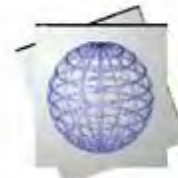




B.E.M.C.O.



A BICONTINENTAL CORPORATION ENGINEERING CRUDE OIL STORAGE TANKS AND JOINT VENTURE COMPANIES

Ground Steel Crude Oil Storage Tank Location and Foundation



A **storage tank** is a container, usually for holding liquids, sometimes for compressed gases (gas tank). The term can be used for reservoirs (artificial lakes and ponds), and for manufactured containers. Storage tanks operate under no (or very little) pressure, distinguishing them from *pressure vessels*. Storage tanks are often cylindrical in shape, perpendicular to the ground with flat bottoms, and a fixed or floating roof. There are usually many environmental regulations applied to the design and operation of storage tanks, often depending on the nature of the fluid contained within. Aboveground storage tanks (AST) differ from underground (UST) storage tanks in the kinds of regulations that are applied.

Reservoirs can be covered, in which case they may be called covered or underground storage tanks or reservoirs. Covered water tanks are common in urban areas.

Storage tanks are available in many shapes: vertical and horizontal cylindrical; open top and closed top; flat bottom, cone bottom, slope bottom and dish bottom. Large tanks tend to be vertical cylindrical, or to have rounded corners transition from vertical side wall to bottom profile, to easier withstand hydraulic hydrostatically induced pressure of contained liquid. Most *container tanks* for handling liquids during transportation are designed to handle varying degrees of pressure.



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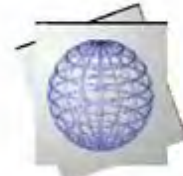
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BICONTINANTAL ENGINEERING experienced in THE CONSTRUCTION OF LARGE CRUDE OIL STORAGE TANKS by UTILIZING HIGH TENSILE STEEL. Larger tanks, and at less cost per barrel of oil stored, can be attained by utilizing high tensile steel, as has been shown by the construction of the 100,000 m³ (630,000 bbls) automatically welded floating roof storage tanks at Shell's Europoort terminal. In order to obtain full advantage of the improvements in the properties of the high tensile steels for structural purposes special attention has to be given to the notch ductility and weld ability of the steel used, as well as to the design of the various structural details of the tank.



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Installation Sequence and Construction

The following construction sequence is typical of a medium to large Crude oil storage tank with an embedded starter type foundation.

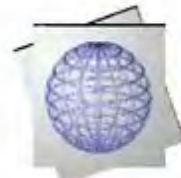
Install Panels

Assemble and Complete Dome Structure/Panels





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Tank Designs to Meet Specific Application Needs

- Industrial Wastewater
- Leach ate
- High Purity Water
- Clarifier
- Standpipe
- Biodiesel
- Storage/Mixing
- Caps and Sealer
- Nozzles & Baffles
- Walkways,
- Railings and
- Staircases
- Level Indicators

Additional options and accessories.

- 1 - Cathodic Protection
- 2 - Gravity Vent
- 3 - Ladder, Cage and Platform
- 4 - Sidewall Man ways



Services

Aqua store and Tec Store tanks are marketed globally through a network of Distributors and Agents. A full range of services is available including:

- Value engineering-total cost analysis



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- Tank configuration and layout data
- Budget prices – material and erection
- Product engineering specifications
- Design criteria assistance
- Foundation layouts
- Tank general arrangement layout drawings
- Firm prices - material and erection
- Tank construction scheduling
- Approval drawings
- Structural calculations
- Certified drawings
- Tank construction or supervision
- Tank testing and commissioning
- Sectional tank inspection, repair & maintenance

Highest engineered quality, best service, longest product life and greatest value

Tank lifting technology for bulk storage tanks

Tank lifting technology is now widely accepted and meets all industry codes, standards and recommended practices. Work is completed only after thorough professional engineering evaluations are performed and accomplished with very conservative safety factors built in.

Floor support for large diameter tanks

Floor support, required with large diameter tanks, can be provided without the need to cut holes in the tank floor. The system can be used on any size tank, is safe and does not require hot work to be performed. This allows tanks which contain residue, have leaked or have not been gas freed, to be safely lifted. Lifting technology creates the least possible stress in the tank by spreading loads



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over a considerable length of the tank shell. Foundation stresses are low and do not exceed the stresses generated under normal tank operations

Lifting and relocation of storage tanks

BICONTINENTAL has experience in successfully and safely relocating tanks. Prior to any tank lift or relocation, we perform a series of extensive engineering calculations on the tank, taking into account not only the stress to the tank but also local conditions such as wind and seismic activity.

Tank relocation is a valuable tool for tank farm owners and operators, allowing cost-effective and time-saving solutions to reclaim unused land or consolidate assets. This technology is now accepted around the world.

Tank foundations

We use an elevated, compacted, crushed rock foundation with a corrosion-prevention asphalt cap (built like a road) for tank foundations. This raised foundation has been put to the test and has lived up to its design flawlessly after years of use.

The quality of our tank foundations is becoming widely accepted by many Gulf and South Africa companies as the industry standard. When built on good foundations, tanks have lasted 50 years or more.

9. Spraying Equipment for Oil and Gas Pipeline Corrosion Protection

Applying high-solids plural-component coatings efficiently and on-ratio can be a challenge. However, plural-component proportioning equipment meets the ratio challenge with a whole new set of technologies and features. experienced in the oil and gas as all pipelines need to be coated inside and outside, which requires specific experience and expertise.



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Corrosion protection coatings for pipelines

The company has specialized contracts for coating pipelines in the GULF area and SOUTH AFRICA Our distributors have direct contacts, and have made

mobile units that can spray protective coatings on the pipes during installation. This ensures a proper coating on the seals where two pipes are connected. We are also able to carry out the interior coating of pipes.

Corrosion protection coating material development

In this field it is easy to witness the constant development of applied materials, including normal protective coatings, zinc coatings, fast-curing polyurea coatings and foam applications for the insulation of pipes. Whichever material you need to apply, , can supply the best sprayer to do so..

Spraying equipment for tanks and pipes

Provide the high-pressure performance required for spraying high-solid coatings and viscous materials at longer hose lengths. is well-suited for applying coatings to wind energy towers, tanks, pipes, water towers, railcars, bridges, ships, and structural steel, as well as applications in wastewater treatment, manhole and sewer reconditioning, and secondary containment.

Heavy-duty sprayers with air motor technology

Air motor technology meets our customers' requirements even better than before. The superior performance makes the job completion a whole lot quicker and easier and possible downtime is now reduced to an all-time low. Thanks to improved durability and quality, the new Extreme sprayer will go on much longer. Actually, it will go on so much longer that even repairs will be a rare phenomenon.

The NXT Extreme sprayer will stand beside you in the most rugged situations, as



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you will get not only a more powerful de-icing motor with a lower level of noise, you will also have full control. You can now rely on the new Data Track pump monitor, which will prevent the air motor to get into runaway condition and gives the necessary information about cycle counts, which reduces the number of necessary maintenances.

In addition, the polymer body armor won't rust or dent; the heavy-duty cart will withstand in the most extreme conditions; and the slide rails, lift handles and flat-free, semi-pneumatic tires will make your new sprayer easy to handle. Finally, the new Cromer coated piston of the Extreme guarantees a long life under extreme conditions.

Flow Meter Calibration, Instrument Calibration, Valve Testing, Erosion Testing, Flow Testing and Development

BICONTINANTAL provides testing, calibration and qualification services to customers in the oil and gas, and pipeline industries.

The test facility has gained an international reputation for technical expertise, quality of service and in-depth knowledge of all aspects of the flow measurement and control industry. The range of services includes The :

Flow meter calibration

With a particular emphasis on calibrating at or near the operating pressure and with the actual working fluid, can undertake natural gas& oil flow meter calibrations throughout the year on whole metering packages., accredited calibrations cover flow meters from 2in (50mm) to 24in (600mm), although larger flow meters can also be accommodated.

Instrument calibration

Accredited instrumentation laboratory primarily calibrates temperature, pressure and differential pressure instrumentation.

Recent improvements now allow our Flow Centre to specialize in gas dead



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weight testers, absolute pressure, negative gauge pressure and resistance.

Pressures of up to 400bar can be accommodated and the GFC provides some of the lowest uncertainty measurements in the world.

Valve testing

The Flow Centre sub surface slam shut safety valve (SSSV) test facility is used by many operators and manufacturers. They use the facility to assess the performance of a wide range of these safety critical devices.

The facility can test valves under realistic conditions and can achieve flow velocities of over 120m/s.

Erosion testing

The Bicontinental has the Flow erosion testing facility which used for undertaking tests on components and equipment over a range of controlled operating conditions.

The flow through facility utilizes sand injection into the high-pressure gas. This ensures a much more accurate assessment of erosion compared to using re-circulation systems.

Sand can be injected into the gas flow at rates of up to 100kg/hr enabling accelerated testing to be undertaken. The facility has undertaken a wide range of qualification testing on valves for many offshore and onshore operators and manufacturers.

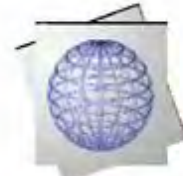
Flow testing

The large facility enables a wide range of other flow testing to be undertaken. These include inspection pig blow over testing and, valve leakage assessments. This process can be used to ascertain pressure drop measurements in pipelines.

Accurate assessment of the pressure drop in pipelines can save operators money



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by optimizing pipe diameters and compressor requirements.

Development

- Works with meter manufacturers to undertake development and type approval testing. The large facility and the ensured confidentiality of the work are an attractive proposition for manufacturers.
- Better-quality and faster, more accurate, as-built documentation
- Quicker decisions based on correct information
- Time savings due to improved resource management
- Easy access through the Internet
- Real-time status on executed and outstanding production
- Complete project status for higher management

As an ISO 17025 UKAS accredited calibration facility (Lab: 0555) the company ensures the trace ability and quality of its measurements.





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Pumping Solutions

We are greater supplier of reciprocating plunger pumps and process diaphragm pumps in the Gulf and South Africa.

The company has manufacturers of high-pressure plunger pumps, diaphragm pumps and high-pressure cleaning systems. High-pressure plunger pumps and units are used for operating pressures of up to 3,000bar / 43,500psi. They have motor ratings of up to 2,600kW / 3,400hp.

HIGH-PRESSURE PLUNGER PUMPS

Typical applications for process pumps used in refineries and the oil and gas industry are:

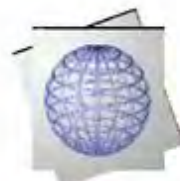
- High pressure water injection units for residue hydrodesulphurization in the FCC process
- Process Diaphragm pump unit for olefins in ox alcohol process
- High pressure units to feed refinery residue, feedstock, bitumen to the gasification process
- High pressure methanol injection units for offshore installation
- High pressure glycol injection units for gas separation and treatment stations

CUSTOMER SERVICE

Service personnel offer quick and reliable assistance for routine maintenance and emergencies. Original spare parts and optimal consultation secure a smooth operation of any plant. Company technicians ensure a fast and flexible service at site. The company offers complete custom-built solutions.



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EXPERIENCE

NIGERIA

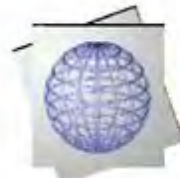
- **Chevron: Inda-Adama , Opuekeba field developments.**
12 fixed wellheads platforms, gathering network, manifolds, river crossings. Approx. 100 miles of pipelines and flow lines. Interface with MOPU's for production. Onshore terminal with pig launcher/receiver.
- **Hanover,**
Compression and cryogenic process plant, barge mounted.
- **Sedco-Forex Abacan (Amni Petroleum-Nigeria)**
20,000 BOPD and 50 MMSCFD gas re-injection facility
- **General: numerous:**
Concrete barge mounted production, compression, power generation, and quarters facilities in water depths from 8 to 50'.

.On Shore Crude Oil Storage Tanks

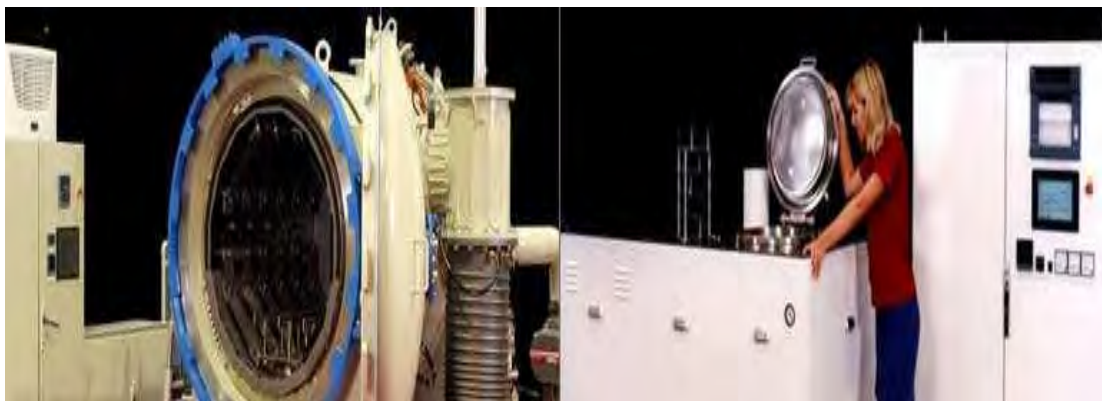




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**A BICONTINENTAL CORPORATION ENGINEERING CRUDE OIL STORAGE TANKS AND JOINT VENTURE COMPANIES
AUTOMATIC WELDING TECHNOLOGY**



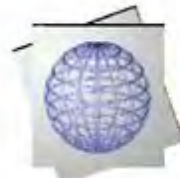
GULF OF MEXICO

Ensearch: Subsea 24 slots template, 2 export 30 inch lines, laid in 2400 W.D.





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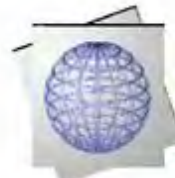
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PROCESS PIPING





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BAY TANK & VESSEL

February 6, 2011

7500 San Felipe

Suite 600

Houston, TX 77063

Attn: Mr. Benedict Izegbu

REF. Settling Tanks Revamp @ MPN Facilities

Gentlemen:

We appreciate the opportunity to be considered for work with your organization. Please find the attached information regarding our Company.

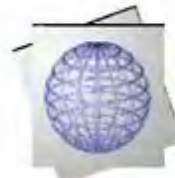
BAY Ltd – Tank & Vessel has supported Projects in the Mid East; Cabinda Gulf, Angola, Africa (Chevron Overseas); and States Oil Co NV, South America with tank kits built to both the API-650 and API-620

Regards,

Walter Brothers
Manager-Tank & Vessel



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☎ 16:38 FAX 361 289 6119

BAY TANK & VESSEL

☎ 003/017

BAY Ltd. Tank & Vessel

The Berry Companies have been in the "tank business" for over 40 years operating as Berry Contracting; Bay, Inc.; BAY Ltd.; and other sister companies. In December 1996, BAY Ltd. formed a Tank & Vessel group primarily responsible for field erected storage tank and pressure vessel work. Our focus is on new tankage as well as repairs, alterations, and maintenance to existing structures. This Tank & Vessel group's division manager, Walter Brothers, has 23 years experience with Chicago Bridge and Iron Company that compliments an already experienced and knowledgeable tank staff. Other key players in the organization include Darrell Buckalew, Corpus Christi area superintendent, Sherman Jones, Houston area construction superintendent, and Jim Fretz, design and engineering manager. (Resumes available upon request.) Collectively they represent over one hundred years of experience in storage tank and pressure vessel design, fabrication, construction, maintenance and repair. The cross training experience of our key personnel in the various facets of "tank building" gives us an edge in evaluating repair and maintenance problems. We are well acquainted with the applicable codes and offer assistance in developing needed repair work scopes as well as new vessel budget pricing.

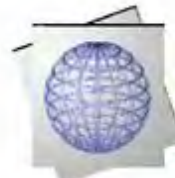
To better serve our clients along the Texas Gulf Coast, we have located our fabrication capabilities at Corpus Christi, Texas; Corn Products Road. Our shop is over 3,000 sq. ft., fully enclosed under roof. We have a full compliment of fabrication equipment to assure quality fabrication on both carbon and stainless steel vessels. When fabricating austenitic stainless steel structures, "strict" isolation procedures are adhered to. With our sister fabrication shops, Berry Fabricators and the BAY Ltd. Industrial Pipe Fabrication shop, no job is too big or small for us to handle. The delivery of fabricated materials and equipment can be handled with Company owned multi-purpose fleet of trucks or can be shipped by barge from our dock facilities.

Engineering design and detailing for storage tanks are performed "in house" by experienced personnel in our Tulsa, Oklahoma office. When customer specifications request it, our CAD generated detail drawings (Autocad 2000) are provided with disk backup.

One primary benefit of contracting with BAY Ltd. Tank & Vessel is the immediate access to other disciplines within the BAY Ltd. organization. These include traditional industrial crafts such as the Scaffold, the Industrial Mechanical and Piping, the Equipment & Heavy Rigging/Hauling Dept., as well as specialized areas such as BAY Ltd. Electrical and Instrumentation Division and BAY Ltd. Environmental (environmental remediation).



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☑ 004/017

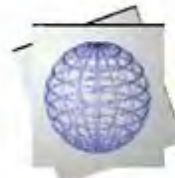
Our Personnel and Safety Department has the ability to man with qualified craftsmen new tank, repair or maintenance work to meet the customer's needs. Our company craftsmen are familiar with the safety procedures and requirements of the regional refineries and continue to have excellent safety records. We have achieved as many as **6,000,000 man-hours without a lost time accident**. Our work is split between new work and tank maintenance and repair. We have included the pertinent safety statistics over the past three years for your review.

We stress quality, productivity and on-time completions, and we insist that each project be done safely. We strive to develop true partnerships with our clients so that together we might better achieve their objectives. We understand the importance of bringing a project in on time and within the established budget. We do not like surprises anymore than our clients do. To that end, we place a high priority on the initial cost estimate, plan and schedule. In this manner, we hope to make the concept of teamwork and partnering a reality so that each of us performs to the limit of our abilities.

We invite you to review our qualifications, and we look forward to having an opportunity to discuss ways in which we might serve your construction and contract maintenance needs.



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007/017

Average annual dollar volume, past 3 years - \$206,166,000
Largest Job, past 3 years - \$ 30,000,000
Maximum job cost range - \$150,000,000
Minimum job cost range - \$ 25,000

Average work force: Office: 200
 Field Supervision: 250
 Field Force: 3,100

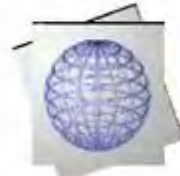
Bay Ltd. of The State of Texas is licensed and/or authorized to work in the following states:

| | | |
|------------|-------------|------------|
| ALASKA | COLORADO | NEW MEXICO |
| ALABAMA | FLORIDA | UTAH |
| ARKANSAS | LOUISIANA | VIRGINIA |
| ARIZONA | MISSISSIPPI | WASHINGTON |
| CALIFORNIA | NEVADA | |

Banking Reference: International Bank of Commerce
221 South Shoreline
Corpus Christi, TX 78401
Mr. Charles White, President

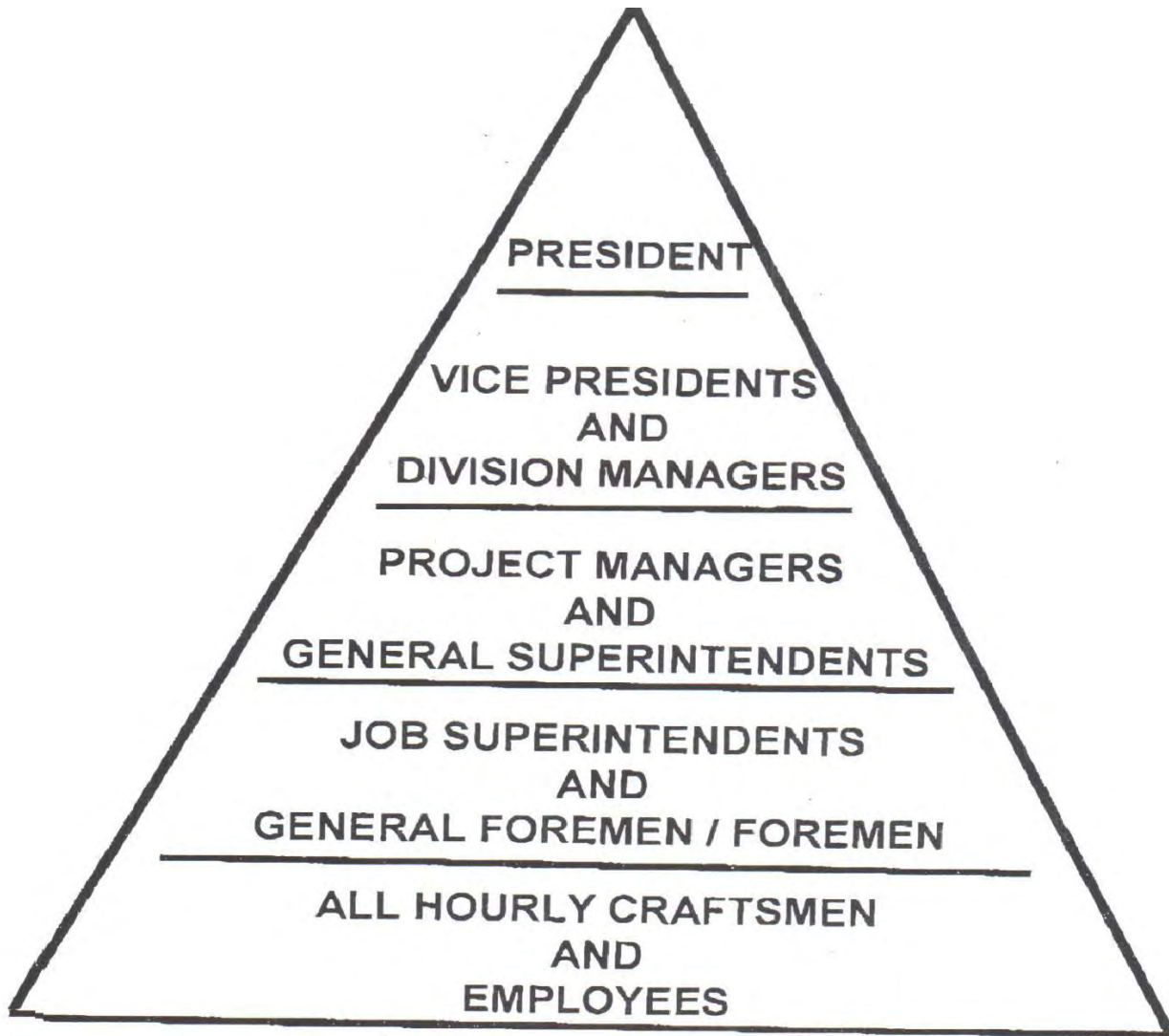


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A BICONTINANTAL CORPORATION ENGINEERING CRUDE OIL STORAGE TANKS AND JOINT VENTURE COMPANIES

BAY LTD. SAFETY RESPONSIBILITY “CHAIN OF COMMAND”





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"ELEMENTS OF SAFETY PROGRAM"

