PUNJTAN ENERGY®

Providing Innovative Energy Solutions™

Providing complete Onshore / Offshore Drilling, Workover and Engineering Services

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Index

- Who we are……..3
- Global Presence……...4
- Drilling Services Onshore Rigs…….....5
- Drilling Services Offshore Platform Rigs, Barges & Vessels Available…….....6
- 3D Seismic, Process Engineering & Design Services……..…...7
- CO 2 Recycling & Overview……..…….…….....8
- Enhanced Oil Recovery ……..…….....9
- Oil Production Optimization / Heavy Crude Oil Production…….…...10
- Water Recovery for Steam Injection / Secondary Recovery……...11
- Results Charts……..……..……..12-16
- Additional Consideration for Users……..……..…….....17
- Current users of the Technology……..……...18
- Upstream Offshore / Onshore……..19
  - •Our Project Experience by Sector……..…20
- Natural Gas Processing Plants and Pipelines……..….21
  - •Our Project Experience by Sector……..…22
- Electric Power Generation…….23
- Partial List of our Alliance Members……..24
- Telecommunication and Data Services……...25
- Expertise and Services…….....26
- Patented Chemical Field Applications / Key Features and Benefits…….....27
- Chemical Plants……..…28
- Hydro-carbon Oil Refineries…….....…29
- Our Project Experience by Sector……..….30
- Mechanical / Facilities Engineering…...……..…31
- Civil & Infra-Structural Engineering……...32
- Instrumentation / Electrical Engineering…….....33
- Design / Drafting……...34
- Partial List of our Alliance Members……...…35
- Hydro Electric Power Dam ……....36
- Roadway, Highways and Toll Roads……37
- Water Treatment Plants (Purification/ Desalination)…….....38
- Our Group Capabilities……..……..…….....39
- Renewable Energy……..……..……..…….....40
  - •Solar Energy, Wind Energy, Biomass Energy, Hydrogen Power, Geothermal Energy and Hydropower…….....41-44

Who we are…

Punjtan Energy ultimate mission is to be the technology and quality and safety leader in onshore and offshore drilling, well intervention and well operating services.

We offer services that include the leasing or purchasing of Land Rigs and Offshore Drilling Platforms , JackUp Rigs and Semi Submersible Platforms as well most cost effective and trendsetter Drill Ship, FPSO, Work Over Rigs, and Supply boats.

We offer Elevating Support Vessels (ESV units) and specialized jack-up vessels to operators on long-term contracts in offshore.

Our innovative onshore drilling methods overcome our peers obsolete old fashioned and traditional well drilling methods. We are introducing state of the art technology in fast or rapid moving rigs, compressed loads, heavy oil steam treatment, coal tubing, fracing, directional and creative horizontal drilling methods to boost output and get the highest yield from each well drilled or production enhancement work over.

Elevating Support Vessel technology combines the following into a single, efficient package for offshore construction support or well intervention: crane barges, lift-boats, accommodation platforms and jack-ups or swamp shallow water barge rigs and drill ships.

Overall, we offer greater efficiency, improved logistics all at a reduced cost while maintaining a safe and environmentally sound alternative to existing technologies.

Global Presence

Onshore Rigs

- Punjtan Drilling is capable of deploying any kind of Onshore Land Drilling Rigs, ranging from 450HP truck mounted to conventional box on box 4000HP drilling Rigs. As well all sizes of work over completion and production enhancement rigs ranging from 350HP to 1000HP .
- Currently we have following Rigs Available for Deployment:
- (5) 550-750 HP Land Drilling Rigs
- (2) 800-950 HP Land Drilling Rigs
- (4) 1000 HP Land Mechanical & Electrical Drilling Rigs
- (2) 1500 HP Land Mechanical Drilling Rigs
- (4) 2000 HP Land Electrical Drilling Rigs
- (5) 350 HP Workover Rigs
- (7) 550 HP Workover Rigs
- (6) 750 HP Workover Rigs

(Depending on the contracts as being negotiated in Mexico, USA, Colombia, USA, Venezuela, Libya, Oman, Iraq, Peru, Ecuador, Nigeria, Australia, Algeria, Tunisia, etc. We will be adding and acquiring more rigs for onshore and offshore drilling, work over, and production enhancement as needed).

Offshore Platform Rigs, Barges & Vessels Available

- (1) 250’ Water Depth Jack Up Rig
- (2) 300’ Water Depth Jack up Rig
- (2) 350’ Water Depth Jack up Rig
- (3) 375’ Water Depth Jack up Rig
- (3) Swamp Barge Rig 3000HP
- (3) Posted Barge Rig 3000HP
- (4) Tender Barge Rig
- (2) Dumb Crude Oil Storage Barge
- (1) OSV Offshore Support Vessel
- (2) Tug Boats
- (2) Heavy Lift Vessels

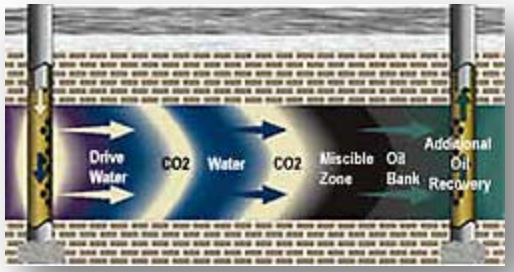
All the above Offshore and Swamp Shallow Waters Rigs are available for immediate deployment, preferably on long term contract basis or outright Purchase. We can also finance any of the rigs, oilfield equipments and provide qualified man power on turn-key basis.

3D Seismic, Process Engineering & Design Services:

- Mechanical /Facilities Engineering
- 3D – 2D Seismic – Satellite Imaging Engineering
- Process Engineering
- Civil / Infra-Structural Engineering
- Electrical Engineering
- Instrumentation Engineering
- Oil & Gas Tools Design / Drafting

- HYSYS/ProMax Process Modeling
- Heat Load Studies
- Flare System Analysis
- Process Design and Analysis
- Heat and Material Balance
- Hydraulic Modeling
- Detailed Equipment Modeling

CO_2 EOR Overview



- CO_2 Flooding
  - History
  - EOR Process
  - Field Assessment
  - Current CO_2 Sources
- Diverse Applications
  - ***Oil and Gas Production – Main Focus***
  - Gas Storage
  - Federal Government, State Government and Coalitions
  - Financial
  - Utilities
- Preparing a CO_2 Asset
  - What to Expect
  - Pilot Project
  - Full Field Project and Economics
- CO_2 Strategy
  - Source Control and JV Projects
- CO_2 Processing Overview
  - Unique Processing Factors
  - Facility Types/Disciplines Involved
  - Enthalpy Diagram – heart of CO_2 Processing
  - Process schematics – HP and LP Field
- Typical Project Deliverables

Enhanced Oil Recovery

•Front – End Engineering Design (FEED Studies)

•AFE Estimated for Overall Project Cost Including Installation

•Mature Production Field Re- development

•Co2 Capture Facilities including COS (carbonyl sulfide) and H2S (hydrogen sulfide) Removal

•Pipeline Engineering, Compliance and Project Management

•HYSY Process Modeling and Heat Load Studies

•Power Capacity Assessments and Heat Load Studies

•Cause and Effect Diagrams

•Process Equipment Design

•Facility 3D Modeling, Including Piping and Equipment Plans with Isometrics

•Structural and Civil Design

•Electrical and Instrumentation

•Procurement Services

Oil Production Optimization

- Challenge: High paraffin wells, with high water content
- Process: Down hole chemical product injection
- Crude Properties:
  - API Gravity of 28º
  - Pour Point of 100º F
  - Paraffin content of 11%
  - Asphaltenes content of 4%
- Results:
  - 100% increase in production leveling off to 50%
  - The water cut in the oil that was produced was reduced by 95%
  - Please see graphics of results in following slides / pages.

Heavy Crude Oil Production

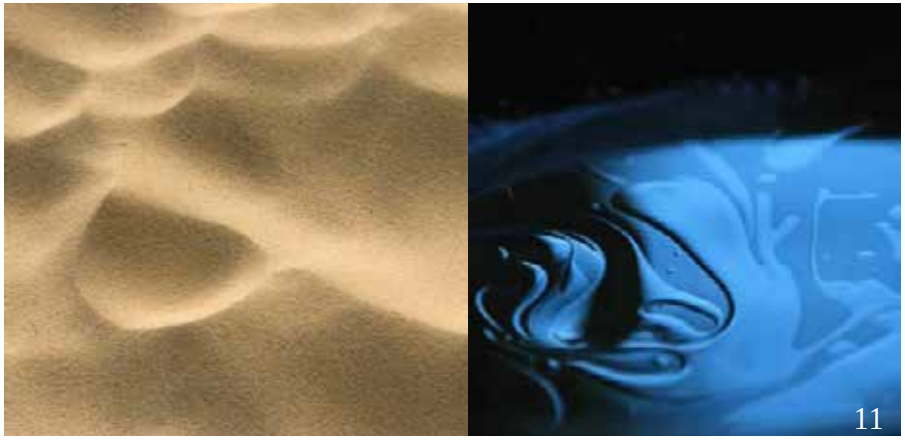
- Challenge: Highly viscous, extra heavy crude oil creating flow challenges
- Crude:
  - API gravity of 7º to 8º
  - Viscosity: 115,000 to 120,000 Cps@ 40º C
- Process: Downhole injection and/or applied in conjunction with steam injection, as well as injection into pipelines and flow stations
- Results:
  - API gravity increased to 17º
  - Viscosity reduction of 60%

Water Recovery for Steam Injection

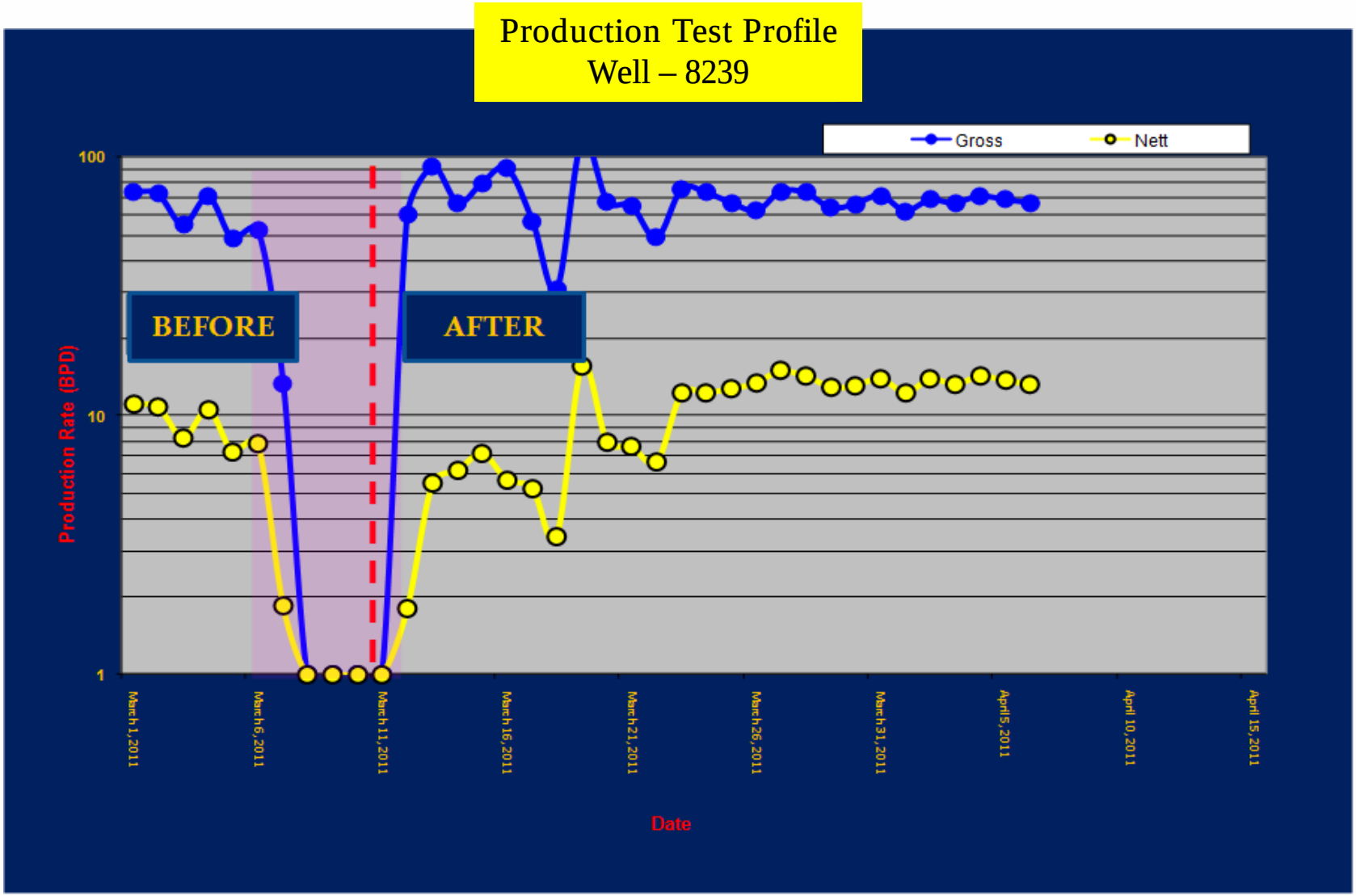
- Challenge: Resulting emulsion from SAG-D (Steam Assisted Gravity-Drainage) leaves the ground at 180° C and contains 70% water and 30% Bitumen. All of the water has to be recovered.
- Crude: API gravity of 11° to 12°
- Process: Applied in conjunction with steam injection into the massive Canadian tar sands to bring up an emulsion of water and Bitumen
- Results:
  - Using the patented chemicals they can recover 100% of the water.
  - The recovered water is 100% oil free.
  - The recovered Bitumen has a B.S.&W. of < 0.1%.
  - The sand is totally oil free.

Secondary Recovery

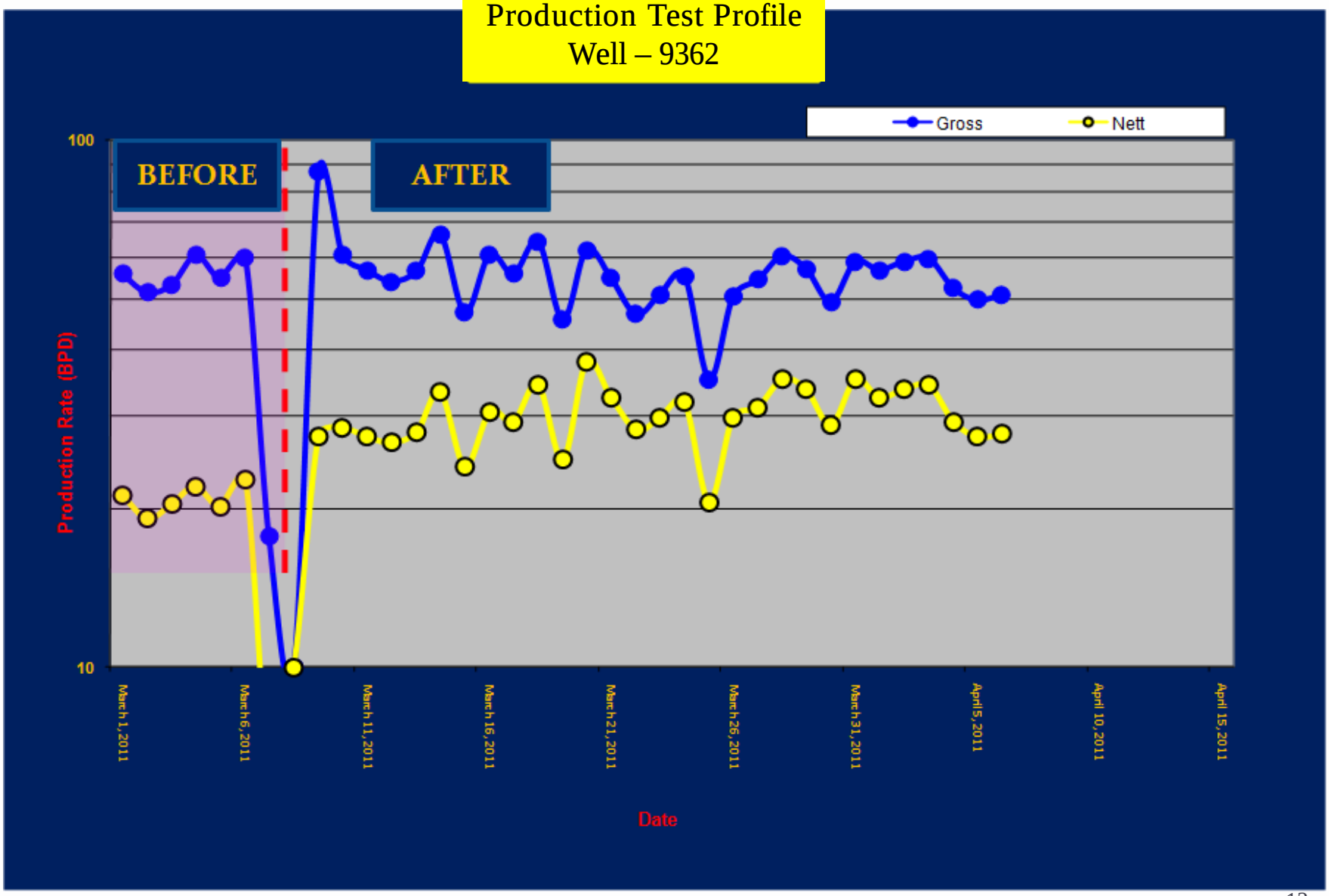
- Challenge: Declining production
- Crude Case 1:
  - API gravity of 12° to 19°
  - 10 wells with artificial lift
- Crude Case 2:
  - API gravity of 32° to 38°
  - 25 wells with artificial lift
- Crude Case 3:
  - API gravity of 40° to 42°
  - 15 wells with artificial lift
- Process: Downhole injection and circulation
- Results:
  - Production increase average of 35%



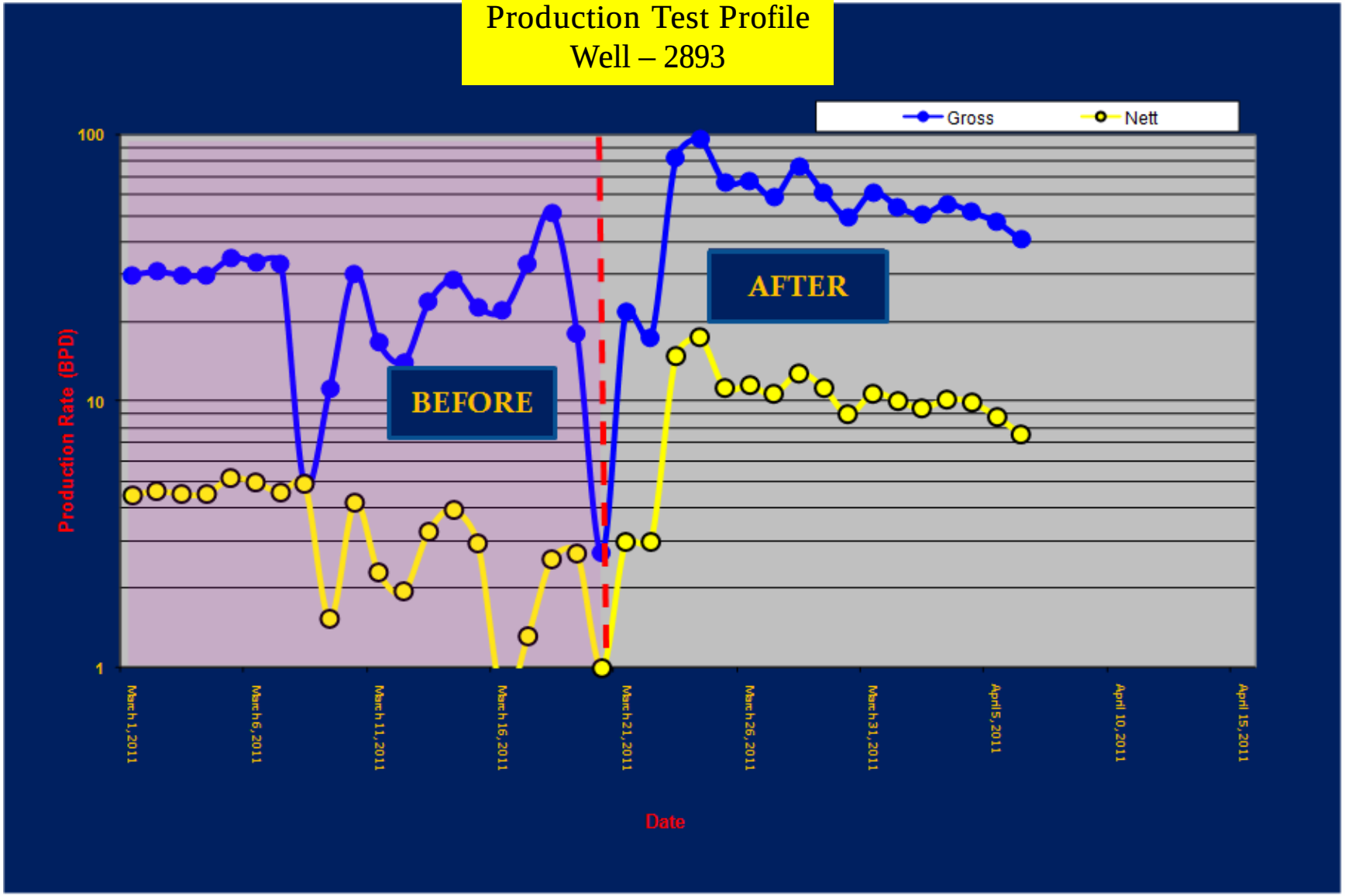
Results Charts



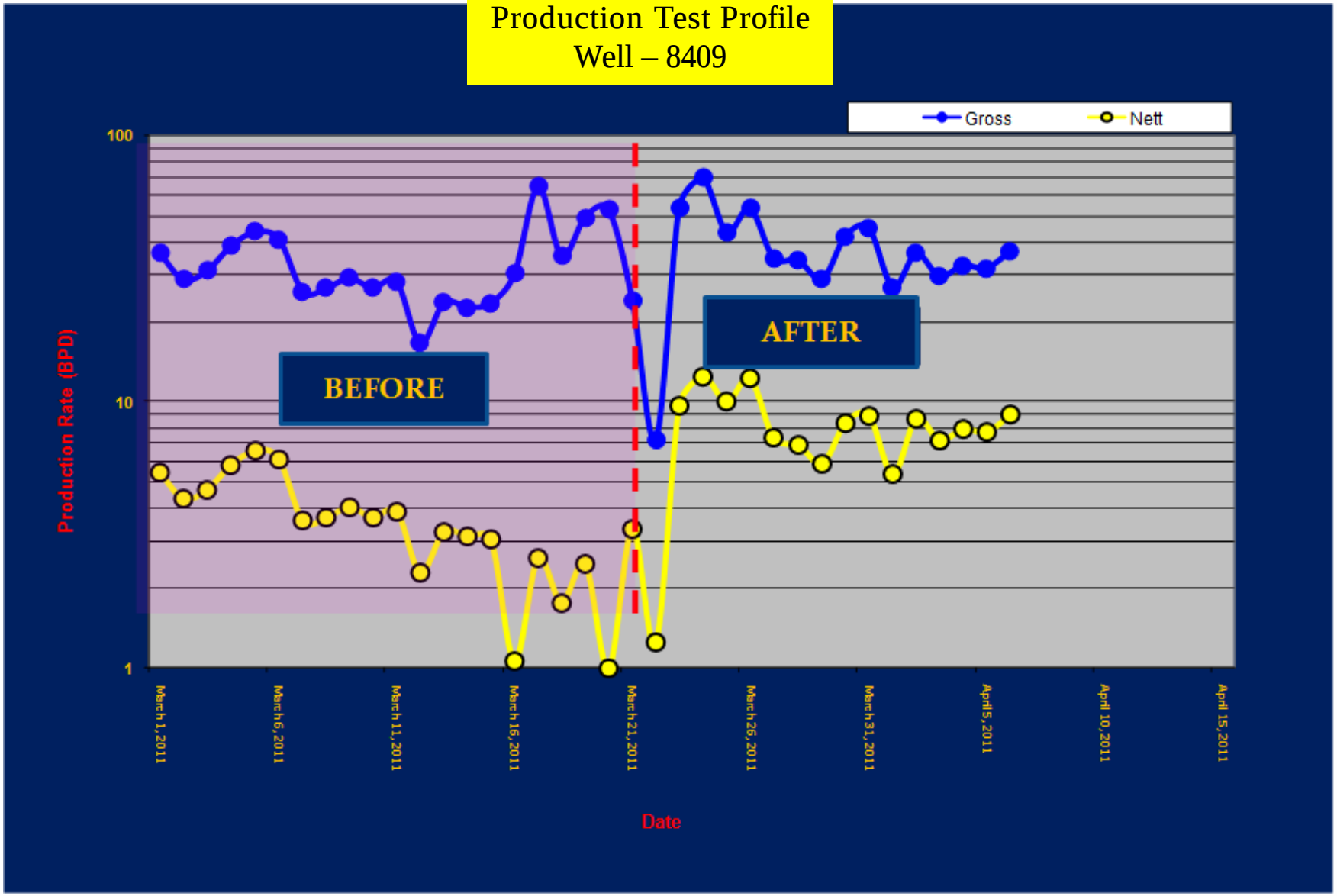
Production Test Profile
Well – 9362



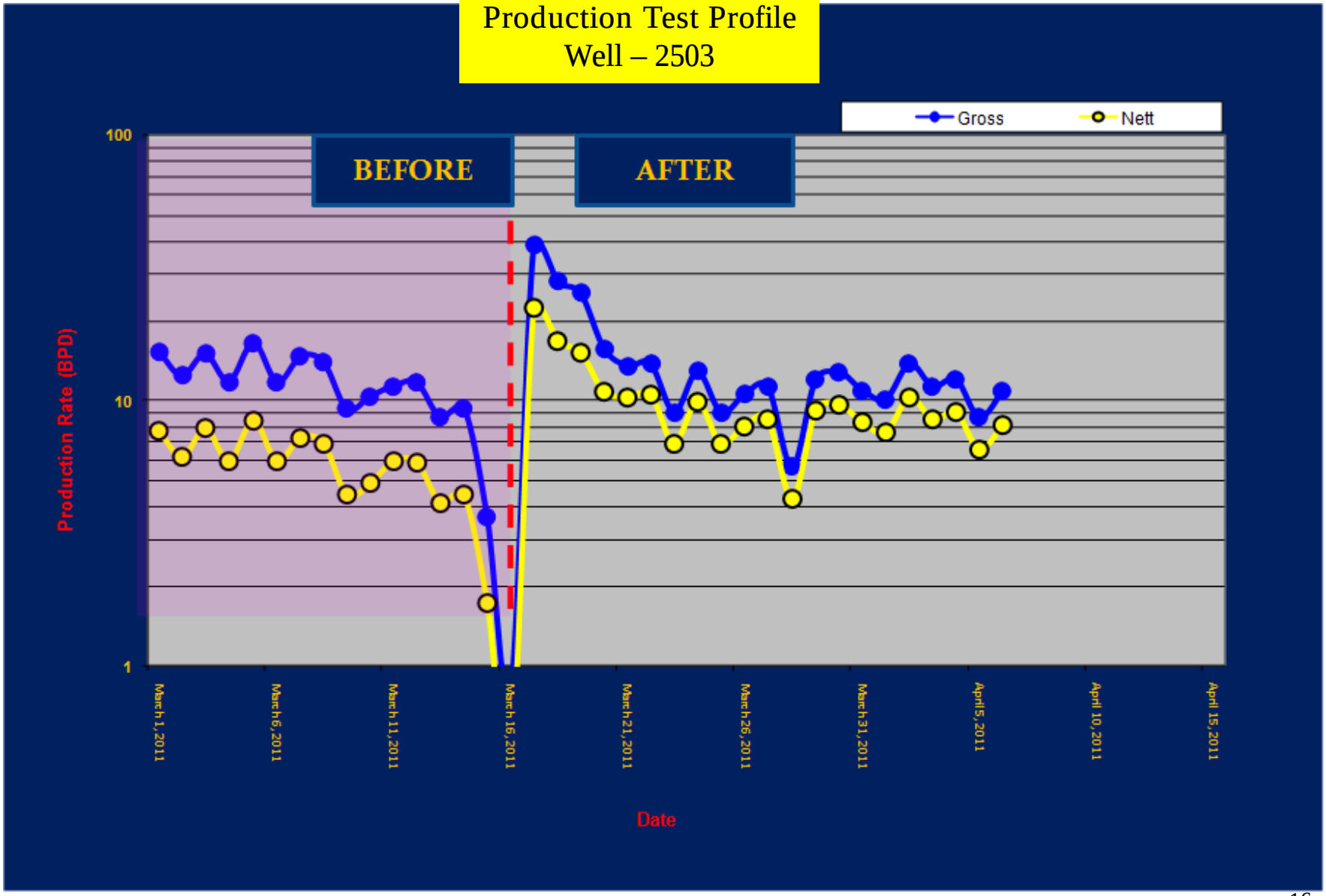
Production Test Profile
Well – 2893



Production Test Profile
Well – 8409



Production Test Profile
Well – 2503



Additional Consideration for Users

Our chemical patents were originally developed for cleaning oil refinery and oil reserve tank bottoms; i.e. creating a chemical that would allow for the recovery of the hydrocarbons in the sludge oil. This has been deployed in numerous storage tank facilities around the US and worldwide with a minimum reported recovery rate of 95%. The recovered hydrocarbons are then processed in Oil Refineries. This application would be of tremendous value to any organization seeking Heavy Oil Solutions.

The chemicals were discovered to have additional properties that were further adjusted and developed for the uses discussed in the previous cases and considered environment friendly.

Current Users of the Technology

- Conventional Production (API gravity 18º to 40º +)
- Production of Heavy Oil (API gravity 7º to 14º)

Case Studies

These are the Oil Companies that have used this technology successfully and are Happy with their Production Enhancement and Maximum Output of their heavy Oils & Sand Segregations.

Upstream Offshore / Onshore

Project Experience by Sector Upstream – Offshore / Onshore

- 50,000 BOPD, 200 MMSCFD MOPU Conversion in Perth, Australia – Full Facilities , structural, and I&E design
- 25 MMSCFD, 1000 BOPD gas Facility on Tripod deck in 320 ft (100 m) water depth – Full Facility, Structural, I&E Design
- 25,000 BOPD Shallow Water Concrete structure – Full facilities, Structural and I&E Design
- Floating Structure in 5000 ft (1500 m) water – Semi-Submersible Floating Structure – Designed for Drilling and Production
- 30,000 BOPD fixed 4 pile structure in 800 foot (243 meters) water depth – Full structural, facilities, I&E Design
- 15,000 BOPD, 400 MMSCFD Co2 EOR Facility – Full Facilities/Process, Civil, and I&E design
- 5000 BOPD, 20 MMSCFD onshore facility – Amine Treating – Full Facilities/Process, Civil and I&E Design

Natural Gas Processing Plants

Pipelines

Project Experience by Sector
Natural Gas Plants

- 500 MMSCFD Gas Plant Upgrade including compression, slug catchers and condensate stabilization system
- Managed new gas processing and fractionation Facility with 28,400 BLPD capacity – Included Refrigerated lean oil Absorption plan, turbo expander plants, end products – ethane, propane, ISO-butane, butane and natural gasoline
- Design/Management of Propane cavern storage facility for 1,333,000 Bbl of Propane – included railway, truck and pipeline facilities
- Relocation and integration of 125 MMSCFD Turbo-Expander plant. Cryo plant required 6600 BHP of new compression

Project Experience by Sector
Midstream- Pipelines/Terminals

- 36” OD x 400 mile CO2 pipeline with multiple booster stations utilizing multistage horizontal centrifugal pumps
- 20” OD x 1440 psig Oil Transportation Pipeline in 150 foot (45 meters) water depth including subsea assemblies
- Oil Terminal upgrade for 200,000 BOPD including tanks, LACTs, Blending, and metering
- 12” x 24 miles Gasoline Pipeline between refinery and loading terminal including truck loading racks
- Refined Products Truck Loading rack for 150,000 BPD refinery

Electric Power Generation

Partial List of our Alliance Members

EAGLE ROCK
ENERGY PARTNERS, L.P.

EPL
ENERGY PARTNERS, LTD.

Telecommunication and Data Services

Punjtan Energy is also a technology based network consulting agency that represents Network Service Providers in the voice and data telecommunications sector.

Punjtan Energy provides the resources and a single point of contact for procuring the exact same services and vendors that you currently utilize in your network providing savings.

Why spend time researching all options and services in the market place when we work with every major telecommunications company and can bring them direct to you for review and procurement. Our comprehensive portfolio of security solutions that keep your network and data protected, your services resilient, and our clients happy is what make Punjtan Energy leaders in the telecommunication sector.

Punjtan Energy's goal is to offer the best products and services that the communication industry has to offer. Our local presence and Global deployments help us provide our customers with Turn Key Solutions that minimize downtime and maximize ROI.



Specific Expertise & Services

Specifically for the challenge of optimizing production and recovery for heavy oil in South America, South East Asia, Canada and the Middle East we offer the following services:

- Petroleum Production: operations, maintenance, facilities, secondary and tertiary recovery
- Drilling and workover services: program design and management, equipment and services
- Application of dozen patented chemical technologies to support and enhance production improvement and oil recovery, as well as improving product quality.

Patented Chemicals - Field Applications

- Lowers Cloud Point (WAT) by 30-40^{o} C
- Removes hard deposits in chemical pipeline pigging
- Removes waxy rag layers resulting in low B, S & W
- Completely disperses rag layers in Heater Treaters
- Clears Waxy deposits from flow lines
- Low cost-in-use compared to conventional wax chemicals
- Improves well production in direct treatment or as an additive in hot-watering/oiling applications
- Removes all wax deposits unlike solvents and polymers thereby avoiding hard paraffin deposits in wells, gathering systems and tanks

Key Features & Benefits

- Higher oil recovery and minimization of waste disposal costs
  - Efficient and rapid separation of oil/water/solid mixtures
  - Waxes dissolved and stabilized in oil
- Reduced viscosity allowing for more useable waste streams and reduced transportation costs
- High flashpoint allowing for application in high temperature environments
- Increased API gravity of heavy crudes yielding higher revenue streams in today's markets

Chemical Plants

Hydro-Carbon Oil Refineries

Project Experience by Sector : Refinery

- Hydrocracker Unit Project – Multi-discipline engineering, design, drafting, project management, construction management and coordination of a new Hydrocracker Unit to increase the capacity of an existing refinery by an additional 50,000 BPD.
- Crude / Vacuum Unit Expansion Project – Multi-discipline engineering, design, drafting, project management, construction management and coordination of a new 50,000 BPD Crude and Vacuum Unit.
- Mobil Source Air Toxics (MSAT II) Project – Multi-discipline engineering, design, drafting, project management and construction coordination to install facilities to reduce Benzene content in gasoline to meet new environmental regulations.
- MSCC Expansion Project – Multi-discipline engineering, design, drafting, project management, construction management and coordination of modifications to convert an existing Milli-Second Catalytic Cracker to Fluidized Catalytic Cracker to improve efficiency and quality of the unit,
- Ultra-Low Sulfur Diesel Project – Multi-discipline engineering, design, drafting and project management of new facilities to reduce the sulfur content in road-grade diesel to meet government mandated sulfur emissions.
- Sulfur Storage and Handling Expansion Project – Multi-discipline engineering, design, drafting and project management of facilities necessary to increase the sulfur storage and handling capacity of an existing refinery; project scope required design of a 10,000 barrel externally steam traced sulfur tank, sulfur shipping pumps, truck scales and loading racks.
- ROSE (Residuum Oil Supercritical Extraction) Oil Heater Improvements Project – Multi-discipline engineering, design, drafting and project management of equipment necessary to improve the heating efficiency of the ROSE Oil Heater to reduce energy consumption of the unit; project scope required design of a new air pre-heater, induced and forced draft fans, air ducts and associated instrumentation and controls.
- Asphalt Handling Expansion Project – Multi-discipline engineering, design, drafting and project management of facilities necessary to increase the asphalt off-loading of the refinery; project scope included installation of new API 610 asphalt transfer pumps, approximately 5,000 feet of 16” electrically heat traced piping from the tank farm to the loading docks, loading arm, associated instrumentation / controls and power requirements

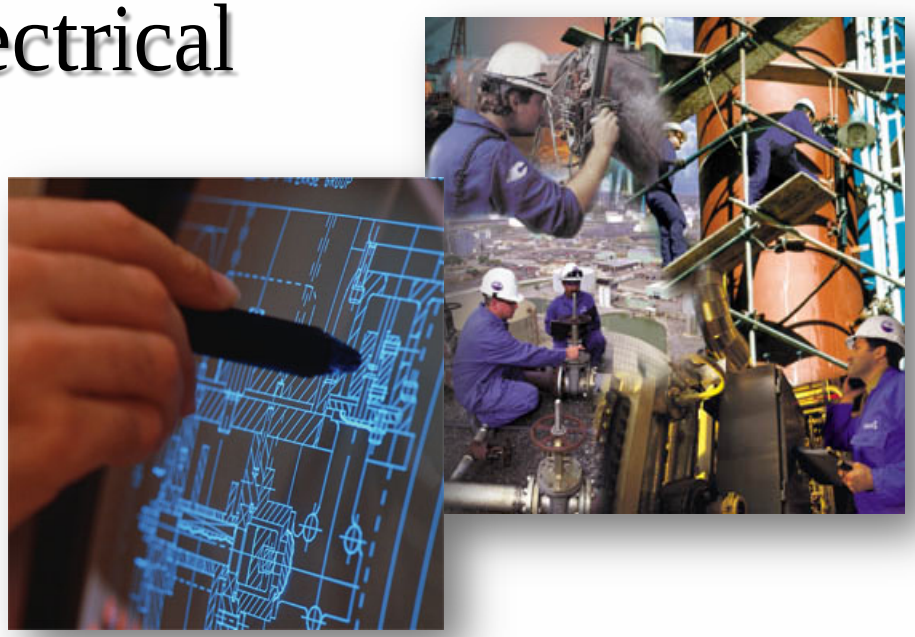
Mechanical / Facilities Engineering

- Front-End Engineering Design (FEED) Studies
- Tank Storage / Terminal Facilities
- Debottlenecking Studies
- Pipelines and Pipeline Support Facilities
- Compressor / PUMP Stations
- Complete Package Process Systems
- Oil / Gas Dehydration-Treating
- Produced Water Treating
- Gas Production, Treating and Compression
- Crude Oil Processing / Refining
- Vent / Flare Relief Systems
- P&ID Development
- Piping Design and Stress Analysis
- Pressure Vessel Design
- Cause and Effect Diagram
- CO2, Water, Nitrogen and Polymer Injection EOR Facilities
- Gas Processing Plant and Fractionation Facilities
- Gas Storage Facilities
- Gas Gathering Pipeline Systems
- Pipeline Vital Records and Compliance Records Management

Civil & Infra-Structural Engineering

- Site/Infrastructure Development
- Concrete Foundation Design (Pile, Slabs, Footings, etc.)
- Lift Analysis (Including Rigging Assemblies)
- Pile Drivability Analysis
- Feasibility Study / Structural Analysis / Design
- Process Skid/Module Design
- Quarters Building Design
- Load-out and Transportation Engineering
- Platform Assessment and Mitigation
- CVA for MMS/BOEMRE (Certified Verification Agent)
- Floating Structures, TLP, Truss Spars

Instrumentation / Electrical Engineering

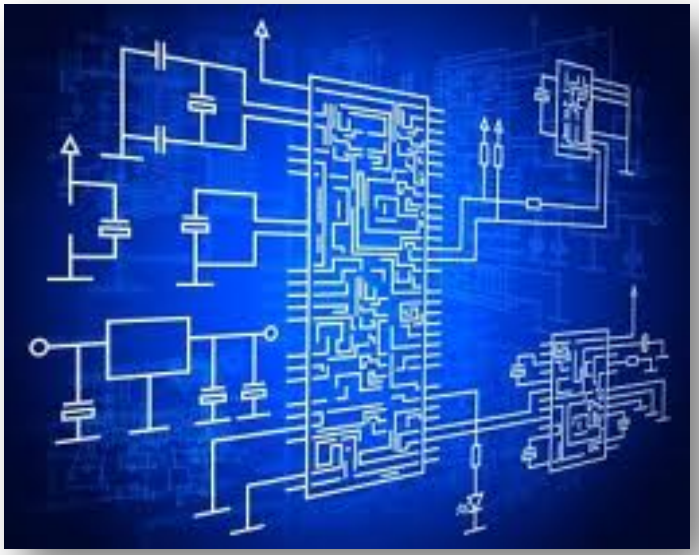


- Lighting System Design
- Electrical Distribution System Design
- Motor Control and Switchgear Design
- High, Medium and Low Voltage Distribution
- Peak Shavings Design
- Demand Low Flow and Short Circuit Studies
- Motor Starting Analysis
- Protective Coordination Studies
- Transient Stability Studies
- Natural Gas, Diesel and Turbine Driven Generator Sets
- Variable Speed Drive Systems
- Auto-Synchronization Design
- Substation Design

- Instrument Device Specifications
- Onshore / Offshore Control Systems Design:
- Electrical, Electronic, Pneumatic and Hydraulic
- Telecommunications and SCADA Design
- PLC/DCS Programming & Screen Builds
- Natural Gas, Diesel and Turbine Driven Generator Sets
- Complete Process/Equipment Automation
- Remote Monitoring and Control

Design / Drafting

- Multi disciplined Design and Drafting
- ADEPT – Document Control Services
- Onsite field trips collecting data for facility design and / or retrofit of equipment
- 3d Model Presentation and Walk-thru
- Utilizing the Industries latest Drafting Software

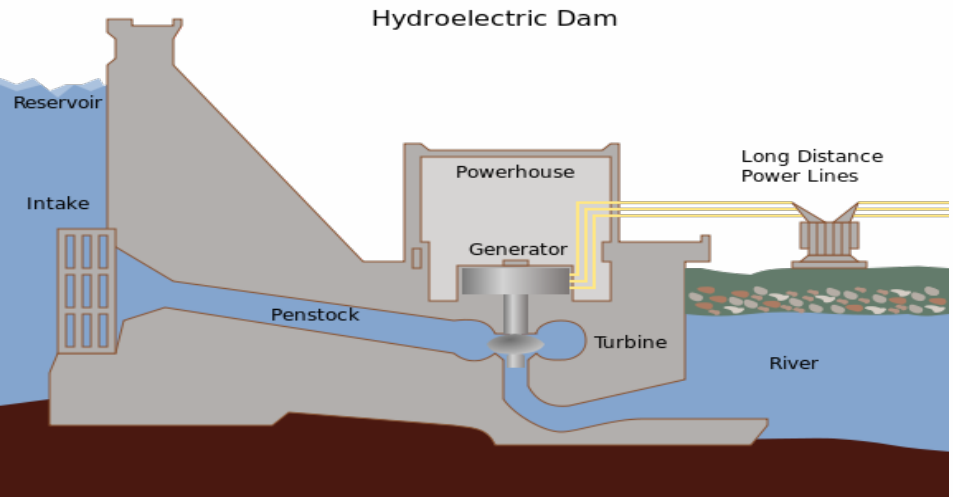


Partial List of our Alliance Members

HYDRO ELECTRIC POWER PLANT

A dam is built to trap water, usually in a valley where there is an existing lake. Water is allowed to flow through tunnels in the dam, to turn turbines and thus drive generators. Notice that the dam is much thicker at the bottom than at the top, because the pressure of the water increases with depth. Hydro-electric power stations can produce a great deal of power very cheaply.

Hydroelectric power is produced as water passes through a dam, and into a river below. The more water that passes through a dam, the more energy is produced.



ROAD, HIGHWAYS AND TOLL ROADS

Punjtan Energy can assist with the engineering, planning and building of any roads, highways and toll roads. With an experienced team we're capable of provide

Punjtan Energy takes a full-service approach to all of our projects. In construction, time is money, and Punjtan Energy recognizes that expedient, accurate and cost-conscious planning combined with experienced management are critical factors to any project development.



WATER TREATMENT PLANTS
PURIFICATION/ DESALINATION

Screening: Wastewater entering the treatment plant includes items like rocks, and even dead animals. If they aren't removed, they could cause problems later in the treatment process. Most of which is sent to landfills.

Pumping Process: The wastewater system relies on the force of gravity to move sewage from your home to the treatment plant. Wastewater-treatment plants are located on low ground, often near a river into which treated water can be released. If built above the ground level, the wastewater has to be pumped up to the aeration tanks. From here on, gravity takes over to move the wastewater through the treatment process.

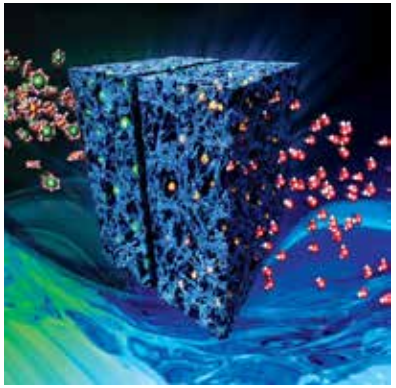
Aerating One of the first steps that a water treatment facility can do is to just shake up the sewage and expose it to air. This causes some of the dissolved gases that taste and smell bad to be released from the water. Wastewater enters a series of long, parallel concrete tanks. Each tank is divided into two sections.

Removing of sludge: Wastewater enters the second section or sedimentation tanks.

The sludge settles out of the wastewater and is pumped out of the tanks. Some water is removed in a step called thickening and then the sludge is processed in large tanks called digesters.

Removing scum: As sludge is settling to the bottom of the sedimentation tanks, lighter materials are floating to the surface. This 'scum' includes grease, oils, plastics, and soap. Slow-moving rakes skim the scum off the surface of the wastewater. Scum is thickened and pumped to the digesters along with the sludge.

Killing Bacteria Finally, the wastewater flows into a 'chlorine contact' tank, where the chemical chlorine is added to kill bacteria, which could pose a health risk, just as is done in swimming pools.



Capabilities

Project /Construction Management

- Strategic Planning and FEED Study
- Class 1 thru 5 Cost Estimating/AFE Development
- Regulatory Compliance
- Development of Permit Packages for Regulatory Submittal
- Project Cost and Schedule Packages for Regulatory Submittal Reporting / Project Metrics
- Construction Oversight
- Facility Commissioning, Start-up Procedures and Start-up a assistance
- Post Project Documentation
- Turnaround Planning & Support
- Surveying
- Process Safety Management (PSM)

Procurement & Financial Support

- RFQ/RFI Package
- Competitive bid process management
- Cost Tracking/AFE Development
- Cost vs. Time analysis
- Purchase Order Creation/Issue
- Technical bid analysis
- Cost Control and Loss Reporting
- Total Procurement System Management
- Financing of Turn-Key Project
- Joint Ventures – Partners Identification
- Production Marketing & Sales
- Hydrocarbons Oil & Gas Production barter or trade off's for our Services

RENEWABLE ENERGY

Renewable energy and energy efficiency technologies are key to creating a clean energy future for not only the nation, but the world.
Climate change and a growing demand for clean energy are opening up new business opportunities.
At Punjtan Energy we are in a position to seize these opportunities by utilizing long-standing core capabilities from the Oil & Gas industry.
New renewable energy is one of the most exciting growth areas in the energy market. Punjtan Energy is focusing on establishing a position in markets where the company has natural advantages, particularly within offshore renewable energy.

Which Includes:

Solar Energy
Bio Fuels
Wind Energy
Hydrogen
Geothermal
Hydropower
and Carbon Capture Storage

SOLAR ENERGY (PV):

Solar power is friendly to our environment because no fuels are combusted, which means that emissions associated with generating electricity from solar technologies are negligible. The most common technologies used to actively convert solar energy into electricity are photovoltaic and concentrating solar power (solar-thermal) which include parabolic trough systems, the lowest cost solar electric option for large power plant applications. Unlike solar photovoltaic, solar thermal projects tend to be large-scale and in remote areas.

BIO FUELS:

Bio fuels are an important sustainable energy carrier which could contribute significantly to reduction of greenhouse gas emissions by the transport sector. Bio fuels represent the largest near-term possibility of decreasing CO_2 emissions from the transportation sector. Bio fuels have the advantage of being easily integrated into the established infrastructure for petroleum fuels thereby facilitating introduction. Today's most common bio fuels, ethanol and biodiesel are possible to blend to current fuels and utilize in existing vehicles.

More and more countries worldwide are developing bio fuel programs and implementing mandates for bio fuel usage. The European Union has a target of replacing 10 % of transportation fuels with renewable fuels in 2020 and the United States has targets of producing and using 36 billion gallons of ethanol by 2022.

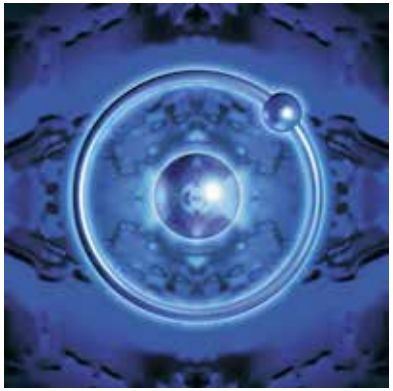
WIND ENERGY:

Wind energy is among the world's fastest-growing sources of energy. During the last decade, wind energy growth rates worldwide averaged about 30 percent annually. In the last three years, the U.S. and Texas wind energy markets also have experienced a rapid expansion of capacity. In 2007, for example, U.S. wind power capacity grew by 43 percent.

Wind power is an abundant, widely distributed energy resource that has zero fuel cost, zero emissions and zero water use.

HYDROGEN:

Hydrogen is high in energy, yet an engine that burns pure hydrogen produces almost no pollution.
A fuel cell combines hydrogen and oxygen to produce electricity, heat, and water.
Both convert the energy produced by a chemical reaction into usable electric power. However, the fuel cell will produce electricity as long as fuel (hydrogen) is supplied, never losing its charge.
Fuel cells are a promising technology for use as a source of heat and electricity for buildings, and as an electrical power source for electric motors propelling vehicles. Fuel cells operate best on pure hydrogen. But like fuels natural gas, methanol, or even gasoline can be reformed to produce the hydrogen required for fuel cells. Some fuel cells even can be fueled directly with methanol, without using a reformer.
In the future, hydrogen could also join electricity as an important energy carrier. An energy carrier moves and delivers energy in a usable form to consumers.



GEOTHERMAL:

Geothermal energy derives from the immense thermal reservoir of the earth's interior. Heat from molten rock (magma) beneath the earth's crust or from natural radioactive decay transfers to rock and water closer to the surface. In certain regions of the earth, the hot waters are close enough to the surface to be commercially exploited in heating applications, or, in the case of high-grade steam reserves, in power generation.

A recent study by the U.S Environmental Protection Agency showed that geothermal systems generally have the lowest life-cycle cost of all heating & cooling systems available today.

HYDROPOWER:

Energy extracted from the water is known as the hydropower energy. Usually electricity is produced from this energy. The 75% of the earth's surface is covered with. Today most of the countries produce electricity through hydropower energy. Dams and reservoirs are built on lakes and rivers which collect water and the water goes to the turbines which rotate and extract the energy which produces electricity. Water is an extremely reliable source for producing electricity because not only the water from the seas will never run out but also that a small amount of water can produce electricity enough for a small village.

Today more than half of the world uses water energy to produce electricity. Although this electricity is produced using river water, by forming dams, yet there are many new technologies that can utilize energy from sea current to produce electricity.

Let's form the Ultimate Alliance Towards Success..

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