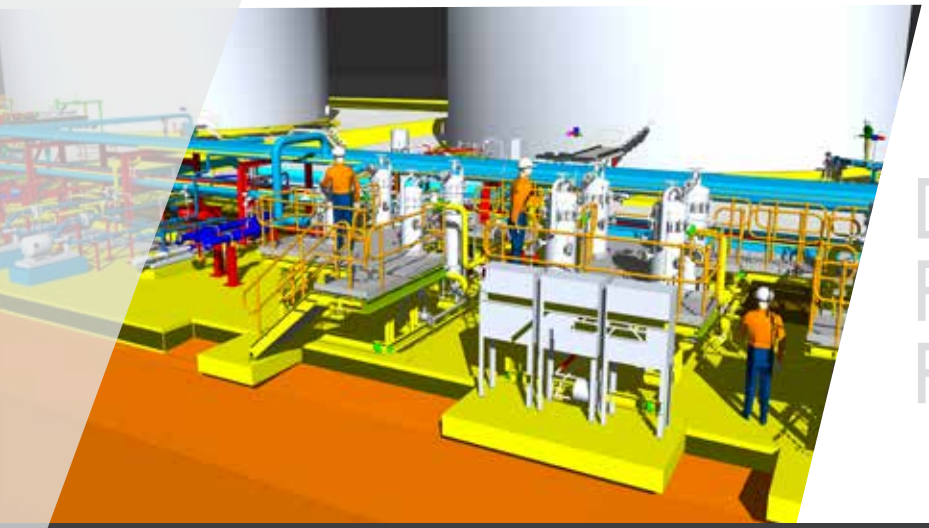
Project Value
$70m+

Time-frame
Nov 12 - Apr 13

Solution Provided
Fuel Infrastructure
Process and Detailed Design

RELATED SERVICES

+ Process design
+ Full plant detailed design
+ Pipe stress and surge analysis
+ Finite element analysis
+ Safety in design
+ Hazop studies
+ Project management



DRIVING PROJECTS FORWARD

PRIMERO GROUP

CARNARVON WASTE HEAT RECOVERY POWER PLANT

Enerji's pilot Waste Heat Recovery Power Plant (WHRPP) is located in Carnarvon, Western Australia. The facility recovers waste heat off three gas turbine generators located at Horizon Power's Carnarvon Powerstation.

The WHPP consists of an organic rankine cycle generator and support systems. Primero Group was engaged by Enerji to complete the commissioning of the facility through to handover.

In addition to design improvements and management from Perth, a specialist team was mobilised to site to approach commissioning systematically and manage numerous stakeholders involved with the project (Enerji, Horizon Power, construction contractors etc).

Primero Group was responsible for bringing the WHRPP on-line and synchronising it with the grid (supplying power). Primero is on target to successfully synchronise the WHRPP to the grid within the agreed schedule set by Enerji. Ongoing support will continue to ramp the facility to full production capacity.

PROJECT HIGHLIGHTS INCLUDE:

+ Successful synchronisation of the WHRPP.
+ Full stakeholder involvement during the commissioning works.
+ On-going ramp-up support including modification works to piping and E&I systems.

PROJECT DETAILS

End Client
Enerji Limited

Location
Carnarvan, Australia

Commodity
Power

Project Value
$6m+

Time-frame
Jun 13 - TBA

Solution Provided
Commissioning Services

RELATED SERVICES

+ Construction verification
+ Pre-commissioning
+ Load commissioning
+ Commissioning modification works (Piping, E&I)
+ Fabrication, hydrotesting and radiography weld testing
+ Project management

DRIVING PROJECTS FORWARD

PRIMERO GROUP

RIO TINTO MARANDOO DE-WATERING CONTROL SKIDS

The Marandoo iron ore mine is located east of Tom Price, Western Australia. The site required de-watering as mining was planned for below the water table from the last quarter of 2012.

Forging an alliance with a well-established industry leader in electrical switchboards and associated equipment, Kounis Industries, Primero Group was awarded the sub-contract for the detailing, fabrication, assembly, pre-commissioning and delivery to the Marandoo site of 27 off de-watering head work control skids.

PROJECT HIGHLIGHTS INCLUDE:

+ Completion of all fabrication, assembly and pre-commissioning works at Primero Group's Bibra Lake Workshop without a recordable injury or incident.
+ Complete off-site testing of all skids so as client site work requirements could be minimized.
+ Safe and efficient road delivery off all skids in a sequenced delivery as per schedule and site requirements.

PROJECT DETAILS

End Client
Rio TInto

Location
Pilbara, Australia

Commodity
De-watering

Project Value
$15m

Time-frame
Jul 11 - Apr 12

Solution Provided
Turnkey Fabrication Delivery

RELATED SERVICES

+ Project management
+ Fabrication management and delivery
+ Project Procurement and controls
+ Performance testing
+ Inspections and verifications
+ Contract management

DRIVING PROJECTS FORWARD

PRIMERO GROUP

WINDIMURRA VANADIUM BENEFICIATION PROCESS IMPROVEMENTS

After Primero's successful completion of the Dry Screening Plant at Windimurra Vanadium in 2012, a new, evolving project scope was triggered in March 2013 to push the front end beneficiation plant into sustainable production.

Primero were engaged to spearhead the attack on these developing projects and formulate solutions with an intensive fast track, low cost approach. Immediate solutions were implemented within weeks to allow major process changes to take effect and prove the concept for the permanent solution expenditure. Notable highlights being the installation of a mobile stacker conveyor and chutes to remove the HPGR product from the Beneficiation plant feed repulper and redirected to the dry screening plant. Following this, a 29m conveyor and chutes were designed and installed in place of the stacker within six weeks.

Another major installation was the design and install of a 20m conveyor within the beneficiation plant to take all oversize material from two wet screens direct to the ball mill and removing the wet recirculating material from the dry crushing circuit completely. This was designed and installed within four weeks.

Since March 2013, Primero have undertaken civil, structural, mechanical, piping and electrical design works as well as procurement, fabrication and site installation for over 80 projects, site wide and continue to meet budgets and schedules. A permanent team has been based on site since April 2013 and Primero have supplied large shutdown teams to deliver installations on schedule.

PROJECT DETAILS

End Client
Atlantic Resources

Location
Mt Magnet, Australia

Commodity
Vanadium

Project Value
$15m+

Time-frame
Mar 13 - Ongoing

Solution Provided
Turnkey Upgrade

RELATED SERVICES

+ Engineering, management and construction
+ Tie-ins and upgrades to existing infrastructure
+ Fabrication management and delivery
+ Project procurement and controls
+ Construction management and supervision
+ Commissioning

DRIVING PROJECTS FORWARD

PRIMERO GROUP

WODGINA PROCESS OPTIMISATION STUDY

Wodgina is a tantalum mine located near Port Hedland in Western Australia. The mine is owned and operated by Global Advanced Metals. The processing plant consists of crushing, milling and various mineral sand separation stages.

Primero Group was engaged to assist Global Advanced Metals in developing the capital cost requirement for various upgrade works to areas of the processing plant. Primero completed preliminary engineering and design to produce a feasibility level cost estimate.

Primero's involvement included site visits to verify brownfield interfaces, design layout drawings as well as structural design works. This allowed the design to be optimised, providing the basis for more accurate quantities and development of the capital cost estimate.

PROJECT DETAILS

End Client
Global Advanced Metals

Location
Port Hedland, Australia

Commodity
Tantalum

Time-frame
Nov 12 - Oct 12

Solution Provided
Optimisation Study

RELATED SERVICES

+ Project management
+ Feasibility studies
+ Dynamic and non-linear FEA analysis
+ Value engineering
+ Refurbishment studies

DRIVING PROJECTS FORWARD

GREENBUSHES PLANT RECOMMENCEMENT STUDY

Greenbushes is located in the south-west of Western Australia, approximately 250km from Perth and contains one of the world's largest hard rock tantalum resources.

The operation comprises open cut and underground mines, crusher, a primary processing plant, as well as the secondary processing plant that can treat the primary tantalum concentrate from both Wodgina and Greenbushes. The operation currently has the capacity to produce about 1.0 million pounds of tantalum pentoxide per annum.

Primero Group was engaged by Global Advanced Metals Greenbushes to review the Tantalum Primary processing facility to define the required capital expenditure to re-start within a 12 month period.

In addition for the re-commencement of operations, environmental aspects of the plant required review and change to enable re-start.

Primero Group completed a systematic review of the plant to develop the restart CAPEX. In addition Primero also finished a new drainage design to meet the site environmental requirements.

PROJECT DETAILS

End Client
Global Advanced Metals

Location
Greenbushes, Australia

Commodity
Tantalum

Project Value
$200k+

Time-frame
Jan 13 - Apr 13

Solution Provided
Feasibility and CAPEX

RELATED SERVICES

+ Process incentives and review
+ Structural integrity review
+ Mechanical, platework and equipment review
+ Electrical review
+ Drainage design
+ CAPEX estimate

DRIVING PROJECTS FORWARD

PRIMERO GROUP

MONDARRA GAS STORAGE FACILITY SKID DESIGN

Mondarra Gas Storage Facility is located in the Perth Basin near Dongara, which interconnects with both the Parmelia Gas Pipeline and Dampier to Bunbury Natural Gas Pipeline (DBNGP).

The project scope was the design of a new gas storage facility that could store up to 15 petajoules capacity. This included increased injection and withdrawal infrastructure within the facility.

The development of the facility was a major strategic development in the shoring up of gas supply and minimizing any future supply disruptions.

With a proven history of delivering design projects, Primero Group was engaged to provide the detailed structural engineering and design of the Mondarra storage facility as a sub-contract to the consultant, Momentum Engineering.

HIGHLIGHTS OF THE DESIGN INCLUDE:

+ Detailed design & FEA analysis of all civil, structural & equipment layout foundations throughout the facility.
+ Detailed design of pipe rack structures.
+ Detailed design of fuel gas skids.
+ Completed within the project schedule timeframes and delivered an economical design to the standards required.

PROJECT DETAILS

End Client
APA Group

Location
Dongara, Australia

Commodity
Natural Gas

Project Value
$150m+

Time-frame
Nov 11 - Jan 12

Solution Provided
Detailed Engineering

RELATED SERVICES

+ Plant design
+ Finite element analysis
+ 3D engineering and design

DRIVING PROJECTS FORWARD

PRIMERO GROUP

AGC GORGON UPSTREAM JOINT VENTURE INLET ABOVE GROUND PIPING

The Gorgon Upstream project ties the subsea components at two discrete fields (Gorgon and Jansz) to the onshore LNG plant via a system of pipelines and control umbilicals. The inlet lines consisted of 34 inch pipework along with various isolation joints, tees and valves.

Primero was commissioned by AGC to provide engineering and design support for their portion of the works, the inlet above ground piping. The on-site works were minimised by opting to complete pre-spooling and fabrication at the Australian Marine Complex (AMC). Primero designed integrated transport frames, a streamlined and economical approach to transport the 30 tonne sections from the AMC to Barrow Island.

The design consisted of 8 separated spools of different size and weight mounted to standard or super-racks. The super-rack option was preferred over conventional sea fastening as it limited interfaces with the dumb barge and provided transport flexibility.

The solution was completed within project constraints with all frames successfully delivered to site.

PROJECT DETAILS

End Client
Chevron

Location
Barrow Island, Australia

Commodity
LNG

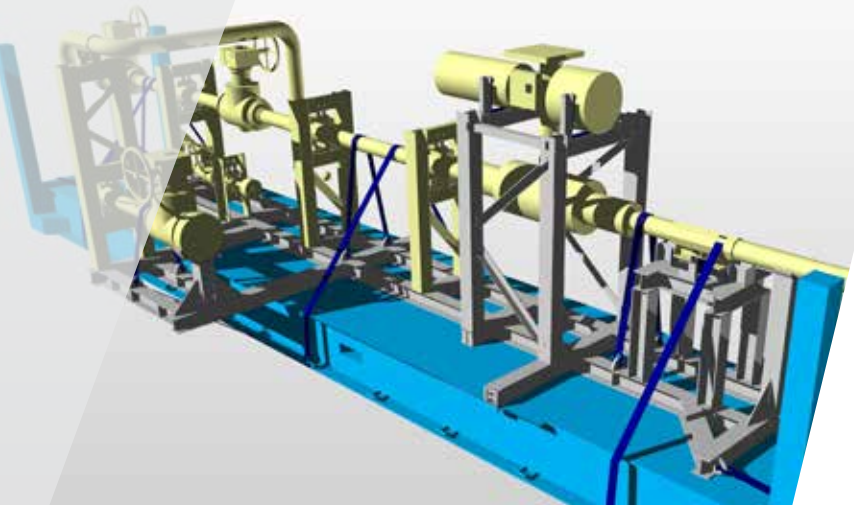
Project Value
$8m+

Time-frame
Jun 13 - Aug 13

Solution Provided
Detailed Engineering

RELATED SERVICES

+ Finite element analysis
+ 3D engineering and design
+ Transportation analysis
+ Sea fastening
+ Detail drafting



DRIVING PROJECTS FORWARD