### **CAPABILITIES BROCHURE**





### BHL INTERNATIONAL, INC.

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MEMBERSHIPS/ CERTIFICATIONS

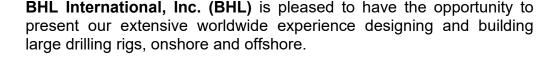


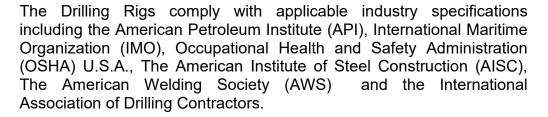
### ONSHORE AND OFFSHORE DRILLING RIGE EXPERIENCE OF BHL INTERNATIONAL, INC.

### **TECHNICAL PRESENTATION**



INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS

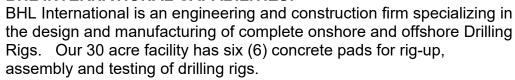






The Mast, Drill Floor, and Substructure are designed to the latest API-4F,4<sup>th</sup> Edition which has increased requirements for stability, overturning and higher wind loading than rigs built before 2013 do not have.

### **BHL INTERNATIONAL CAPABILITIES:**





WELDING SOCIETY

BHL was formed by merging the engineering and manufacturing assets of several companies including Structures & Systems Engineering, Inc., a premier design and construction rig company. Sample projects worked on are as follows:

Exxon Platform "Harmony"
Exxon owned rig
1300 Ft. water depth
Zone 4 earthquake criteria Offshore California, U.S.A.

Exxon Platform "Heritage"
Exxon owned rig
1100 Ft. water depth
Zone 4 earthquake Offshore California, U.S.A.

Chevron Platform "Hermosa" For Dual Drilling (now Ensco) Offshore California, U.S.A. Zone 4 earthquake criteria

Chevron Platform "Hidalgo" For Dual Drilling (now Ensco) Offshore California. U.S.A.

Marathon Oil Platform "Steelhead" Marathon owned rig Cook Inlet, Alaska, U.S.A. Zone 4 earthquake criteria

Etesco Brazil Platform Rig Working for Petrobras, Brazil

Shell Tension Leg Platform "Auger"
Gulf of Mexico, U.S.A.
TLP in 2000 Ft. water depth
Our involvement included all procedures for drilling, completion, workover including equipment in the Moonpool to Handle Transfer of Production Risers at 32 well locations.

Esso Production Australia For Pool Company (now Nabors) Rig 421

Esso Production Maylasia For Pool Company (now Nabors) Rig 405

the activities of McDermott.

Lanzagorta/Conjunto Manufacturero
Offshore Platform Rigs for Pemex
Our involvement included Engineering, Design, Consulting and Support Services
for the construction of the Rigs in Tampico, Mexico to supplement and oversee

Our key personnel are extensively experienced in onshore and offshore drilling rig design, construction and installation. Our President and Executive Vice President each have 40 years related experience, their career lifetimes have been dedicated to design and construction of offshore and onshore drilling rigs. Many of our other senior personnel have long experience records in the industry.

To our knowledge we are the only company who has performed a Joint Industry Study (JIS) about Offshore Platform Drilling Rigs. This JIS was sponsored by Exxon Mobile, Chevron Texaco, Atlantic Richfield (ARCO), AGIP and other companies.

Our knowledge of drilling rigs is equal to the best available in the industry. BHL is licensed, certified and registered under the American Petroleum Institute (API), International Associations of Drilling Contractors (IADC), Association of Energy Service Companies (AESC) and American Welding Society (AWS). BHL Personnel are members of the Society of Petroleum Engineers (SPE), the American Association of Drilling Engineers (AADE), American Society of Mechanical Engineers (ASME) and the American Society for Quality (ASQ). BHL's personnel are extensively experienced on drilling rig structures and equipment.



### **BHL INTERNATIONAL, INC**





BHL INTERNATIONAL is an engineering and construction firm specializing in the design, fabrication, servicing, rig-up and repair of land and offshore oilfield structures and equipment.

Our organization offers general engineering (structural, piping, mechanical, electrical, and naval architectural) services to the petroleum industry. We have an in-house permanent staff of highly qualified engineers, computer specialists and designers, organized as a unit to better serve our clients. Our personnel are thoroughly versed in modern technology.

Our fabrication facilities are equipped for heavy steel construction of derricks, masts, substructures, offshore modules, packaged drilling rigs, and skid mounted units. Our shop personnel are experienced in fabrication procedures and quality control.

Our field services group has inspected, repaired and modified oilfield structures & equipment worldwide, including the Middle East, South America, Africa, and Southeast Asia.

Our offshore maintenance group conducts and performs systematic inspection, maintenance, structural repair of offshore platforms and facilities.

We are well aware of the importance of maintenance to avoid structural defects and accidents. We understand and convey to our clients operating personnel, wide spread knowledge and practices necessary for a safe, reliable and cost effective preventive maintenance systems.

We are in a position to present a complete project on a turnkey basis that would include: design, engineering, fabrication, and all field work (including rig-up and erection) and are prepared to provide service at any point of the project regardless of location.

Our work record emphasizes the quality and proficiency of our operations as we pride ourselves in the repeat business received from existing clients.



### **BHL INTERNATIONAL, INC.**



BHL's main fabrication shop is on 30 acres of stabilized hard surface, with 6 concrete Rig-Up pads.

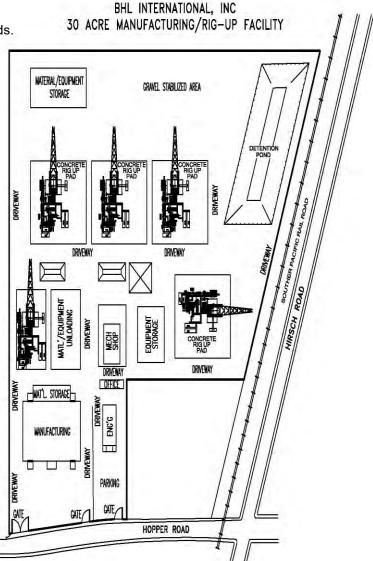
Our facility is suited for heavy steel construction including derricks, masts, substructures, offshore modules, packaged drilling rigs and skid mounted units.

We have 60,000 square ft. of manufacturing and office facilities, all under roof and fully enclosed eliminating delays due to weather.

Our company is capable of presenting a complete project that would include design, engineering, fabrication, and all field work (including rig-up and erection).

Our facility will accommodate the assembly of six (6) large drilling rigs simultaneously.







### BHL INTERNATIONAL, INC.



### **PROJECT CAPABILITIES**

- Offshore Platform Drilling Rigs
- Barge Drilling Rigs
- Land Rigs All Types
   Self Elevating, Split Level, Heli Rigs, Desert Rigs
- Well-Servicing Rigs
- Offshore Modular Rig Components
  - Jack-ups
  - Semis
  - Drillship
  - Mud House Modules
- Structural Fabrication & Assembly
- Process Piping
- Electrical Rig-Up
- Offshore Modular Quarters
- Onshore Modular Camps



### **SPECIAL PROJECTS**

Our personnel have fully or partially participated in the design and construction of the following "never been done before" and unique projects:

- The first 4000 HP Land Drilling Rig in the United States. This rig can drill to 50,000 ft. To our knowledge, there are only two (2) such rigs in the U.S. today.
- Land Drilling Rigs for ice-islands in 1000 ft. water depth with motion compensators (Canadian Beaufort Sea Applications).
- Completely Winterized Drilling Rig for Mobile Concrete Island Drilling Structure for the Alaskan Beaufort Sea. This is the only one in the U.S.
- First Tension Leg Platform in the Gulf of Mexico. Our involvement included:
  - Drilling, Completion, Well-Servicing Procedures
  - Well Bay Gantry to handle equipment up to 1,000,000 lbs.
  - Well Slot Gantry for 32 wells around moonpool.
  - BOP & Well Head Equipment Handling System.
  - First ever Elastomeric Cylinders for Riser Tensioners (instead of Hydraulic Cylinders)
- Quick Assembly Rig (QAR). The entire mast & substructure travels on 3 loads vs. 20 or more for Box-on Box Designs

### **NEW PRODUCT**

Multi-Well Drilling Stationary Rig (MDSR). Drill multiple wells <u>without moving substructure</u>. No rig skidding/walking beams required.

### CLIENT LIST BHL INTERNATIONAL, INC.

**Company** Company

Advance Petroleum Services, Inc.

Agip

Allison Drilling Co. Inc.

Aminoil USA, Inc.

**Atlantic Pacific Marine Corporation** 

Atlantic Richfield

Atwood Oceanics, Inc.

Baker Marine Engineers, Inc.

Baker World Trade, Inc.

**Baylor Company** 

BJ-Hughes, Inc.

Blue Crest Energy

**Bowen Oil Tools** 

**British Petroleum** 

Brown Services, Inc.

Capax Industries, Inc.

Chevron Oil Company

Caroil

Cardinal Drilling Ltd. Nigeria

Cho-Taw

C & L Drilling

Conjunto Manufacturero

Continental Emsco

Cox-Engineering, Inc.

Dan-Tex Drilling, Inc.

Davis Rig Equipment, Inc.

Delta Drilling, Co.

**Diamond Shamrock** 

Dixilyn-Field Co.

Dolphin International, Inc.

Dreco Inc.

**Dredge Technology Corporation** 

Dual Drilling Co.

Egyptian Drilling Co.

Eltex Drilling Co. Inc.

**Energy Drilling** 

Etesco

Eurasia Drilling Company

**Exxon Production Company** 

**Exxon Production Research** 

Forest Oil

Global Marine Drilling Company

Goldrus Drilling Company

Green Valley Oil Services (GVOS)

**Gulf Copper Energy Services** 

Helmerich & Payne

IDECO, Dresser Industries, Inc.

**IDM Components** 

Industrial Oilfield and Marine Components, Inc.

Integrated Drilling Equipment

**IPS Cardwell** 

IRI International

James G. Brown & Associates, Inc.

JC Building and Equipment

Keppel Fels

**Lantern Drilling** 

Latina

**Latshaw Drilling** 

Lanzagorta (For Pemex)

Lear Petroleum Corporation

Lebus International, Inc.

Mesa Drilling Inc.

Mayerick Oilfield

Marathon LeTourneau

Marathon Oil Company

Merit Drilling Company

Mobil Oil Company

Moran Drilling Company

Mountain Drilling Company

**Nabors** 

National Oilwell Varco (NOV)

**National Supply Company** 

Navix

Oleum Equipment & Supply Company

### CLIENT LIST BHL INTERNATIONAL, INC.

### Company

Company

Parker Drilling Company

Perbras

Petrologistica - Venezuela

Petrex

Perforadora de Mexico (Pemsa)

Pickett Oilfield

**Pool Company** 

**Pride International** 

**Precision Industries** 

**Producers Gas Corporation** 

Protexa S.A. de C.V.

P.T. Bormindo Nasuntara (Indonesia)

Queiroz Galvao Oleo E Gas

**RAM Oil Tools** 

Reading & Bates Drilling Company

Red Fox Industries, Inc.

Resource Drilling, Inc.

**Rotary Components International** 

Romfor

Rowan Drilling, Inc.

Salen Offshore Drilling Company

Saipem

Saxon Energy Services

Shelll Oil Company

Schahin Cury

Simmons-Edeco

Skytop Rig Company

Sohio

Sonpetrol

Standard Drilling

Sundown Drilling Company

Tecon Services Nigeria

Tenneco

Terra Texas

Thermasource

Top Drilling Company (Colombia)

True Drilling

**Unit Drilling Company** 

Varco International

Varisur

Weatherby Engineering

Weatherford

Well Services Petroleum Company

Welltech, Inc.

Western Oceanics. Inc.

Wilcrest Engineering Corporation

Wirth GMBH West Germany

Zapata Offshore Company

- \* Companies in Red are Oil & Gas Companies/Oil Producers.
- \* Companies in Green are Major Drilling Contractors
- \* Companies in Blue are Major Manufacturers

### **BHL CAPABILITIES**

### Significant Experiences:

Oil Operations, Drilling Contractors, Manufacturers and Suppliers.

### I. Oil Operators:

### A. Exxon

- Offshore Platform Drilling Rigs for Harmony and Heritage Offshore California in1300' and 1100' water depth. Most stringent earthquake loadings. Complete 9-year design and analyses involvement for BHL International from permitting to installation plus continual services.
- Complete rig design of the drilling rig on the Super CIDS (Concrete Island Drilling Structures), a joint venture between Global Marine and Parker Drilling funded by and for Exxon. Originally built for Alaska, later moved to Sakhalin Island Russia, drilled up to 15,000 meter depth wells, deepest in the world.
- 3. Complete operations and design verification of a 4000HP Land Drilling Rig before drilling deep gas well in Enid, Oklahoma to establish integrity.
- 4. Joint Industry Study: Offshore Platform Rig Optimization and Effects on Fixed Platforms.

### B. Shell:

- 1. 8 year involvement in the design of the Auger TLP (Tension Leg Platform) the first TLP for the Gulf of Mexico. BHL International designed the transfer of 32 Production Risers to their fixed locations after drilling from the <u>center</u> of TLP. Complete design and analyses of the elastomeric cylinders (instead of hydraulic cylinders that leak). These cylinders support the production risers and can take 1,000,000 lbs. Designed the Subsea BOP Handling System and the Production Tensioners Handling System.
- 2. Designed several platform rigs including the rig for Shell Cognac Platform in 1600' of water depth.
- 3. Designed a 3000HP inland barge rig that worked for Shell in Nigeria.

### C. Chevron:

- Designed platform drilling rigs for offshore California including for Platform Esther, Platform Hidalgo, Hermosa, Gail, Harvest (formerly owned by Texaco), Platform Gilda (former Union Oil). Gilda has 96 wells the most wells in the world.
- 2. Designed a Platform Drilling rig that would be transferable and fit 16 platforms for Angola.
- 3. Designed a 4000HP Land Rig for an application in Cameroon, Louisiana U.S.A. Eventually Chevron hired a drilling contractor,

- Unit Drilling to supply and drill the well. BHL International designed this Unit Drilling Rig in 1982.
- 4. Participated in BHL's Joint Industry Study with Exxon and other participants.

### **II.** Drilling Contractors:

### A. Parker Drilling:

- 1. Designed (12) 3000HP Drilling rigs to work in the U.S., Middle East and South America.
- 2. Designed Parker Rig 201, 4000HP Land Drilling Rig completed in 1982!
- 3. Designed numerous other land rigs of different sizes: 2000HP, 1500HP, 1000HP, 750HP.
- 4. Designed Land Rigs for Alaska (Prudhoe Bay and Kuparuk) for 40°F cold temperature requirement and heavy rig moving system.
- 5. Designed and build Helicopter Transportable Rigs.

### B. Pool Company (now Nabors):

- 1. Designed several Platform Drilling Rigs that can work offshore and land.
- 2. Designed several Thums Island (in California) land rigs.
- 3. Designed two (2) rigs to work in Malaysia
- 4. Designed the two (2) Platform Rigs on Union Platform Gilda (now Chevron) to drill 96 wells.
- 5. Over a period of 20 years was heavily involved in maintenance of land rigs all over Texas. Pool had over 400 rigs at that time.

### C. Romfor:

- 1. Designed (3) Land Drilling Rigs for Iraq. 2000HP, 1500HP and 1000HP.
- 2. Designed a Geothermal Rig for Thermasource.
- 3. Designed and supported refurbishment of (7) Land Drilling Rigs of different sizes.

### D. Saipem:

- 1. Designed and manufactured 2000HP Land Drilling Rigs for Peru and Venezuela.
- 2. Manufactured a complete Helicopter Transportable Rig for Peru.

### E. Caroil:

- 1. Complete design, manufacture and deliver a 2000HP x 1,300,000 lbs. Hook Load Land Drilling Rigs for Nigeria.
- 2. Complete design and manufacture of a 750HP Hook Load Land Rig for Nigeria
- 3. Complete Design of a complete 3000HP in-land Barge Rig for Nigeria. Fabrication was deferred by Caroil.

### III. Manufacturers and Suppliers:

### A. Dresser-Ideco:

- 1. Designed a complete line of Land Drilling Rigs 3000HP, 2100HP, 1700HP and other smaller rigs.
- 2. Designed a Desert Rig for the Middle East.
- 3. Designed a Helicopter Transportable Rig for jungle operations.
- 4. Designed an Offshore Platform Drilling Rig for the Gulf of Mexico.

### B. IRI International:

- 1. Designed (2) complete Drilling Rigs that can skid to several wells.
- 2. Supported IRI's efforts to rig-up various drilling rigs for international sales.

### C. Continental Emsco:

Skytop Oilwell IPS Cardwell Lanzagorta Conjunto Manufactorero For more than 40 years, supported the efforts for these companies to design, manufacture and supply products and services to the drilling industry





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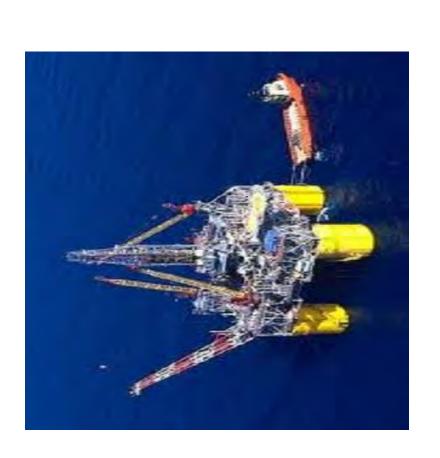
### BHL INTERNATIONAL, INC.

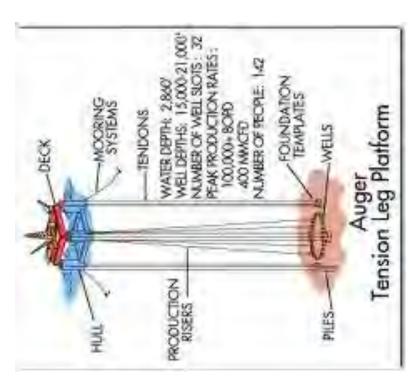
5201 Hopper Rd. Houston, Texas 77093 Tel. (281) 449-5762 \* Fax (346) 223-9578 www.bhlinternational.com

### SPECIAL PROJECTS PERFORMED BY BHL INTERNATIONAL

\*Not done by others

- The complete drilling rig on the CIDS (Concrete Island Drilling Structure) project for Exxon on the Alaskan Beaufort SEA – the only one of its kind in the world. The CIDS has been moved to Sakhalin Island in Russia now drilling 15,000 meter wells, deepest in the world.
- Drilling Rigs on ice islands in the Canadian Beaufort SEA in 1000 ft. of water depth for Panarctic and Parker Drilling.
- 3000 HP rig drilling on land, producing offshore in Cook Inlet, Alaska for Bluecrest Energy. The rig is designed to drill a total of forty (40) wells.
- Offshore Platform Drilling Rig for Marathon Oil Steelhead Platform in Cook Inlet, Alaska. The drilling rig drills wells inside concrete legs and skids from one of the four legs to the other, to protect the wells from ice floes. The four legs are 120' in a square pattern. The rig is designed for severe earthquake criteria.
- Over twenty (20) helicopter transportable rigs for Parker Drilling, Dresser-IDECO, IPS-Cardwell, Brown Services, Kidde Company. These rigs worked in Brazil, Peru, Colombia, Indonesia, Papua New Guinea, and ice-covered areas in Alaska, where no roads or transport exist.
- Designed Parker Drilling Unit 201 (4000 HP x 2,000,000 lbs. Hook Load Drilling Rig) in 1982, 39 years ago. The rig is still working today! It has worked for Exxon, Chevron, McMorran, GHK, and others.
- Designed the Drilling Rig for Exxon Platforms Harmony and Heritage to work in 1,300 ft. and 1000 ft. water depth offshore California. The drilling rigs were designed under the most severe earthquake criteria.
- Designed the two (2) Drilling Rigs for Union Platform Gilda (now Chevron) which have the most number of wells on an offshore platform (96 wells!)
- Working for Chevron, designed a Drilling Rig that could drill all wells for over 10 offshore platforms in Angola.
- Performed a Joint Industry Study "Offshore Platform Rig Optimization and its Effects on the Fixed Platform". The study was sponsored by Exxon, Chevron, Agip, Atlantic Richfield and others.
- Along with other companies, participated in the Design, Construction,
   Commissioning, Installation, Operation and Maintenance of the First Tension Leg
   Platform (TLP) in the Gulf of Mexico Shell Augur Platform.





### **Shell Oil Company Auger TLP**

installation and start-up of the multibillion dollar Offshore Drilling and Along with other companies, participated in the design, construction, Tension Leg Platform (TLP), the first in the United States.

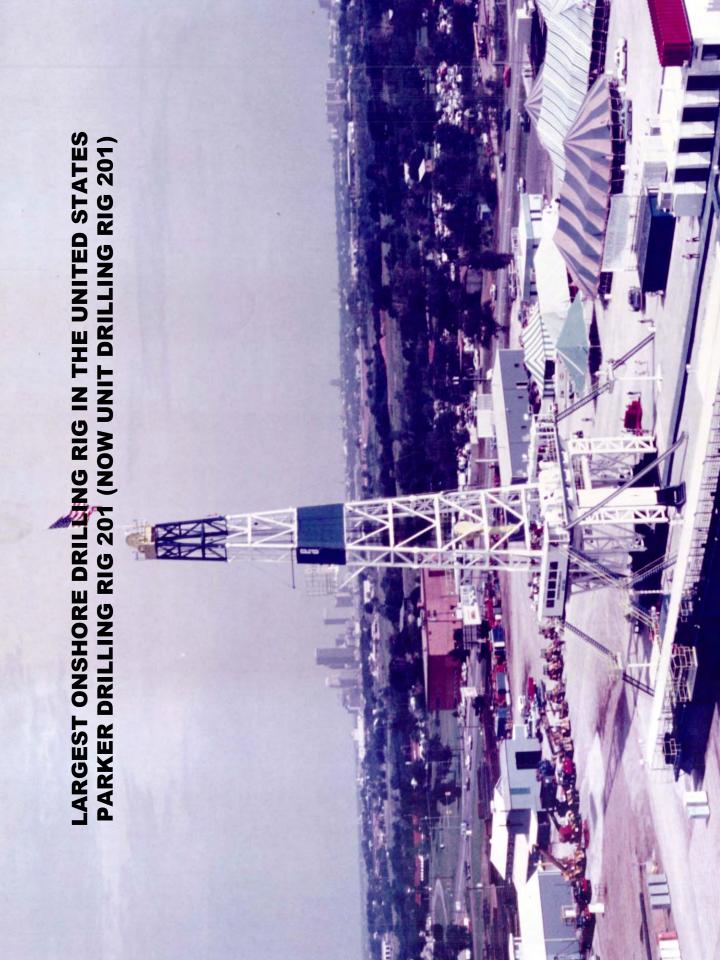


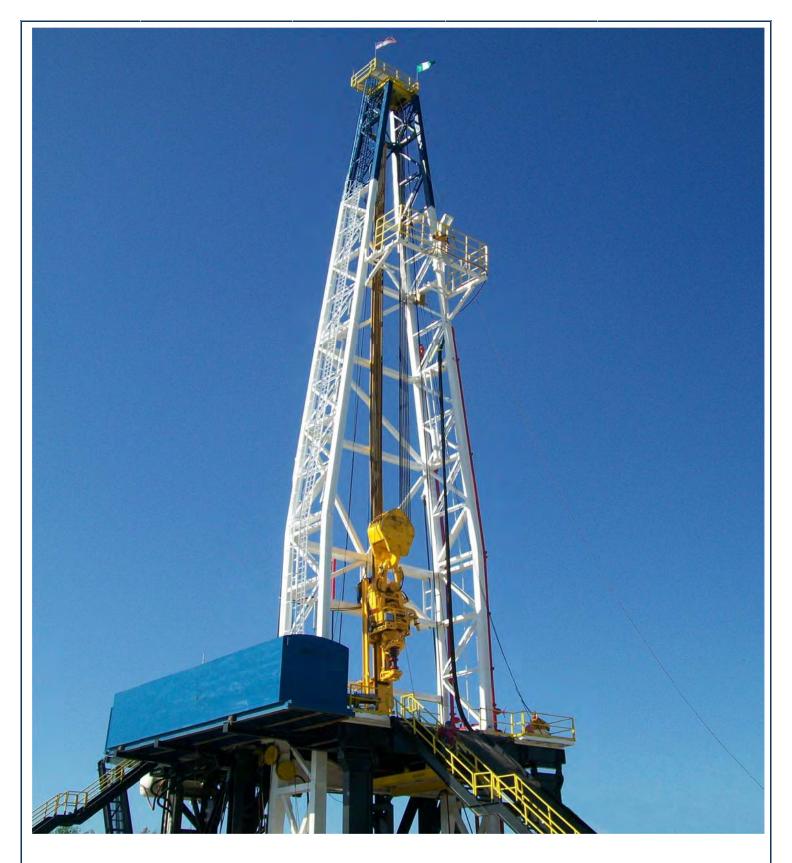
Project managed and designed the Drilling Rig on the floating and movable Super CDIS (Concrete Island Drilling Structure), the only such structures in the world, operating for Exxon-Mobile in Alaskan Beaufort Sea. The Rig was fully winterized to operate in -40°F environment.



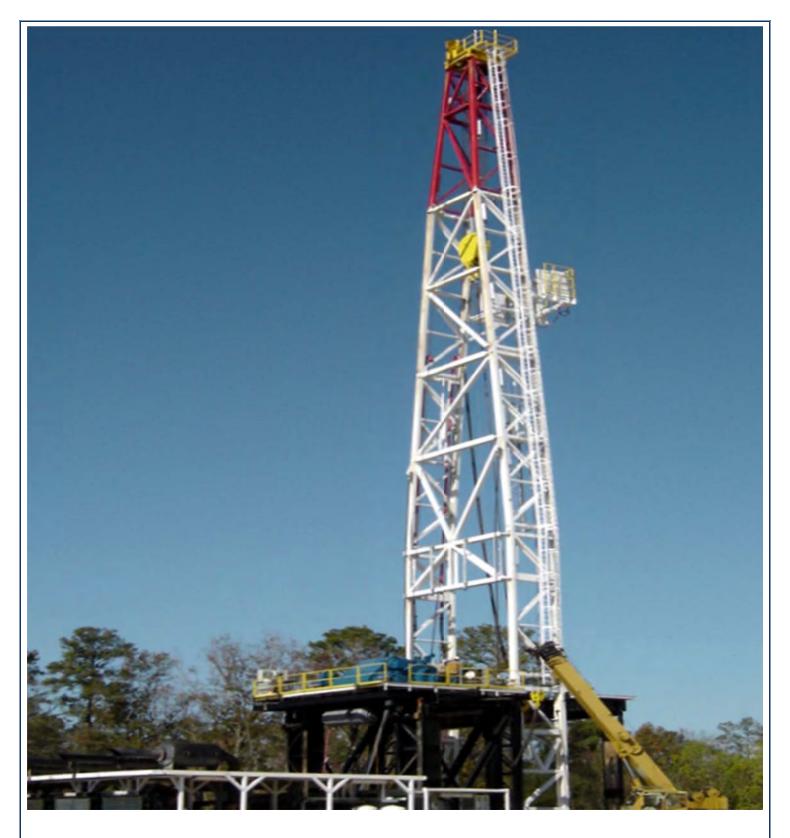
ExxonMobil drilled the world's longest offshore horizontal-reach well in the Santa Ynez Unit off the coast of California. Technologies such as extended-reach drilling help to produce more domestic supplies of oil to meet America's growing energy needs.

Designed the Drilling Rigs on Exxon-Mobil offshore platforms Harmony and Heritage under severe earthquake criteria in 1,300 ft. and 1,100 ft. water depths. No other offshore drilling rigs in the world have more severe earthquake criteria.

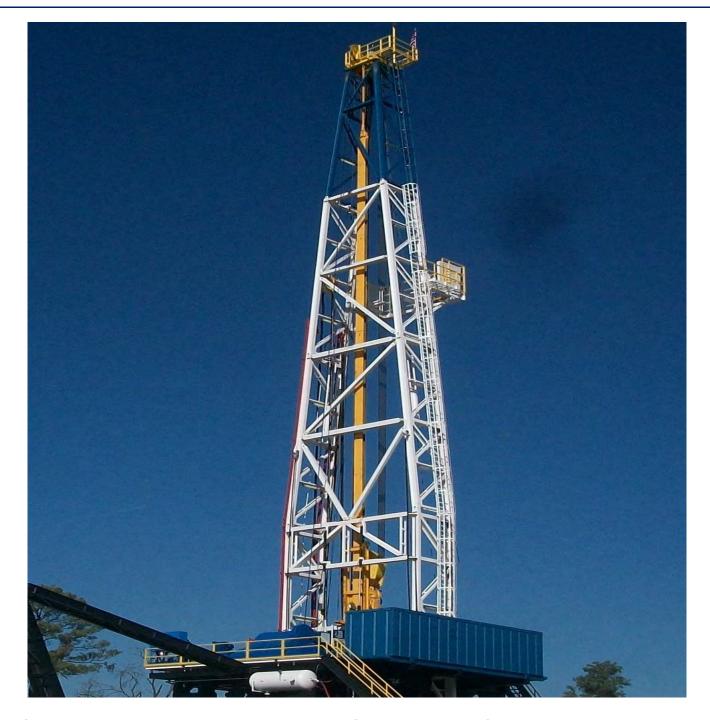




3000HP x 1,500,000 LBS. HL DRILLING RIG COMPLETE RIG PACKAGE WITH RIG SKIDDING SYSTEM "READY TO DRILL"



2000HP x 1,300,000 LBS. HOOK LOAD DRILLING RIG COMPLETE RIG PACKAGE "READY TO DRILL" PERU



CARDINAL DRILLING SERVICES LIMITED
RIG 203
2000HP X 850,000 LBS. HOOK LOAD
COMPLETE RIG PACKAGE "READY TO DRILL"



1500HP x 750,000 LBS. HOOK LOAD DRILLING RIG COMPLETE RIG PACKAGE "READY TO DRILL" U.S.A.



### 1500HP ELECTRIC DRILLING RIG COMPLETE RIG PACKAGE"READY TO DRILL" VENEZUELA



1500HP ELECTRIC DRILLING RIG COMPLETE RIG PACKAGE "READY TO DRILL" U.S.A.



1500HP ELECTRIC DRILLING RIG COMPLETE RIG PACKAGE "READY TO DRILL" U.S.A.



### 1000HP TRAILER MOUNTED DRILLING/WORKOVER COMPLETE RIG PACKAGE "READY TO DRILL" NIGERIA



### 750HP CARRIER MOUNTED DRILLING/WORKOVER COMPLETE RIG PACKAGE "READY TO DRILL" NIGERIA



### 750HP TRAILER MOUNTED DRILLING/WORKOVER COMPLETE RIG PACKAGE "READY TO DRILL" NIGERIA



OFFSHORE PLATFORM RIG COMPLETE RIG PACKAGE "READY TO DRILL" BRAZIL



### **DESIGNS**

BHL International has designed numerous Mast & Substructures, all to API Specification criteria, including the following:

### **BHL Conventional Mast with Self-Elevating Structures**

- o 350,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- 450,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- o 550,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- 750,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- 1,000,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- 1,250,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- o 1,500,000 lbs. Hook Load Mast with Self-Elevating Type Substructure
- o 2,000,000 lbs. Hook Load Mast with Self-Elevating Type Substructure

### **Conventional Mast with Box-on-Box Substructures**

- 131' x 350,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- 131' x 450,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- 136' x 550,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- 136' x 650,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- o 136' x 750,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- o 142' x 1,250,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- o 147' x 1,500,000 lbs. Hook Load Mast, Box-on-Box Type Substructure
- 154' x 2,000,000 lbs. Hook Load Mast, Box-on-Box Type Substructure

### **BHL Conventional Trailer Mounted Telescoping Masts**

- o 112' x 350,000 lbs. Hook Load Telescoping Mast
- 112' x 400,000 lbs. Hook Load Telescoping Mast
- o 130' x 550,000 lbs. Hook Load Telescoping Mast
- o 136' x 750,000 lbs. Hook Load Telescoping Mast

- 139' x 850,000 lbs. Hook Load Telescoping Mast
- o 147' x 1,000,000 lbs. Hook Load Dynamic Derrick
- o 160' x 1,250,000 lbs. Hook Load Dynamic Derrick

### **BHL Offshore Telescoping Mast and Dynamic Derrick**

- o 112' x 350,000 lbs. Hook Load Telescoping Mast
- 112' x 400,000 lbs. Hook Load Telescoping Mast
- o 130' x 550,000 lbs. Hook Load Telescoping Mast
- 136' x 750,000 lbs. Hook Load Telescoping Mast
- o 139' x 850,000 lbs. Hook Load Telescoping Mast
- o 147' x 1,000,000 lbs. Hook Load Dynamic Derrick
- 160' x 1,250,000 lbs. Hook Load Dynamic Derrick

### **BHL Offshore Platform Workover Rigs**

- 240,000 lbs. Hook Load Offshore Platform Workover Rig
- 450,000 lbs. Hook Load Offshore Platform Workover Rig
- 500,000 lbs. Hook Load Offshore Platform Workover Rig
- Offshore Platform Workover Rig Heavy Lift
- o Offshore Platform Workover Rig SPAR Application
- Offshore Platform Workover Rig Zone 4 Earthquake Application

### **BHL Offshore Platform Drilling Rigs**

- Offshore Artic Platform Drilling Rig (Heavy Lift)
- Offshore Platform Drilling Rig Concepts All Capabilities
- Offshore Platform Drilling Rig Zone 4 Earthquake Applications
- Offshore Platform Bootstrap Rigs

### **BHL Specialized Land Rigs**

- 650,000 lbs. Hook Load Artic Land Rig with Box-on-Box Type Substructure
- 750,000 lbs. Hook Load Artic Land Rig with Box-on-Box Type Substructure
- Vertically Telescoping Mast
- "Prodrill" Pad Rig 20,000' Drilling Depth

### BHL Quick Assembly Rig (QAR)

- QAR 1000 HP, 500,000 lbs. Hook Load (Mechanical & Electric)
- o QAR 1200 HP, 600,000 lbs. Hook Load (Mechanical & Electric)
- o QAR 1500 HP, 715,000 lbs. Hook Load (Mechanical & Electric)
- O QAR 1500 HP, 750,000 lbs. Hook Load (Mechanical & Electric)

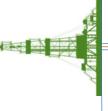
### **BHL Special Application Helicopter Lift Rigs**

- 350,000 lbs. Heli-Hoist Mast and Substructure
- o 450,000 lbs. Heli-Hoist Mast and Substructure
- o 750,000 lbs. Heli-Hoist Mast and Substructure
- o 800,000 lbs. Heli-Hoist Mast and Substructure
- o 1,050,000 lbs. Heli-Hoist Mast and Substructure





P.T.D.V.: Profundidad Total Vertical - Direccional.



4,600 HP @ 2,200,000 Lbs

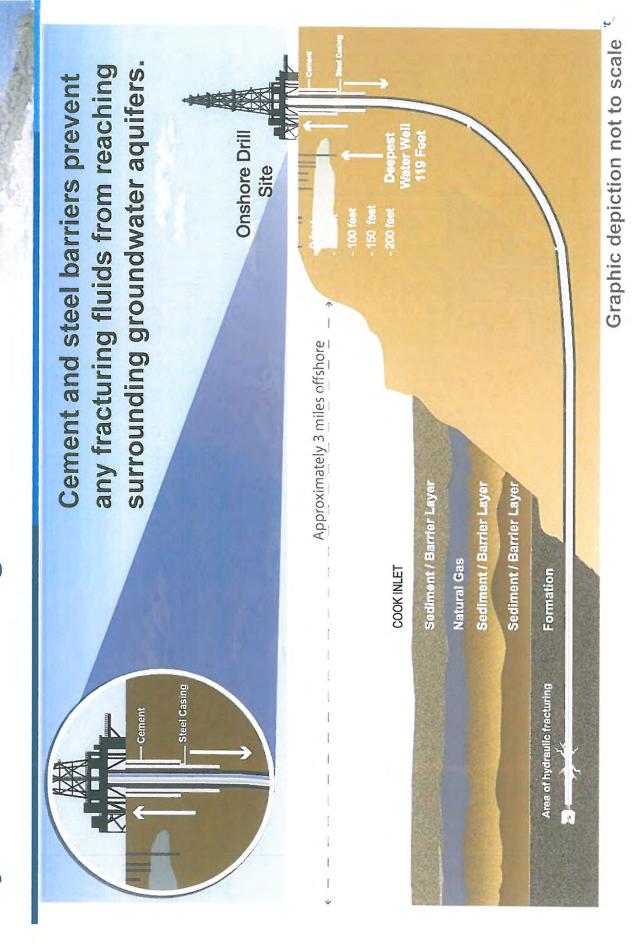
- Cartera de Proyectos Multianual.
   Perforación en Avanzada de Acuerdo a un Portafolio de Proyectos de Perforación (Zonas Pantanosas y Otras).
- Precios Competitivos por Volumen de Pozos a Perforar y Ahorro en Infraestructura Marina.
- Optimización en Tiempos de Movilización de Equipos (ahorros en la logística marina tradicional).
- Garantía y Seguridad para Alcanzar Objetivos de Perforación.



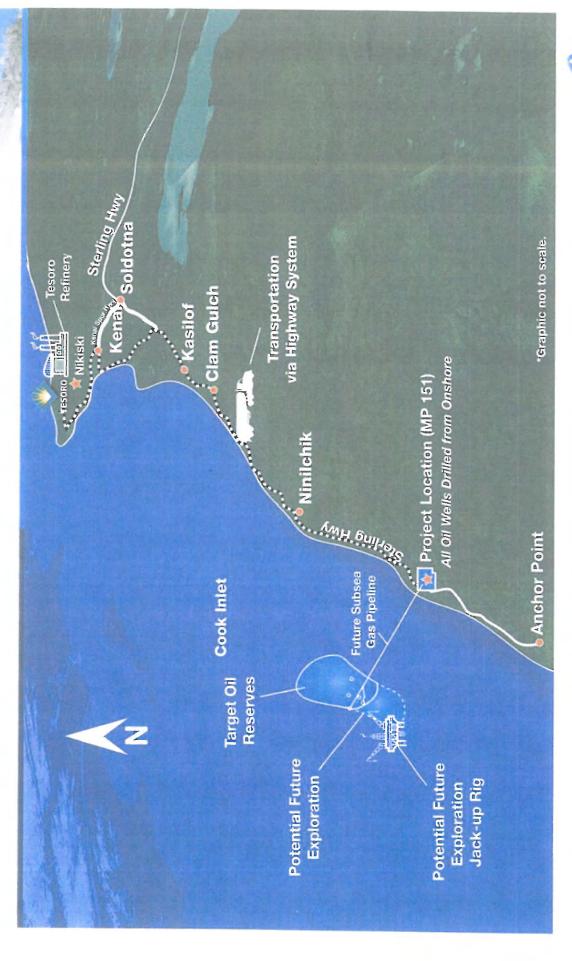
www.petroserviciosdelsur.com.mx

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# Hydraulic Fracturing Environmental Protection



## Cosmo Project Components



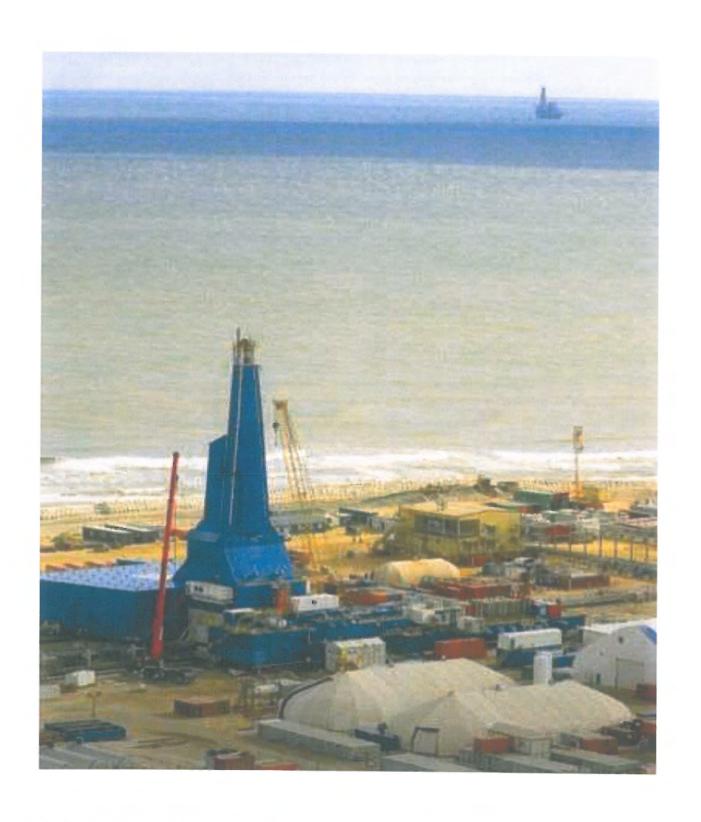




DRILLING 40 WELLS ON LAND TO DEVELOP OFFSHORE OIL AND GAS RESERVES IN ALASKA U.S.A. **BLUECREST ENERGY SERVICES** 



WYTCH FARM, SOUTHERN ENGLAND 1977 UP TO THE PRESENT (2020) DRILLING ON LAND, PRODUCING OFFSHORE RESERVOIR



PARKER DRILLING-OPERATED YASTREB RIG IN - 40°C COLD WEATHER

THE RIG IS OWNED BY SAKHALIN 1 CONSORTIUM

SETS NEW WORLD RECORD FOR EXTENDED REACH DRILLING

Feb. 23, 2011 Maritime Press

### Cosmo Project Components



4600HP RIG – WITH ITS DEEP DRILLING CAPABILITY, THE BHL 4600HP RIG CAN ACCESS OFFSHORE OIL FIELD RESERVES UP TO 15,000 METERS AWAY FROM SHORE.

SYSTEM CAN MOVE FROM ONE WELL TO THE NEXT WELLS WITHOUT DISASSEMBLY TO REACH DIFFERENT FROM ONSHORE (LAND) LOCATION TO OFFSHORE TARGET OIL RESERVES. THE RIG WITH A SKIDDING THIS BLUECREST ENERGY PROJECT HAS ALREADY DRILLED 12 WELLS OUT OF A PLANNED 40 WELLS AVAILABEL IN THE PUBLIC DOMAIN. THIS CONCEPT OF DRILLING ON LAND WITH A LAND RIG IS A LOT PARTS OF THE RESERVOIR. THIS PRODUCTION SCHEME IN ALASKA, U.S.A. IS PUBLIC INFORMATION MORE ECONOMICAL THAN DRILLING OFFSHORE WITH AN OFFSHORE DRILLING RIG.



### BHL INTERNATIONAL, INC.

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Licensed, Certified, Registered Under API Spec 4F-0167, API Spec Q1 -0580, and ISO 9001-0829

### 4600HP DRILLING RIG ADVANTAGES: December 18, 2020

MEMBERSHIPS/ CERTIFICATIONS:



- 1. Many times around the world other rigs failed to make target depth because of hook load limiting capabilities 4600HP Rig solves this problem.
- Many times these other rigs usually with 1600HP pumps could not handle the desire of drilling engineers for more pressure. The (3) 2200HP mud pumps, 7500 psi solves this problem.
- Other rigs cannot drill on land and reach offshore reservoirs. The 4600HP solves this issue. It is much cheaper than using a jack-up rig to drill to reach offshore reservoir. It can drill many more wells than a jack-up rig can drill. (See Cosmos Project by BlueCrest Energy, Alaska U.S.A.)
- Many times in Alaska and Russia the drilling rig reach offshore capability by drilling on land and gravel islands. This technology is well proven for more than 40 years.
- 5. This 4600HP can drill to 15,000 meters, more than any other rig capability in the world
- 6. This rig will be highly in demand in the future.
- 7. This rig is capable of High Pressure, High Temperature (HPHT) operations.
- 8. This 4600HP Rig complies with recognized industry standards of the API, AISC, AWS, IADC, International Standard Organization 9001 (ISO 9001).
- 9. The mast has plenty of clearance for the traveling and top drive (more than 20 ft.).
- 10. The mast has plenty of clearance for the traveling and top drive (more than 20 ft.). There is plenty of clearance under the drill floor to accommodate a 15,000 psi high pressure BOP stack including a rotating head for underbalanced drilling, riser and bell nipple
- 11. A BOP handling system is provided under the drill floor including BOP rails, trolley and hoist with a 200,000 lbs. capacity for the BOP stack rotating head, riser and bell nipple.



OF DRILLING CONTRACTORS







- 12. This rig will clear existing wellheads (Christmas trees) with the clear space under the drill floor. The drawworks is on the drill floor, not near ground level. For multi-well pad development, the rig can skid more than 1000 ft. towards the front and back fully assembled: mast fully erect, substructures, drawworks, rotary table, setback, VFD, top drive, BOPs, etc. ready to drill the next well without having to reassemble.
- 13. The 4600HP mast and substructure are designed, certified, and monogrammed to the latest API 4F Edition has increased requirements for stability, overturning, sliding and higher wind loading than rigs built to previous editions.
- 14. The (3) mud pumps are 2200HP each with 7500 psi pressure rating.
- 15. The mud tanks are all round bottoms, with telescoping roofs to prevent rainwater dilution of drilling fluids.
- 16. This 4600HP Rig has modern equipment including an AC-VFD drawworks, 1000 ton top drive, iron roughneck with 120,000 ft.lbs. torque rating, (3) 2200HP, 7500 psi mud pumps, 4000 BBLs mud tank capacity, a centralized driller's control cabin, 13 ½" 15,000 psi BOP stack, HPHT and a 21 ½" BOPs with a 29 ½" Diverter.
- 17. The price for this 4600HP Rig is only minimal slightly more than the price for a 3000HP Rig but it has significantly more capabilities.
- 18. This 4600HP Rig will be the largest land rig in Mexico, U.S.A., Canada and the entire South America in terms of future needs for this size rig.
- 19. The drilling rig is manufactured, rigged-up and tested, commissioned and packaged at BHL International, Inc. (BHL) in Houston, Texas U.S.A. The rig components are from established and reputable oil equipment suppliers including National Oilwell Varco, Cameron, Forum AOI, Caterpillar, Hydril, Ingersoll rand and Swaco Schlumberger.

BHL is licensed, certified and registered under API 4F, API Q1 and ISO 9001. BHL is a member of API, AESC, and AWS. BHL personnel are extensively experienced and current on drilling rig structures and equipment.

BHL personnel designed the first 4000HP x 2,000,000 Hook Load Rig in the United States in 1982. After 38 years the rig is still working with maximum 2,000,000 lbs. hook load capacity. Structures and System, the designer of this rig is now merged with BHL. Its president and owner now serves as president of BHL.

4600HP DRILLING RIG 2

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### BHL INTERNATIONAL, INC.

CERTIFICATE OF MEMBERSHIP 2023

International Association of Drilling Contractors





### **American Welding Society**

By authority of the Board of Directors

### BHL International Inc.

is hereby designated

# Affiliate Company Member

of the American Welding Society, founded in 1919 to advance the science, technology and application of welding and allied processes including joining, brazing, soldering, cutting and thermal spray.

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EXECUTIVE DIRECTOR



### BHL International, Inc.

Is a Member in Good Standing with the

ASSOCIATION OF ENERGY SERVICE COMPANIES

Since

2010