Ras Az Zawr Aluminium Smelter Project

MA'ADEN معادن

شركة التعدين العربية السعودية

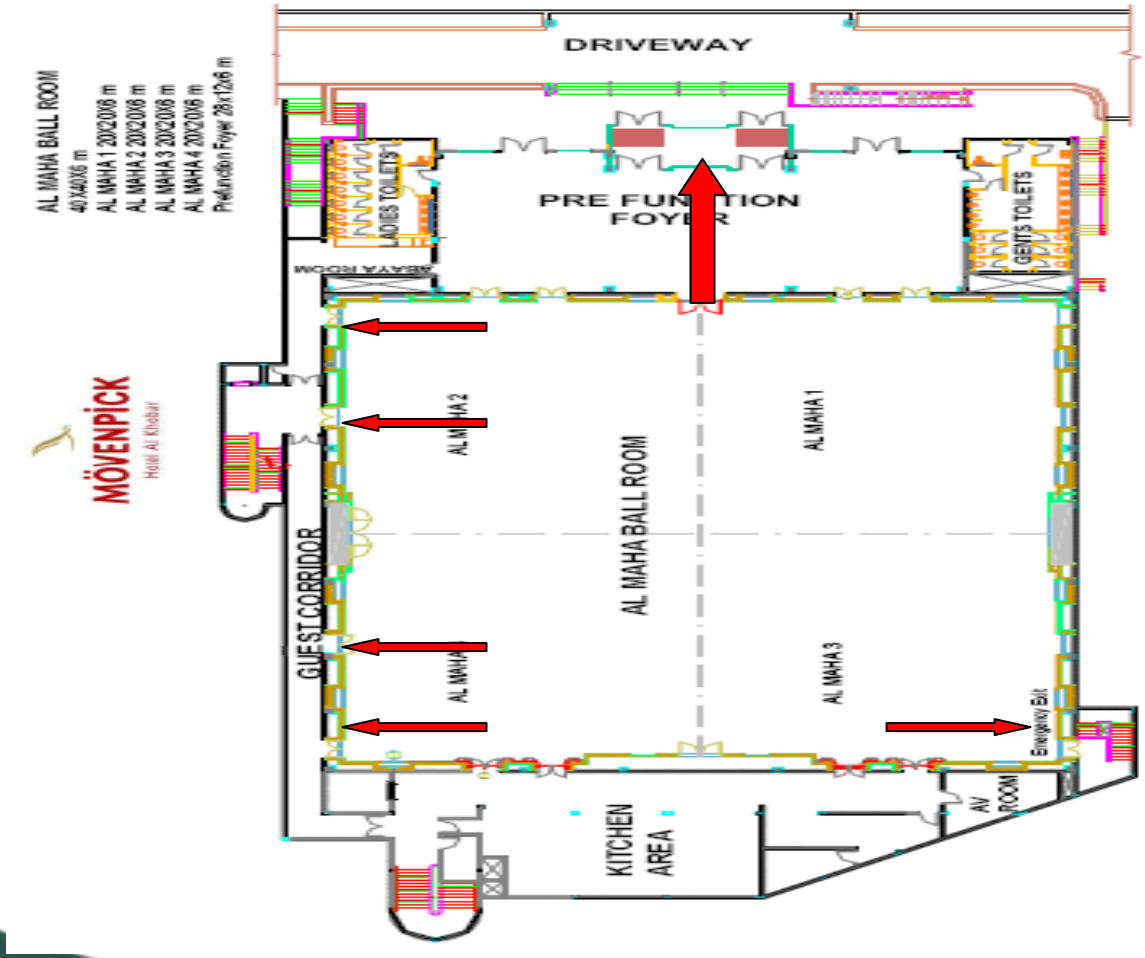
Saudi Arabian Mining Company

Corporate Industrial Security

By

Mohammed Al-Ghadhbani

Banquet Hall Evacuation Floor Plan



Maaden ultimate objective is

to people and the environment.

Maaden follows:

- HCIS Regulations.
- Government rules and Standards.
- International Standards, OSHA, NFPA…
- Ma’aden OHS Manual.

Achieving Zero Harm

1. Provide a working environment which is conducive to health and safety.

2. Identify, assess and manage risk to employees and contractors and impacts on the environment

3. Set measures and review HSE performance targets, and objectives, benchmarking against best international practice.

4. Developing a safe behavior culture as a key component

Achieving Zero Harm

5. Provide resources to achieve our performance targets.

6. Develop our people and assess their HSE competency.

7. Ensure reporting at-risk behavior, hazardous conditions and environmental.

8. Meet legal requirements, and national standards and international codes of practice for environmental aspects.

Achieving Zero Harm

9. Maintain a HSE management system aligned with internationally recognized standards and leading industry practice.

10. Prevent or minimize environmental pollution, conserve natural resources, minimize waste.

11. Communicate with employees, contractors, suppliers, government agencies, visitors and communities to share the responsibility for meeting this objective.

Dirty_Girl_by_naturallady76.abr

Ma'aden, Saudi Arabian Mining Company

Suppliers Briefing Corporate Overview

Eng Abdullah Abdulgader

Executive Director, Project Management & Engineering

Moevenpick Hotel, Al Khobar
29th June 2009

Underground at Mahd Ad Dahab Mine, Saudi Arabia

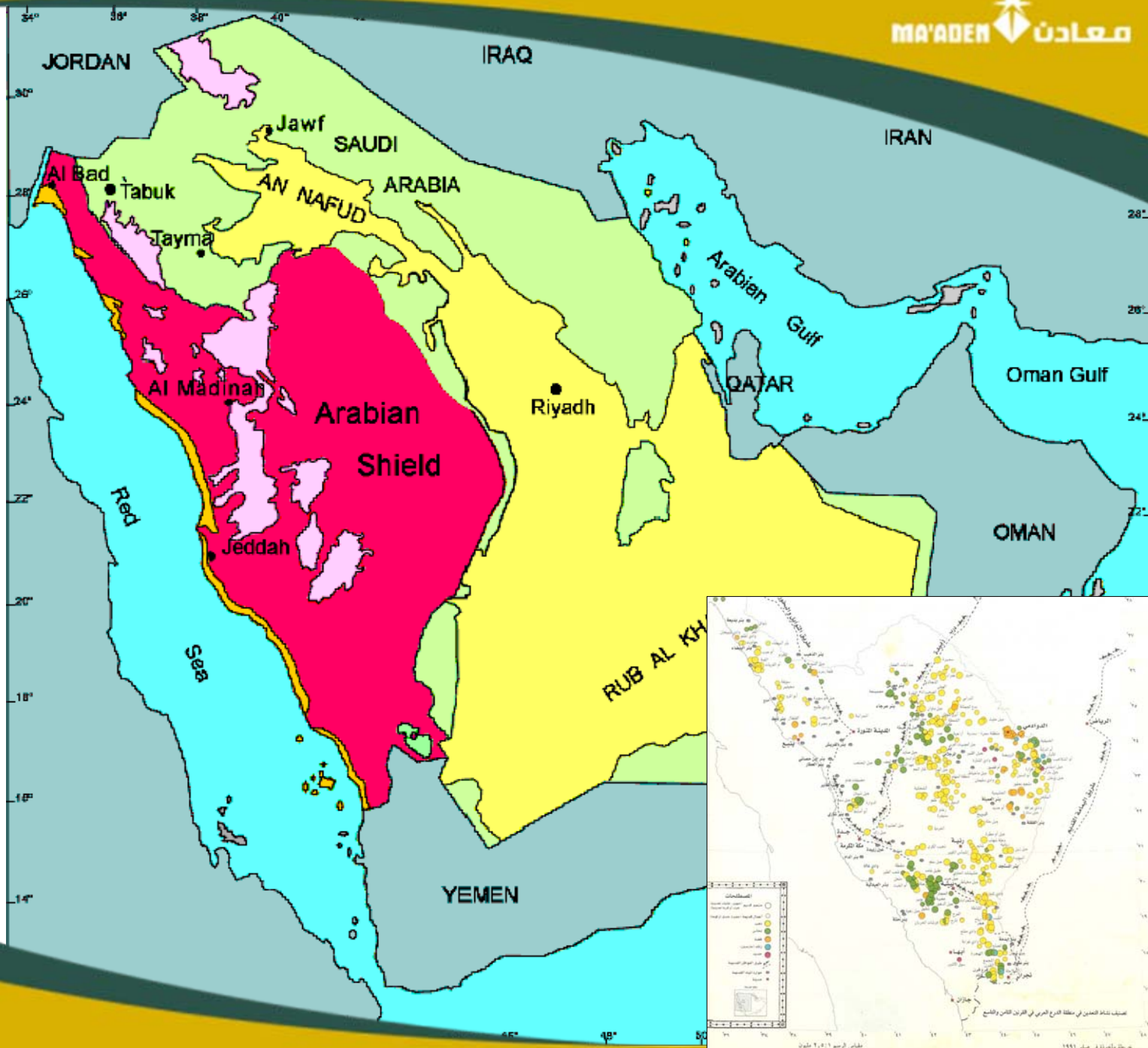
Arabian Shield

Sand seas

Cover rocks

Coastal plain

Lava Fields



Evolution of Ma’aden

1997
- Ma’aden formed by Royal Decree
- 50% of Petromin’s interest in the Saudi Mining Company for Precious Metals (SCPM), including Mahd Ad Dahab mine transferred to Ma’aden

1999
- Ma’aden purchased the remaining 50% interest in SCPM

2000
- Ma’aden opened Al Hajar gold mine, heap leach commissioned in 2001

2002
- Ma’aden opened Bulgah Gold Mine

2004
- The Mining Investment Law in Saudi Arabia was issued by Royal Decree

2006
- The construction of the North South Railway approved by the Council of Ministers

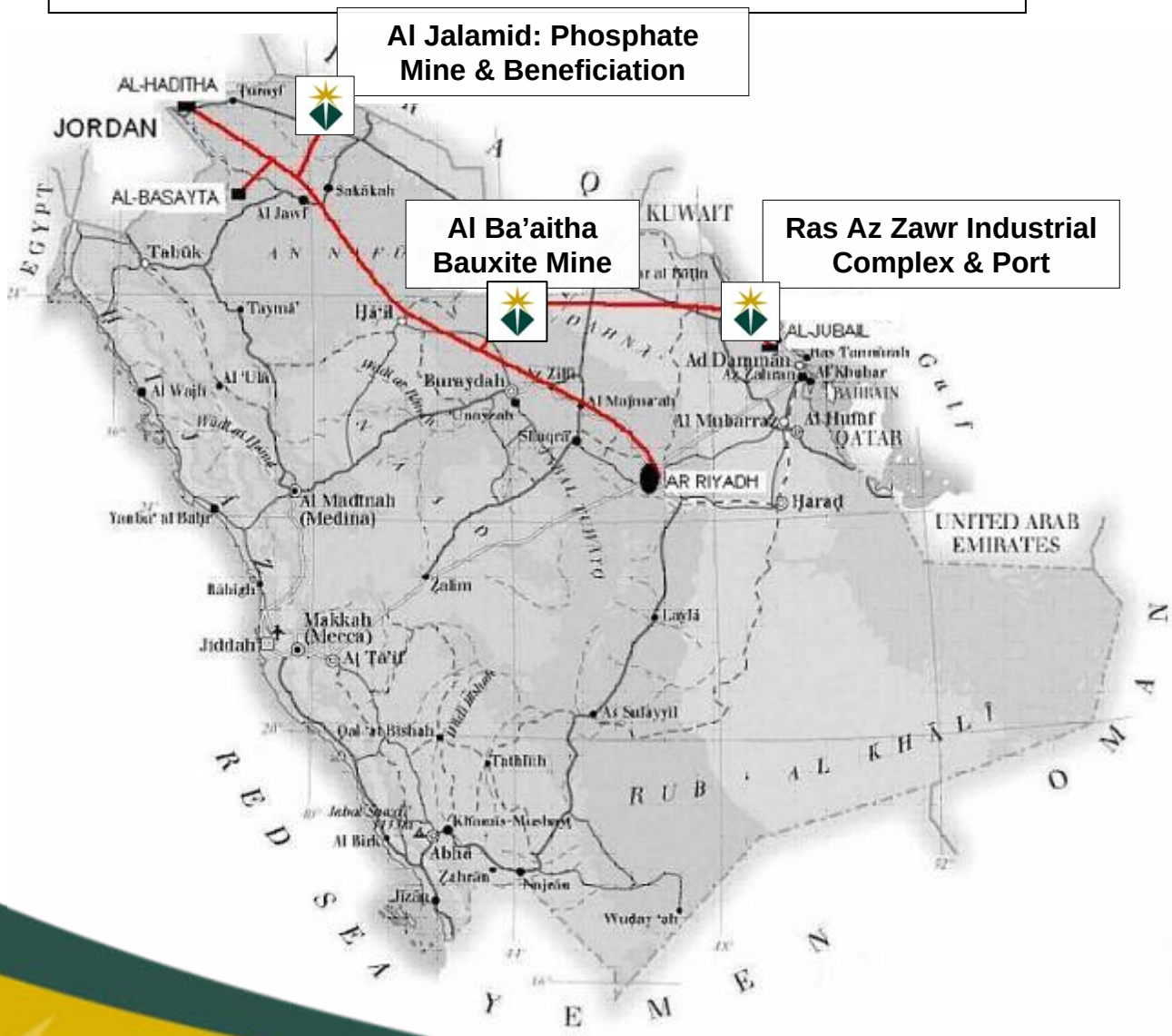
2007
- Ma’aden entered into Heads of Agreement with Alcan (circumstances later forced Rio Tinto Alcan to alter their role in the project).
- Ma’aden entered into a Joint Venture with سابك sabic

2008
- Completed successful IPO selling 462,500,000 shares (50% of company)
- Al Amar gold mine reached full production

Today
- Ma’aden is a publicly traded company with a capital of over SR 9.25 billion
- Ma’aden is developing projects in gold, phosphate, aluminium, magnesite, cement grade bauxite, ethylene di-chloride and caustic soda

Building a world-class mineral enterprise

Rail Infrastructure



- 1,500 kilometres
- Public Investment Fund
- Louis Berger Group is PMC for railway, with Canarail & Systra
- Contractors from Japan, Australia, China and Saudi Arabia
- Longest new railway in the world since Alice Springs – Darwin (Australia)

Business Update

- Phosphate
- Gold outlook
- Industrial Minerals
- Ma'aden in the community
- The future & new business

Sukhaybarat Mine, Saudi Arabia

Phosphate Progress

- Financing completed in June & July 2008 including conventional, Islamic and export credit agency funding
- PIF & SIDF participation
- Two financing awards
- Construction at an advanced stage
- On schedule completion expected
- Production starts Q4 2010
- Outputs:

  5.02 mtpy phosphate concentrate

  2.92 mtpy DAP

  444,000 tpy excess ammonia

Phosphate Complex, Ras Az Zawr April 2009

Phosphate construction 2009

Ras Az Zawr: SAP plant bird's eye view

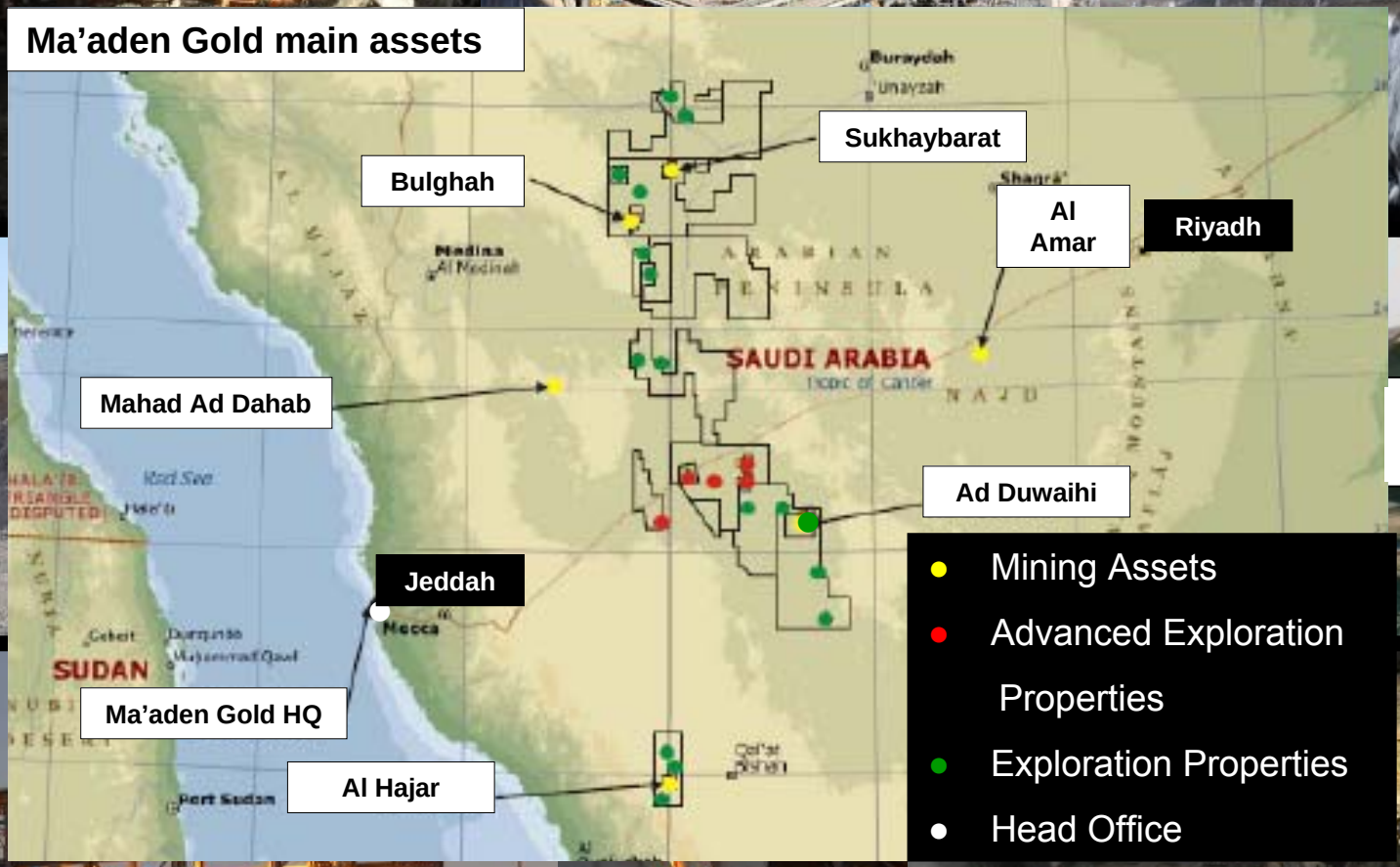
Ras Az Zawr: ammonia tanks 1 & 2

Al Jalamid: beneficiation plant floatation and filtration

Al Jalamid – wet storage shed

Phosphate construction 2009

Ma’aden Gold main assets



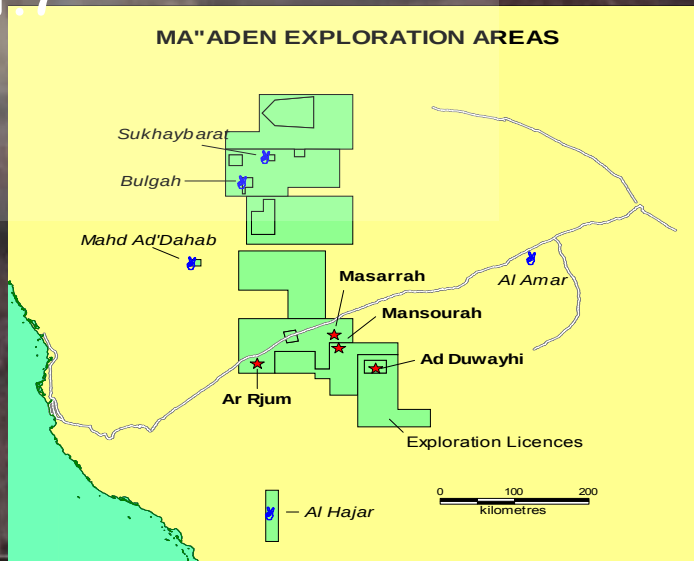
- Mining Assets
- Advanced Exploration Properties
- Exploration Properties
- Head Office

Central Arabian Gold Region

- Regional plant to process ore from the following projects

  - Ad Duwayhi: 17.0 M tons @ 3.4 g/t Au
  - Mansourah: 25.0 M tons @ 2.2
  - Massarah: 14.0 M tons @ 2.2
  - Ar Rjum: 32.0 M tons @ 2.1
  - Zalim: 11.0 M tons @ 1.7

Total Gold Content: 8.5 M Oz



Industrial Minerals

Magnesite

- Located in the north-central part of Saudi Arabia
- High grade resource at Zarghat
- Operational in 2010
- Investment cost of approximately $63mm
- 2.7 million tonnes proven reserves and comprises four separate bowl-shaped ore bodies that outcrop within 300m of each other

Chlor Alkali

- Located in Jubail
- Production of caustic soda – feedstock for refining of bauxite to alumina
- Proposed 50/50 joint venture with Sahara Petrochemical Company
- Capacity to produce up to 250,000 tpy of caustic soda and 300,000 tpy of EDC

Kaolin & Low Grade Bauxite

- Located in central zone of Az Zabirah lease area
- 250,000 tpa cement grade bauxite feedstock
- 50,000 tpa kaolin
- Operations commenced in early 2008
- Capex of approximately of $4m

Ma’aden in the community

- WBCSD definition of Corporate Social Responsibility
- 10 principles defined by the ICMM
- Benchmark and impact studies on all new projects
- Active community relations for operations and exploration
- Support for community projects – focus on education

Deployment of sub surface buoy

Sponsors of The Scouts Association of Saudi Arabia five year environment clean up campaign 2009 - 2014

Recording data along transect line of macro algae habitat site

Marine ecology survey at Ras Az Zawr

Investing in people

المعهد السعودي التقني للتعدين
Saudi Mining Polytechnics
SMP

- Vocational training for mining and associated industries
- MOU signed with TVTC January 2009
- 2 colleges: Arrar and Ras Az Zawr
- Selection of international operator underway
- Language training and quality assurance measures
- Utilizing successful model pioneered by petrochemical and auto industries

Ma’aden’s future

- Creating long term shareholder value
- Building the third pillar of Saudi industry
- Expansion of sector expertise in Saudi Arabia
- Development of downstream sectors

- Actively seeking partnership opportunities
  - Joint ventures
  - Investment
  - Technology
  - Training

- Massive exploration potential

RAS AZ ZAWR ALUMINIUM PROJECT

Project Overview

29th June 2009

Strategic Intent

To create a commercially, socially, and environmentally viable primary aluminium industry meeting local and international needs.

- Leveraging the country's **low cost position** based on power allocation, a bauxite resource, a government-funded railway & port, and the development of a full value chain in one location.
- Developing a **long-term industrial strategy** based on downstream industries and applications in the aluminium sector.
- **Diversifying Ma'aden portfolio** of investments to optimize its risk/return profile.
- Becoming the **partner of choice** for all future developments in aluminium and other metals and mining projects in Saudi Arabia.

Strengths

- Large scale, low cost, long life project.
- Government support:
  - Long term low cost fuel supply
  - National Railway
  - Port
- Location with respect to metal markets i.e. Saudi Arabia, Europe, Far East, etc.
- World-class smelting technology and state of the art environmental protection technology.

Opportunities

- Take advantage of the present market downturn to reduce the cost of the project.
- Continue exploration of the bauxite reserves in the Central Zone to permit an increased refinery output from 1.8 mtpa to 3.6 mtpa.
- Expand the smelter output in the future.
- Convert primary metal into value added products such as billet, sheet, foundry, cable, etc.
- Develop downstream industries such as a rolling mill at the industrial site in Ras Az Zawr.

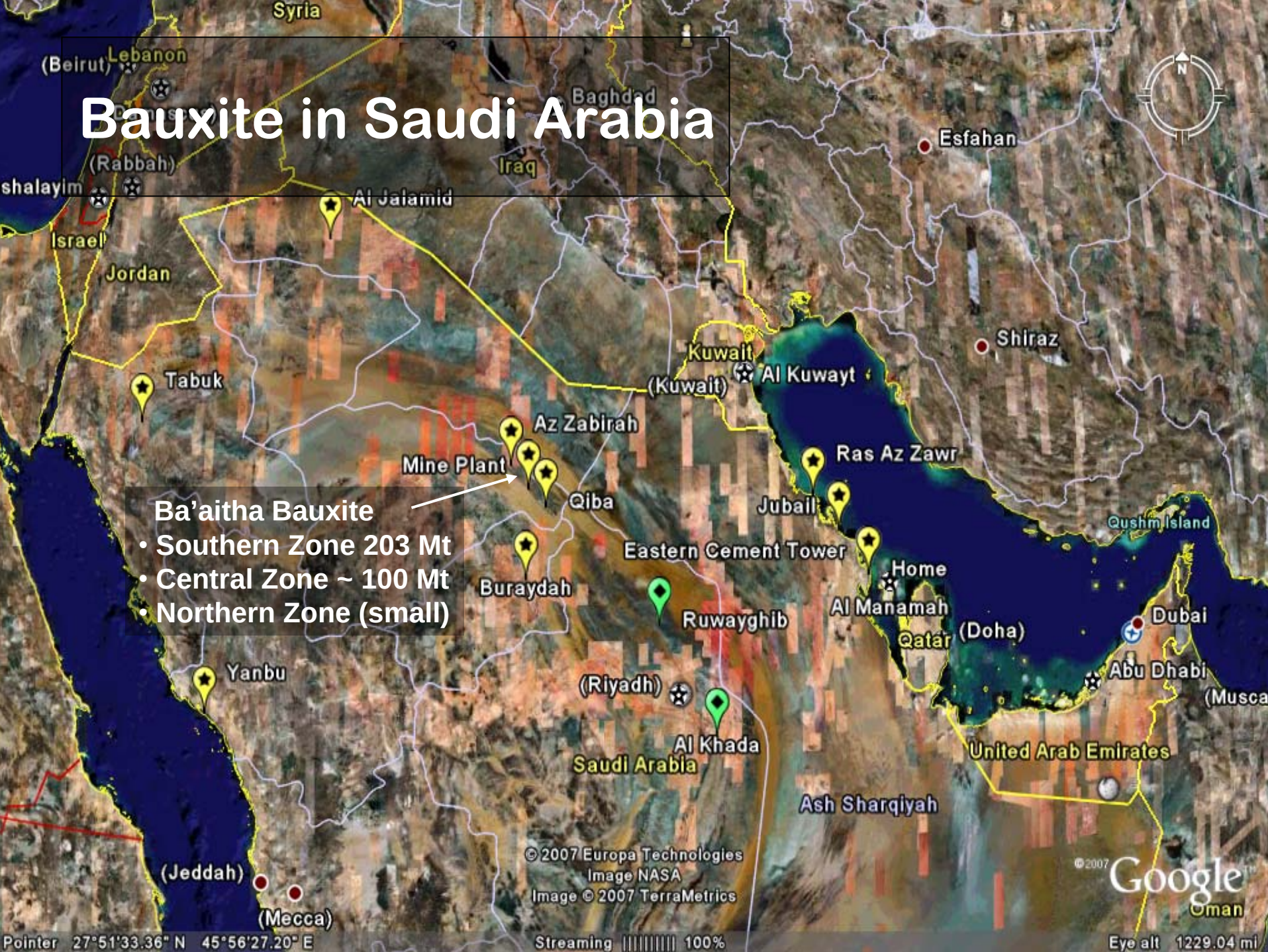
SCOPE

		Capacity
▪ Mine	mtpa	4.0
▪ Refinery	mtpa	1.8
▪ Smelter	ktpa	740**
▪ Power	MW	1,350 MW

Note:

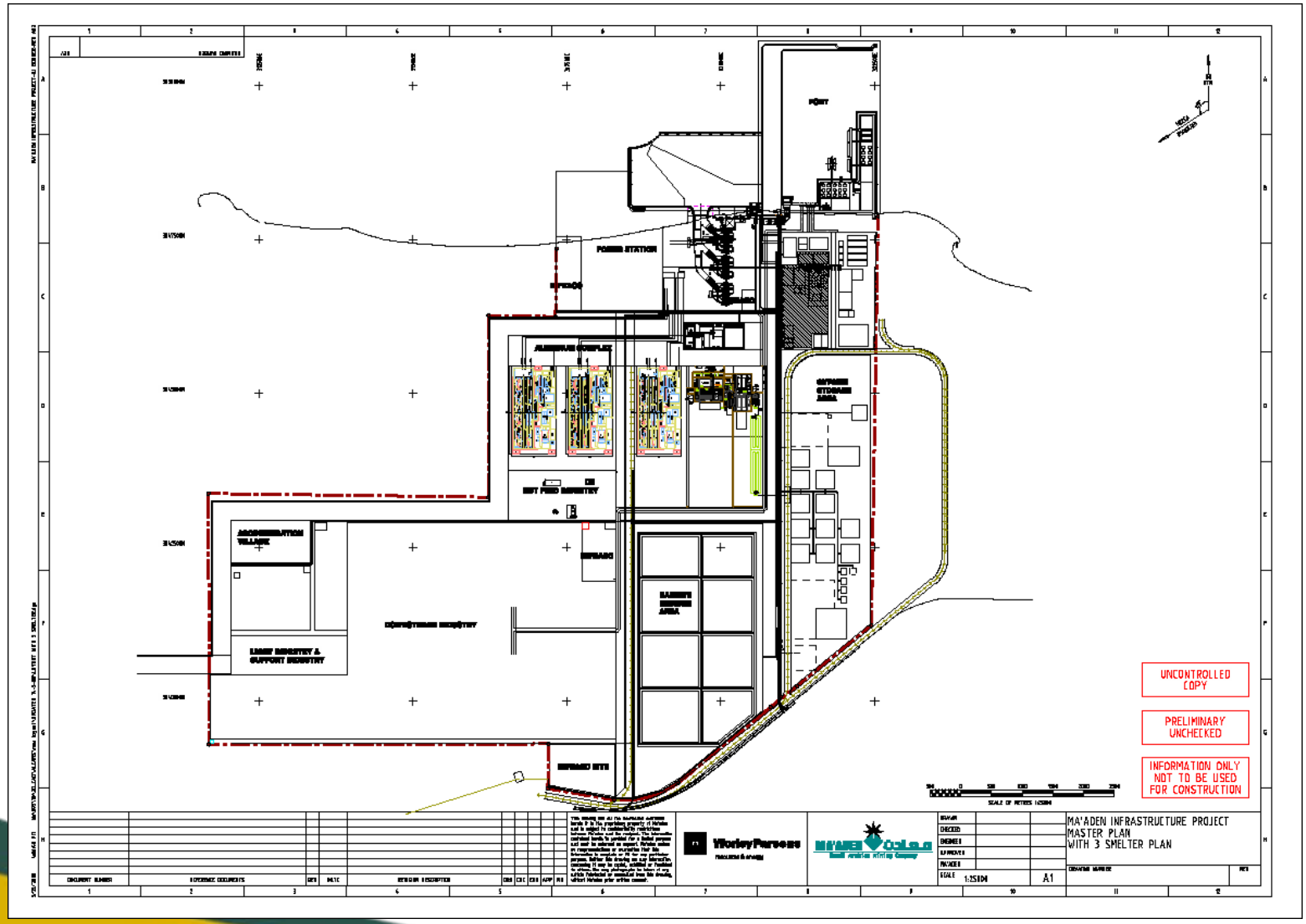
** AP-37 at start-up and AP-39 after the first relining.

Bauxite in Saudi Arabia



Ba'aitha Bauxite
- Southern Zone 203 Mt
- Central Zone ~ 100 Mt
- Northern Zone (small)

Site - Ras Az Zawr



Work done

Studies

• Previous Ma'aden studies on the bauxite reserves, mine, refinery, smelter, and power station	Prior to 2007
• Pre-feasibility Study and Project Review	Jun 2007 – Aug 2008
• Ma'aden Strategic Review	Year-end 2008

EXECUTION STRATEGY

Approach

- The Owner maintains the management of the integrated Aluminium project.

- Owner's Teams have been put together for the Mine & Refinery, Smelter and Power.

- The Smelter and Mine & Refinery will be executed using the EPCM approach:

Mine & Refinery	:	Fluor
Smelter	:	Bechtel

Supplier & Contractor Event
Bob Clayton

Movenpick Hotel, Al-Khobar
June 29, 2009

Project Scope

- Largest smelter ever built as one project
- Port unloading equipment & silos
- 2 potlines of Reduction Cells – 1.3 km
- Carbon Area for making anodes
- Casting plant for solidifying molten metal
- Connections to Power Plant – 1350 MW
- Infrastructure : air compressors, security, admin buildings, sewage treatment, roads

Quantities

Manhours	21 million
Concrete	210,000 m3
Structural steel	46,500 mT
Rebar	20,000 mT
Electrical cable	1,900,000 m
Cable Tray	100,000 m
Piping	44,000 m
Cladding/Roofing	400,000 m2
Aluminium	32,500 mT

Anticipated Dates

▪ Feasibility Study complete	Jan 2010
▪ Financing and project approval	Feb 2010
▪ Start site work	Feb 2010
▪ First Concrete work	Oct 2010
▪ Start steel erection	July 2011

Bechtel - EPCM

- Does all the engineering
- Provides procurement & contract management
- Manages quality
- Provides planning services
- Manages all construction work
- Reports on progress and costs
- Assists in startup and commissioning

SUPPLIER EVENT
Procurement and Contracts

29 JUNE 2009, MOVENPICK HOTEL, AL-KHOBAR

Bechtel's Safety Foundation

- ✓ Bechtel is committed to avoiding accidents and other occurrences that result in injury to employees, interruption of production, or damage to equipment or property.
- ✓ Bechtel will take every action necessary in engineering, planning, assigning, and supervising project operations to establish and maintain safe and healthful working conditions on our projects and protect the general public and environment.
- ✓ All Incidents are preventable – No One Gets Hurt!

Safety Expectations

Contractors and Suppliers

- ✓ Demonstrate Top Management Commitment to Safety Values
- ✓ Ensure all work is carried out in a safe manner
  - ✓ Provide a safe working environment
  - ✓ Provide safe methods of work
- ✓ Ensure plant & substances are safe & without risk
- ✓ Ensure activities don't put employees or the environment at risk
- ✓ Provide information, instruction, *supervision* & *training*
- ✓ Provide adequate:
  - ✓ - Facilities - Tool & equipment
  - ✓ - Amenities - Personal Protective Equipment

Site Rules

- ✓ SAFETY – EACH CONTRACTOR WILL BE ACCOUNTABLE FOR THE SAFETY OF HIS PEOPLE
- ✓ INDUCTION – NO EMPLOYEES WILL BE ALLOWED ON SITE UNTIL THEY HAVE ATTENDED INDUCTION TRAINING AND RECEIVED A BADGE
- ✓ NO CONTRACTOR WILL BE ALLOWED ON SITE WITHOUT AN APPROVED ‘HSE’ PLAN
- ✓ ENVIRONMENT - EACH CONTRACTOR WILL BE HELD ACCOUNTABLE FOR CONTROL OF THEIR WORK AREA AT THEIR COST

Safety Expectations

THE GOAL IS

ZERO

- **Near Hits**
- **Environmental Damage**
- **Property Damage**
- **Fires**
- **Injuries**

Contracting Philosophy

- ✓ Award contracts to a mix of specialist and local companies.
- ✓ LSTK contracts will be awarded for specialist packages such as the Gas Treatment Centers, Paste Plant, Bath Plant etc.
- ✓ Erection contracts will be awarded for packages such as Site Preparation and related infrastructure, Concrete Work, Structural Steel Erection etc.
- ✓ Contracts will be bid competitively and the lowest priced, based on Full Economic Cost (FEC), technically qualified company will be recommended for award.

Contract Opportunities

- Camp and Offices for Construction - Design, Supply, Install
- Earthworks, Access Roads, Temporary fencing for site
- Earthworks for Smelter site
- Temporary Construction Utilities
- Camp Operation and Maintenance
- Medical Services
- Freight Forwarding, Customs Clearance and Inland Transportation
- Civil and Concrete Work
- Structural Steel
- Piling for Port area

Contract Opportunities

- Buildings - Architectural and Main Offices including Cafeteria and Medical Center, Gatehouse and Area Offices
- Buildings - Substations
- Buildings-Industrial (Central Maintenance Workshop, Compressor Building, Blower Room)
- Above Ground and Underground Services
- Mechanical Equipment Installation
- Electrical, Instrumentation and Controls Installation
- Potlining and Cathode Sealing
- Refractory Installation
- Landscape and Fencing

Procurement Philosophy

- ✓ Lowest Full Economic Cost, Quality and On time Delivery
- ✓ Minimize transportation and risks associated
- ✓ Optimize local fabrication and supply

Procurement Opportunities

MATERIAL DESCRIPTION
Bins and Skips
Ductwork-Steel (Gas/Fume/Dust)
Ductwork-Steel (Rodding Shop)
Bolts for Fume Ducting
Supports for Fume Ducting
Cast Iron Channels for Bake Furnace
Cable, Fibre Optic Network, Plant wide
Cable, Telecommunication Network, Plant wide
Cables and Terminations; 11kV; 33 Kv
Computer System Hardware, Plant wide offices
Equipment Hold Down Bolts
Emergency Lighting System
Eyewash Stations
Fencing
Fountains, Chilled Drinking Water

MATERIAL DESCRIPTION
Gaskets, Rubber and Vulcanizing for Fume duct covers including rubber cover mats
Generators, Emergency Diesel for Potline and Power Supply System
Heating Tent
Hoppers, Mobile
Pot Hoods
Pot Lining Tools (Thickness Wedges, Tool Racks)
Pallets, Anode
Steel -Miscellaneous Platforms
Tools for Potline Start-up & Operations
Tools and Stands, Miscellaneous for crucible cleaning
Tools and Equipment, Carbon, Casthouse Maintenance shop
Tools, Cathode Sealing
Tools and Equipment, Bake Furnace

Procurement Opportunities

MATERIAL DESCRIPTION
Labels, General
Louvers
Lighting Fixtures and Equipment - Various Types and Sizes
Manholes/Culvert Pipes
Paint
Panelboard - Power Distribution & Emergency Lighting
Pipe PVC & Fittings (Sizes: 2.5"-4", 5"-8")
Pipe FRP & Fittings – (Sizes 2.5"-4", 5"-8", 10"-12“)
Pipe HDPE & Fittings
Pipe Supports (Standard/Engineered)
Switches - Low Voltage Safety/Disconnect
Tape for Isolating Cladding
Tools, Installation (Various)
Valves- Bulk (Various)
Welding Receptacle - 2-Phase & 3-Phase

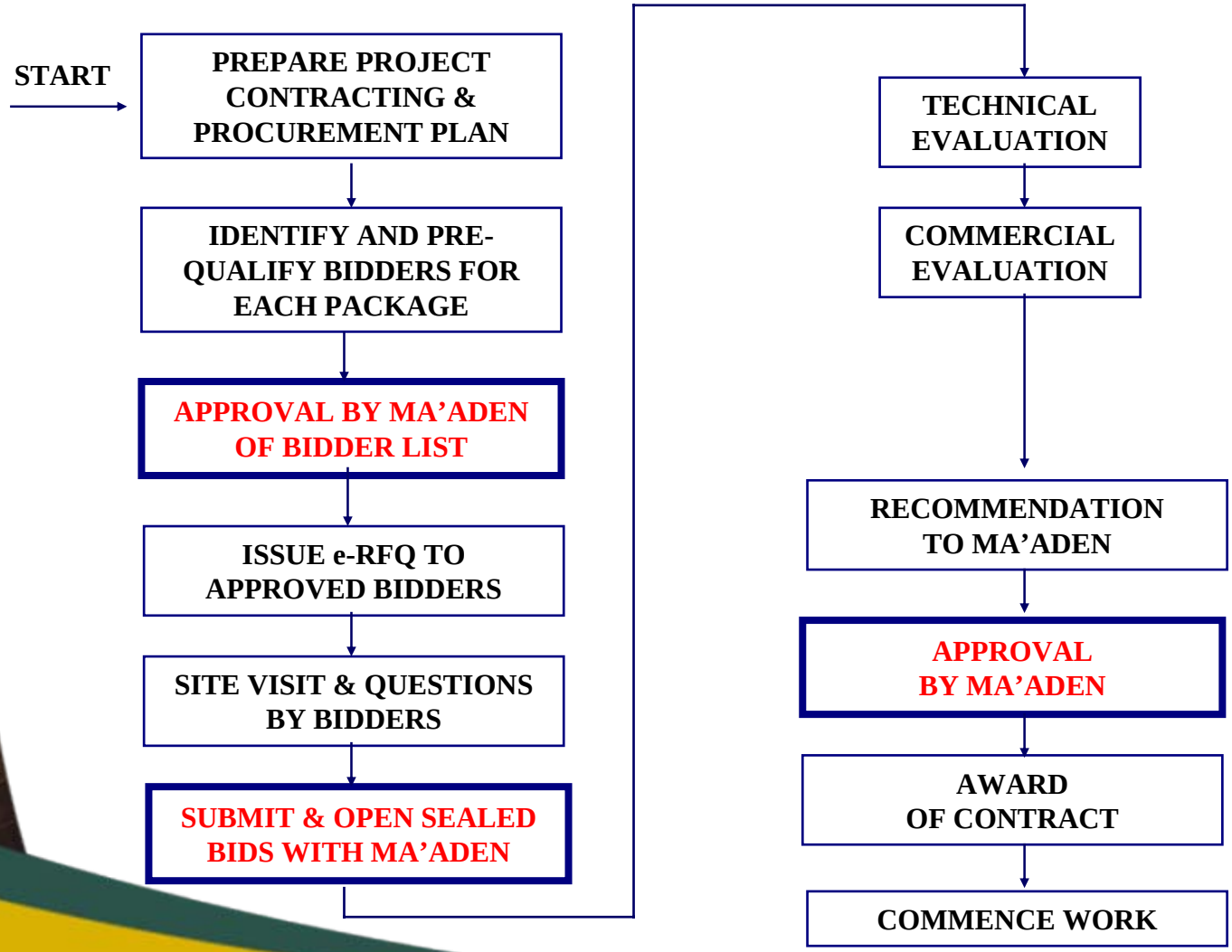
MATERIAL DESCRIPTION
Anchor Fasteners
Structural Bolts
Grout
Cable and Wire - Low Voltage, Medium Voltage, High Voltage
Cable Tray and Ladders
Cable Tray Accessories (Unistrut Channels, Connector, Base Plate, Cable Numbers etc.)
Cable Accessories (Glands, Lugs, Clamps, Ferrules, Cable Markers etc.)
Consumable Supplies- Mastic Sealant, Liners, Plastics
Consumables Supplies - General
Epoxy Insulating
Fire Hose Cabinet
Fire Hydrants
Fire Protection and Sprinkler System
Fire Extinguishers
Junction Boxes

Procurement Opportunities

MATERIAL DESCRIPTION
Anchor Bolts
Automobiles and Buses for Operations
Cranes, mobile for maintenance
Emergency Response Vehicle
Excavator, Pot Delining
Forklifts
Loader, Skid-Steer
Loaders, Front End/Wheel
Man lift
Office furniture and equipment, Plant wide
Platforms, Lifting, Plant wide
Roofing and Siding Material

MATERIAL DESCRIPTION
Safety Equipment and Consumables
Signs
Switchgear, 400V
Steel Formwork
Steel - Silos/Bins/Tanks/Hoppers/Chutes - Shop Fabricated
Steel – Gratings, Chequered Plate, Hand Rail
Sweeper Vacuum Cleaners, General Purpose, Plant wide
Timber Formwork including Nails
Tractors, Road units
Trucks, Pickups/Personal carriers
Trucks, Pickups/Tool carriers

Procurement/Contracts Process



Procurement/Contracts Process

What are the requirements to be on the bid list?

- Submit Pre-Qualification Information
- Sign the Confidentiality Agreement by authorized company representative
- Be specific about what you are interested in
- Demonstrate your experience
- Demonstrate your technical expertize
- Be able to provide quality goods and services
- Demonstrate commitment to SAFETY

Procurement/Contracts Process

What are the expectations of a contractor / supplier

- Be responsive to inquiries; return acknowledgements
- Provide complete information
- Comply with insurance requirements
- Comply with Health, Safety, Environmental expectations
  - Personal Protection Equipment
- Comply with financial requirements
  - Bid Bonds
  - Performance Bank Guarantees
  - Advance Payments and Retention of Payments
- Supply Quantities Specified
- Provide Quality System (eg: ISO 9001)

Procurement/Contracts Process Confidentiality Agreement

- ✓ Technology is from Aluminium Pechiney
- ✓ Each Supplier and Contractor will be required to sign a CA prior to receiving an RFQ package
- ✓ Must comply with strict procedures on handling the AP documentation
- ✓ The CA will stay in force for 15 years
- ✓ All technical documents shall be returned, after the Bid period or completion of work, to Bechtel

Procurement/Contracts Process

- ✓ The e-RFQ (Electronic Request For Quotation) will be used during the Ma'aden project for both, Procurement and Contracts
- ✓ Information and instructions as how to use the RFQ and how to submit an Electronic quotation will be provided to a nominated Supplier/Contractor representative via E-mail
- ✓ *https://registration.supplier.bechtel.com/Home.aspx*

Procurement/Contracts Process

BECHTEL SUPPLIER AND CONTRACTOR PORTAL

BECHTEL.COM | CONTACT US | ABOUT

HOME | REGISTRATION INFORMATION | COMPANY ADMINISTRATION | SWITCH COMPANY | LOGOUT

Use the navigation at the top or the links below to access your information.

Company Registration

Update your company information in Bechtel's global database of suppliers and contractors.

Document Upload

Upload documents to share with Bechtel.

Project Opportunities

View a list of and indicate your interest in Bechtel projects world wide

Inside Track

The essential Supplier Guide to successfully planning and executing work with Bechtel.

News

New version of the Supplier Portal released April 12, 2008. Click here to leave feedback.

For the latest instructions on using this site, please see the Returning Member Guide.

Add Another Company

Register a separate company and access it with your existing login credentials. Note: use this link to register *different* companies only. Additional locations to existing registrations should be managed in Company Registration.

Procurement/Contracts Process

BECHTEL SUPPLIER AND CONTRACTOR PORTAL

HOME | REGISTRATION INFORMATION | COMPANY ADMINISTRATION | SWITCH COMPANY | LOGOUT

New Company Registration

Next > Cancel

Before you begin...

To register your company with Bechtel we ask that you fill out a short company questionnaire. In return, the information you provide is recorded in Bechtel's Global Supplier and Contractor database. This database is used by Bechtel projects worldwide as an initial source for developing a list of potential bidders.

Registration does not guarantee participation in Bechtel bid solicitations.

To register your company with Bechtel:

1. Using our simple search page, you will locate your company headquarters in the Dun & Bradstreet database.
2. Next, you will register yourself in the Supplier and Contractor Portal with your name, email address and password.
3. A short questionnaire will be provided for you to give us some basic information about your company.
4. The full questionnaire will then open, providing you with the opportunity to add more detailed information about your company and its capabilities.

This completes the registration process.
Providing more complete information about your company maximizes your visibility to Bechtel and your opportunities for new work. We recommend you review and update your information on a regular basis to keep it current.

Next >

Contact

- Contracts Manager
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- Project Procurement Manager
  - Alain Roy @ +1 514 394 2996
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