TR YA

## -Energy Services-

OMPANY PROFIL



## THE COMPANY

In 1997, **TROYA** is established by 3 leading expert Petroleum and Natural Gas Engineers in order to provide service to oil production companies. Today, Troya is trying to submit the best solutions to clients in oil, gas and geothermal industry with its experienced founders and dynamic personnel who successfully completed projects and having domestic and outland experiences.

**TROYA** has completed its every project successfully. By fulfilling every requirement of Standards, ISO 9001, ISO 14001 and OHSAS 18001 certifications were acquired. It performed all committed projects by applying every requirement of Health, safety and Environmental Policy. It is precisely for these reasons; Troya believes that it has a reference list of high-class, capable to compete with world and caught the improved technology.

**TROYA** is watching innovations closely and trying to be better in each new project compared to previous ones. Moreover, Troya always cares the education of own personnel due to believing that the education is a continued process.

#### Fields of Activity:

- ✓ Drilling Engineering and Consultancy Services
- ✓ Production Engineering and Consultancy Services
- ✓ Design, Engineering, Manufacturing and Assembly of Production Facilities Equipment
- ✓ Engineering and Construction of Pipelines
- ✓ Material Supply
- ✓ Engineering and Consultancy Services for Underground Natural Gas Storage



## ACTIVITIES

## **ENGINEERING & CONSULTANCY**

### 1. Upstream

#### **Reservoir Engineering**

- ✓ Well Logs Evaluation
- ✓ Well Test Program and Evaluation
- ✓ Oil in Place Calculation
- ✓ Reservoir Characterization

#### **Drilling Engineering**

- ✓ Drilling Management
- ✓ Preparing Drilling Programs
- ✓ Drilling Rig Optimization and Selection
- ✓ Drilling Material Procurement and Logistics
- ✓ Well Site Drilling Engineering

#### **Production Engineering**

- ✓ Well Completion and Work-over Programs
- ✓ Production Wellhead Design
- ✓ Downhole Pump Design

#### **Underground Gas Storage**

For Drilling, Civil and Mechanical Engineering and Automation Topics

- ✓ Design and Basic Engineering Studies
- ✓ Consultancy



### 2. Midstream

#### Hydraulic Process Analysis

- ✓ Gathering Line Network and Station Analysis
- ✓ Hydraulic Calculations
- ✓ Heat & Material Balance
- ✓ Flash Calculations
- ✓ Preliminary Sizing of Piping and Instruments

#### Pressurized Vessel Design & Analysis

- ✓ Vessel Design and Analysis
- ✓ Saddle, Leg and Skirt Design
- ✓ Wind and Seismic Analysis

#### Storage Tank Design & Engineering

- ✓ API 650
- ✓ TS 12285-2
- ✓ Calculations
- ✓ Manufacturing Drawings

#### Oil & Gas Field Equipment Design & Engineering

- ✓ II & III Phase Separator
- ✓ Flare Stacks
- ✓ Metering Stations
- $\checkmark$  Field Manifold and Collectors



## **OIL / NATURAL GAS PRODUCTION FACILITIES**

## 1. Oil and Natural Gas Well Gathering Lines and Transmission

### **Pipelines**

- ✓ Wellhead Flowlines
- ✓ Pipeline Route Studies
- ✓ Trench Excavation and Special Crosses
- ✓ Welding, Welding Coating and Inspections
- ✓ Hot-tap
- ✓ Tie-in Processes
- ✓ Cathodic Protection
- ✓ Hydrostatics Test and Commissioning
- ✓ Field Gathering Manifolds

### 2. Oil and Natural Gas Production Stations

- ✓ Gathering Station Inlet Manifolds
- ✓ API 12 J Separator Manufacturing, Assembly and Commissioning
- ✓ API 12 L Heater Treater Manufacturing, Assembly and Commissioning
- ✓ Free Water Knockout Manufacturing, Assembly and Commissioning
- ✓ Flare Manufacturing, Assembly and Commissioning
- ✓ API 650 Oil Stock Tanks Manufacturing
- ✓ EN 12285-2 Tank Manufacturing
- ✓ Crude Oil Loading Facilities
- ✓ Construction of Early or Permanent Production Facility
- ✓ Construction of Natural Gas Pressure Regulation and Measurement Stations



## **MATERIAL SUPPLY**

Troya Oil and Gas Engineering supplies materials and after sales services through lots of foreign manufacturers and suppliers for energy sector to several Turkish companies operating in this sector. Materials can be provided from different countries around the world as new production or from stock according to customer's demand.

#### Summary list of materials we provide is like below:

- ✓ Varel PDC & Roller Cone Bits
- ✓ OCTG (Casing) & Tubing
- ✓ Wellhead & Christmas Tree
- ✓ Geothermal Expanding Master Valves and Line Valves
- ✓ Cementing Equipment (Float Shoe, Float Collar, Centralizers, Liner Hanger, etc.)
- ✓ Drilling Rig (Mobile & Skid Mounted)
- ✓ Drilling Rig Handling Tools
- ✓ Drill String (Drill pipe, HWDP & Drill Collar, Stabilizer & Reamers)
- ✓ X-Over, Float and Lifting Subs
- ✓ Kelly, Swivel & Rotary Hose
- ✓ Mud Pump, Fluid End Parts & Pump Discharge Hose
- ✓ Fishing Tools
- ✓ Drilling Instruments & Recorders
- ✓ Power Tong
- ✓ High Pressure Fittings & Valves

#### **Our Products:**

- ✓ Mud Pump Manifold
- ✓ Choke Manifold
- ✓ Poor Boy Degasser



## REFERENCES

### **ENGINEERING & CONSULTANCY**

### **1. UNDERGROUND NATURAL GAS STORAGE** UNDERGROUND GAS STORAGE PROJECT CONSULTANCY, TURKEY

Company	
Date of Completion	
Scope of Project	

- : BOTAS
- : Ongoing
- : Basic Engineering, preparation of administrative and technical tender documents based on World Bank norms, project management, drilling, scada, construction and administrative control during the construction phase for underground gas storage project in Tuz Golu region.

### **2. DRILLING AND WELL COMPLETION SERVICES**

#### CONSULTANCY AND FIELD OPERATION SERVICE, BATMAN/ TURKEY

Company	:	IPEK ENERJI A.S.
Date of Completion	:	01.2014
Scope of Project	:	Preparing well completion program and operation services for 2
		wells in Kozluk/BATMAN field.

#### DRILLING CONSULTANCY SERVICE, IRAQ

Company	:	MERVE JEOTERMAL
Date of Completion	:	12.2012
Scope of Project	:	Supervision and consulting for preparation of well program,
		engineering and consulting for casing design, drilling fluid
		program and cementing design/operation.

#### RADIAL DRILLING SERVICE, ADANA/TURKEY

Company	:	GUNEY YILDIZI A.S.
Date of Completion	:	11.2012
Scope of Project	:	Supplying radial drilling service to Guney Yildizi for their oil well
		in ADANA together with Radial Drilling Services Inc.
		Texas/USA.

#### **RADIAL DRILLING SERVICE, KONYA/TURKEY**

Company	:	ARAR PETROL A.S.
Date of Completion	:	10.2012
Scope of Project	:	Supplying radial drilling service to Arar Petrol for their 2 ea gas
		wells in KONYA together with Radial Drilling Services Inc.
		Texas/USA.



#### DRILLING SERVICE, MANISA-CANAKKALE/TURKEY

Company	:	SONSUZLUK LTD. STI.
Date of Completion	:	08.2011
Scope of Project	:	Supplying drilling service for 8 ea geothermal gradiant test wells located in Manisa, Kula and Canakkale.

#### DRILLING CONSULTANCY SERVICE, IRAQ

Company	:	PETOIL A.S.
Date of Completion	:	05.2011
Scope of Project	:	Supplying consultancy service for drilling activities in Iraq.

#### DRILLING CONSULTANCY SERVICE, AEGEAN REGION/TURKEY

Company	:	ERNA ENERJİ İŞLETMELERİ A.S.
Date of Completion	:	12.2010
Scope of Project	:	Preparing drilling program and supplying consultancy service for geothermal activities in Aegean Region.

#### WORKOVER & FLOW TEST CONSULTANCY SERVICES, MARDIN/TURKEY

Company	:	TIWAY TURKEY LTD.
Date of Completion	:	12.2010
Scope of Project	:	Preparing workover program for Bakuk-2 well, consultancy
		services during workover and flow test operations.

#### OIL WELL DRILLING PROJECT CONSULTANCY, TURKMENISTAN

Company	:	MIDLAND OIL & GAS COMPANY
Date of Completion	:	12.2009
Scope of Project	:	Consultancy services for the oil drilling project in Turkmenistan,
		preparation of drilling programs for deep and high pressure 10
		wells, cost analyzes and preparation of technical/financial
		proposals.

#### DRILLING SUPERVISION SERVICE, DUZCE/TURKEY

Company	:	ZETA PETROLEUM, LONDON/UK
Date of Completion	:	12.2008
Scope of Project	:	Drilling supervision of the exploration well in DUZCE.



#### DRILLING SUPERVISION SERVICE, AYDIN/TURKEY

Company	:	BM İNŞAAT
Date of Completion	:	06.2008
Scope of Project	:	Drilling supervision of the geothermal wells in Soke/AYDIN.

#### DRILLING MANAGEMENT SERVICE, AZERBAIJAN

Company	:	BINAGADI OIL COMPANY
Date of Completion	:	06.2008
Scope of Project	:	Management of drilling operations, preparation of drilling
		programs, determinations of drilling related equipment,
		personnel training and management.

#### DRILLING PROJECT CONSULTANCY, IRAQ

Company	:	PETPRIME-ABD
Date of Completion	:	02.2007
Scope of Project	:	Consultancy of drilling operation, engineering and procurement
		support.

#### WELL COMPLETION SERVICE, TURKEY

Company	:	MADISON OIL TURKEY Inc.
Date of Completion	:	08.2003
Scope of Project	:	Design and detailed engineering of well completion and test
		services of the natural gas well (Barboros-1).

#### DRILLING SUPERVISION SERVICE, THRACE/TURKEY

Company	:	MADISON OIL TURKEY Inc.
Date of Completion	:	07.2002
Scope of Project	:	Supervision for drilling of two gas wells (Karakopek, Barboros)
		in Thrace Basin.

#### MANPOWER SUPPLY, BLACKSEA/TURKEY

Company	:	SEDCO-FOREX SCHLUMBERGER INT. OVERSEAS
Date of Completion	:	10.1999
Scope of Project	:	Manpower supply to Black Sea Project of TPAO-ARCO
		Consortium.



#### **RE-ENTRY DRILLING OPERATIONS, ADIYAMAN/TURKEY**

Company	:	TPIC
Date of Completion	:	10.1998
Scope of Project	:	Re-entry of 4 existing oil wells in Adiyaman oil field and
		implementation of all related operations.

#### DRILLING MANAGEMENT SERVICE, THRACE/TURKEY

Company	:	THRACE BASIN NATURAL GAS COMPANY
Date of Completion	:	07.1998
Scope of Project	:	Drilling of a natural gas exploration well Avluobası.

### **3. PRODUCTION AND RESERVOIR SERVICES**

#### PIG LAUNCHER & RECEIVER DESIGN AND ENGINEERING, TEKIRDAG/TURKEY

Company	:	VALEURA ENERGY INC.
Date of Completion	:	02.2016
Scope of Project	:	Design and Detailed Engineering of 1 ea 8" and 1 ea 6" Pig
		Launcher and Receiver.

#### TEST SEPARATOR DESIGN AND ENGINEERING, TEKIRDAG/TURKEY

Company	:	VALEURA ENERGY INC.
Date of Completion	:	01.2016
Scope of Project	:	Design and Detailed Engineering of 2 ea of Class 300 (L:10'
		D:30") II Phase Vertical Separators w/ nozzles and connections.

#### STORAGE TANK DESIGN AND ENGINEERING, TEKIRDAG/TURKEY

Company	:	VALEURA ENERGY INC.
Date of Completion	:	01.2016
Scope of Project	:	Design and Detailed Engineering of 2 ea of 200 bbl Horizontal
		Storage Tanks, 2 ea 50 bbl Vertical Condensate Tanks and 2 ea
		50 bbl Water Tanks.

#### TEST SEPARATOR DESIGN AND ENGINEERING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	10.2014
Scope of Project	:	Design and Detailed Engineering of 3 ea of 2000 bpd test
		separators with all connections.



#### FREE WATER KNOCK OUT DESIGN AND ENGINEERING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	10.2014
Scope of Project	:	Design and Detailed Engineering of 2 ea (1 ea 20.000 bpd+1 ea
		60.000 bpd) FWKOs with all connections.

#### HORIZONTAL STORAGE TANK DESIGN AND ENGINEERING, NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	09.2014
Scope of Project	:	Design and Detailed Engineering of 10 ea of 1,000 bbl horizontal
		storage tanks w/ nozzles and connections.

#### HORIZONTAL STORAGE TANK DESIGN AND ENGINEERING, NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	06.2014
Scope of Project	:	Design and Detailed Engineering of 4 ea of 1,000 bbl horizontal
		storage tanks w/ nozzles and connections.

#### III PHASE SEPARATOR DESIGN AND ENGINEERING, BATMAN/TURKEY

Company	:	IPEK ENERJI A.S.
Date of Completion	:	04.2014
Scope of Project	:	Design and Detailed Engineering of 1 ea Directly Heated III
		Phase Separator w/ nozzles and connections.

#### OIL STORAGE TANK DESIGN AND ENGINEERING, DOHUK/NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	09.2012
Scope of Project	:	Design and detailed engineering of 2 pcs. 5000 bbl oil storage
		tanks w/nozzle and connections.

#### TANK DESIGN AND ENGINEERING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	04.2012
Scope of Project	:	Design and detailed engineering of 5 ea 500-3000 bbl capacity
		tanks for SELMO/BATMAN field.

#### MANIFOLD DESIGN AND ENGINEERING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	09.2011
Scope of Project	:	Design and engineering of 5 ea manifolds for 30 wells at SELMO
		field.



#### NATURAL GAS PRODUCTION FACILITY DESIGN AND ENGINEERING, MARDIN/TURKEY

Company	:	TIWAY TURKEY LTD.
Date of Completion	:	06.2011
Scope of Project	:	Design and detailed engineering of slug catcher, measuring skid,
		pig launcher & receiver, filter system for Bakuk natural gas
		production field.

#### **III PHASE SEPARATOR DESIGN AND ENGINEERING, TURKEY**

Company	:	ALAADDIN MIDDLE EAST
Date of Completion	:	08.2010
Scope of Project	:	Design of 6000 bbl / day capacity Three Phase Separator for
		Bulgur Dagi / Adana field.

#### HEATER-TREATER DESIGN AND ENGINEERING, TURKEY

Company	:	MERTY ENERJI
Date of Completion	:	04.2010
Scope of Project	:	Design and Manufacturing of 2.4 MMkcal/h capacity Heater
		Treater for Sarikiz/Manisa field.

#### PPD TREATMENT SERVICE, CHELEKEN/TURKMENISTAN

Company	:	DRAGON OIL
Date of Completion	:	06.2009
Scope of Project	:	PPD Injection to downstream of separator for exporting Crude.
		Total treated amount is 2.4 MM bbl.

#### IODINE-BROMINE FIELD DEVELOPMENT PROJECT, TURKMENISTAN

Company	:	KINESIS ENERGY
Date of Completion	:	10.2008
Scope of Project	:	Preliminary study of the water iodine & bromine field in
		Turkmenistan.

#### QUALITY CONTROL, LOADING & UNLOADING OF CRUDE OIL, IRAQ & TURKEY

Company	:	TPIC
Date of Completion	:	12.2000
Scope of Project	:	Third party Quality Control check/Loading-Unloading and
		export documentations of companies' tanker truck crude oil
		transportation (10,000 ton/day) project in Iraq.



#### OPERATION OF GAS AND OIL FIELDS, THRACE/TURKEY Company : TPAO

Company
Date of Completion
Scope of Project

- : TPAO : 07.2000
- : Following up the daily operations of 35 gas wells and 4 oil wells in Hamitabat Gas, Osmancık Oil Fields, operation of the surface equipment (heater separators, dehydrators, pipelines, stock tanks etc.), coordination with Industrial gas consumer plants and preparation oil for transportation.

### **4. PIPELINES**

#### ALIAGA BASIN N2 & O2 PIPELINE PROJECT PHASE I STUDIES

Company	:	AIR LIQUIDE GAZ A.S.
Date of Completion	:	03.2013
Scope of Project	:	Performing general pipeline route and related drawings (maps
		and profiles) with 3 different alternatives, defining land types
		and special crossings on the routes, optimization of the routes by
		taking into account both technical and financial aspects,
		performing basic P&ID's and generating a budgetary cost
		estimation for all route alternatives.

#### PIPELINE CONSULTANCY SERVICE, MARDIN/TURKEY

Company	:	TIWAY TURKEY LTD.
Date of Completion	:	06.2011
Scope of Project	:	Consultancy service for construction of Bakuk-2 natural gas
		pipeline.

## ADATEPE-CERKEZKOY NATURAL GAS TRANSMISSION LINE DESIGN AND ENGINEERING, TEKIRDAG/TURKEY

Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	10.2003
Scope of Project	:	Design and engineering of 13,000 m. 8" high pressure natural gas
		pipeline.



## VELIMESE NE NATURAL GAS DISTRIBUTION AND PIPE LINE DESIGN AND ENGINEERING, CORLU-TEKIRDAG/TURKEY

#### Company : AMITY OIL INT. PTY. LTD., AUSTRALIA

Date of Completion : 02.2003

Scope of Project : Engineering and design studies for 4,800, 6" high pressure natural gas pipeline connected to TPAO 8" pipeline by hot-tap operation, RMS assembly, detailed route study, design of pipeline and five valve rooms.

#### GOCERLER-MISINLI NATURAL GAS PIPELINE DESIGN AND ENGINEERING, CORLU-TEKIRDAG/TURKEY

Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	12.2001
Scope of Project	:	Detailed route study, design and engineering of 8" 18,465 m pipeline project.



## **OIL / NATURAL GAS PRODUCTION FACILITIES**

### 1. PRODUCTION AND CONSTRUCTION FOR PETROLEUM AND NATURAL GAS FIELDS

#### PIG LAUNCHER & RECEIVER MANUFACTURING, TEKIRDAG/TURKEY

Company	:	VALEURA ENERGY INC.
Date of Completion	:	02.2016
Scope of Project	:	Material Supply and Construction of 1 ea 8" and 1 ea 6" Pig
		Launcher and Receiver.

#### **TEST SEPARATOR MANUFACTURING, TEKIRDAG/TURKEY**

Company	:	VALEURA ENERGY INC.
Date of Completion	:	01.2016
Scope of Project	:	Material Supply and Construction of 2 ea of Class 300 (L:10'
		D:30") II Phase Vertical Separators w/ nozzles and connections.

#### STORAGE TANK MANUFACTURING, TEKIRDAG/TURKEY

Company	:	VALEURA ENERGY INC.
Date of Completion	:	01.2016
Scope of Project	:	Material Supply and Construction of 2 ea of 200 bbl Horizontal
		Storage Tanks, 2 ea 50 bbl Vertical Condensate Tanks and 2 ea
		50 bbl Water Tanks.

#### **TEST SEPARATOR MANUFACTURING, BATMAN/TURKEY**

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	10.2014
Scope of Project	:	Material Supply and Construction of 3 ea of Class 300 2000 bpd
		test separators with all connections.

#### FREE WATER KNOCK OUT MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	10.2014
Scope of Project	:	Material Supply and Construction of 2 ea (1 ea 20.000 bpd+1 ea
		60.000 bpd) FWKOs with all connections.

#### HORIZONTAL STORAGE TANK MANUFACTURING, NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	09.2014
Scope of Project	:	Material Supply and Construction of 10 ea of 1,000 bbl
		horizontal storage tanks w/ nozzles and connections.



#### HORIZONTAL STORAGE TANK MANUFACTURING, NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	06.2014
Scope of Project	:	Material Supply and Construction of 4 ea of 1,000 bbl horizontal
		storage tanks w/ nozzles and connections.

#### STAINLESS STEEL MANIFOLD MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	06.2014
Scope of Project	:	Stainless Steel Manifold Manufacturing and Installation for 70
		wells at Transatlantic SELMO field.

#### FLARE STACK MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	04.2014
Scope of Project	:	4 ea. 33 ft mobile flare stack manufacturing.

#### III PHASE SEPARATOR MANUFACTURING, BATMAN/TURKEY

Company	:	IPEK ENERJI A.S.
Date of Completion	:	04.2014
Scope of Project	:	Material Supply and Manufacturing of 1 ea Directly Heated III
		Phase Separator w/ nozzles and connections.

#### FLARE STACK MANUFACTURING, BATMAN/TURKEY

Company	:	IPEK ENERJI A.S.
Date of Completion	:	04.2014
Scope of Project	:	1 ea. 33 ft mobile flare stack manufacturing.

#### HEATER TREATER MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	03.2014
Scope of Project	:	Şelmo HT Separator renewing.

#### EARLY PRODUCTION FACILITY CONSTRUCTION, BATMAN/ TURKEY

Company	:	IPEK ENERJI A.S.
Date of Completion	:	01.2014
Scope of Project	:	Consultancy service for oilfield and field operation of Early
		Production Facility at Kozluk/BATMAN field.



#### OIL STORAGE TANK CONSTRUCTION, DOHUK/NORTHERN IRAQ

Company	:	OILSERV LTD.
Date of Completion	:	09.2012
Scope of Project	:	Material Supply and Construction of 2 pcs. of 5,000 bbl oil
		storage tank w/ nozzles and connections.

#### PIG LAUNCHER & RECEIVER MANUFACTURING, KONYA/TURKEY

Company	:	ARAR PETROL A.S.
Date of Completion	:	06.2012
Scope of Project	:	Manufacturing of 2 ea 3" pig launcher & receiver.

#### TANK MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	04.2012
Scope of Project	:	Manufacturing of 5 ea 500-3000 bbl capacity tanks for SELMO/BATMAN field.

#### MANIFOLD MANUFACTURING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	09.2011
Scope of Project	:	Manufacturing of 5 ea manifolds for 30 wells at
		SELMO/BATMAN field.

#### SURFACE FACILITY UPGRADING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	07.2011
Scope of Project	:	Assembly of new Heater-Treater and surface facility upgrading
		at SELMO/Batman field.

#### FUEL SYSTEM UPGRADING, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	06.2011
Scope of Project	:	Upgrading of existing fuel system at SELMO/Batman field.

#### NATURAL GAS PRODUCTION FACILITY MANUFACTURING, MARDIN/TURKEY

Company	:	TIWAY TURKEY LTD.
Date of Completion	:	06.2011
Scope of Project	:	Manufacturing and assembly of slug catcher, measuring skid, pig
		launcher & receiver, filter system for Bakuk natural gas
		production field.



#### III PHASE SEPARATOR MANUFACTURING, TURKEY

Company	:	ALAADDİN MIDDLE EAST
Date of Completion	:	08.2010
Scope of Project	:	Manufacturing of 6000 bbl / day capacity Three Phase Separator for Bulgur Dagi / Adana field.

#### HEATER-TREATER MANUFACTURING, TURKEY

Company	:	MERTY ENERJİ
Date of Completion	:	04.2010
Scope of Project	:	Manufacturing of 2.4 MMkcal/h capacity Heater Treater for Sarikiz/Manisa field.

#### SEPARATOR UPGRADING AND MANIFOLD & PIPELINE CONSTRUCTION, TURKEY

Company	:	PEMI
Date of Completion	:	2008
Scope of Project	:	Upgrading of 30,000 bbl/day three phase separator and construction of 20,000 m. well lines and 5 gathering manifolds
		with flow rate monitoring of 21 wells.

#### **2. PIPELINES**

#### THERMOFLEX PIPELINE CONSTRUCTION, BATMAN/TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	04.2012
Scope of Project	:	Construction of 23.500 m thermoflex pipeline at
		SELMO/Batman field.

#### NITROGEN PANEL REVISION, TURKEY

Company	:	BTC Co. Turkey
Date of Completion	:	04.2012
Scope of Project	:	Replacing pressure switches with pressure transmitters and
		redirecting the PSV outlet piping at PT1-2-3-4 and IPT 1-2
		stations.



#### SURGE VALVE MAINTENANCE SERVICE, TURKEY

Company	:	BAKU-TBILISI-CEYHAN CRUDE OIL PIPELINE (BTC)
Date of Completion	:	Ongoing
Scope of Project	:	Installation, maintenance and upgrading of M&J Surge Skids at
		Baku-Tbilisi-Ceyhan Crude Oil Line.

#### PIPELINE CONSTRUCTION, TURKEY

Company	:	TRANSATLANTIC PETROLEUM LTD
Date of Completion	:	07.2011
Scope of Project	:	Construction of 3800 mt Fiberglas Pipeline at SELMO/Batman
		Field.

#### SURGE VALVE MAINTENANCE SERVICE, TURKEY

Company	:	PRODUCTION SERVICES NETWORK LTD.
Date of Completion	:	02.2011
Scope of Project	:	Commissioning of M&J Surge Skids at Baku-Tbilisi-Ceyhan Crude Oil Pipeline.

#### ACTUATOR MAINTENANCE SERVICE, TURKEY

Company	:	BAKU-TBILISI-CEYHAN CRUDE OIL PIPELINE (BTC)
Date of Completion	:	2008
Scope of Project	:	Control Box Revision, Function Test and Maintenance of 65
		Electro-Hydraulic Actuators.

#### ACTUATOR INSTALLATION SERVICE, ISTANBUL/TURKEY

Company	:	IGDAS
Date of Completion	:	2008
Scope of Project	:	Installation of 100 Electro-Hydraulic Actuators into existing
		valve rooms.

## ADATEPE-CERKEZKOY NATURAL GAS TRANSMISSION LINE CONSTRUCTION, TEKIRDAG/TURKEY

Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	10.2003
Scope of Project	:	13,000 m. 8" high pressure natural gas pipeline, procurement
		materials, bending and welding of pipes, trench excavation, pipe
		lower in, back filling, river & road crossings, cathodic protection,
		hydrostatic testing and commissioning.



#### NATURAL GAS DISTRIBUTION PIPE LINE CONSTRUCTION, USAK/TURKEY

Company	:	Tepe Altyapı A.S.
Date of Completion	:	02.2003
Scope of Project	:	Construction of 22,000 m. 8" high pressure Natural gas pipeline,
		bending and welding of pipes, insulation of pipe joints, trench
		excavation, pipe lower in, back filling, river & road crossings and
		topographic studies.

#### NATURAL GAS DISTRIBUTION PIPE LINE CONSTRUCTION, KUTAHYA/TURKEY

Company	:	Tepe Altyapı A.S.
Date of Completion	:	02.2003
Scope of Project	:	Construction of 19,500 m. 8", 6", 4" and 3" medium range
		pressure natural gas pipeline, bending and welding of pipes,
		insulation of pipe joints, digging trench, pipe lower in, back
		filling, river & road crossings and topographic studies.

## VELIMESE-NE NATURAL GAS DISTRIBUTION AND PIPE LINE CONSTRUCTION, CORLU-TEKIRDAG/TURKEY

Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	02.2003
Scope of Project	:	4,800, 6" high pressure natural gas pipeline connected to TPAO
		8" pipeline by hot-tap operation, RMS assembly, detailed route
		study, procurement of PE coated pipes, valves and fittings,
		construction for pipeline and five valve chambers,
		commissioning after cathodic protection and hydrostatic test.

#### GOCERLER-MISINLI NATURAL GAS PIPELINE CONSTRUCTION, CORLU-

<b>TEKIRDAG/TURKEY</b>		
Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	12.2001
Scope of Project	:	Procurement line pipe/valves, valve chamber construction,
		cathodic protection, hydrostatic test and commissioning of 8"
		18,465 m pipeline project.

#### PIPELINE CONSTRUCTION AT TEKIRDAG GAS FIELD, MURATLI-TEKIRDAG/TURKEY

Company	:	THRACE BASIN NATURAL GAS CO.					
Date of Completion	:	05.2000					
Scope of Project	:	24,300 meters	6"	Pipeline	construction,	testing	and
		commissioning be	etwee	en Muratli	and Tekirdag ga	s field.	



## **MATERIAL SUPPLY**

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	KARADENIZ HOLDING
Scope of Project	:	Supply of 2 ea PDC Bits and 13 ea Rock Bits for Geothermal
		Drilling.

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	YDA ERDIL ENERJI URETIM SAN. ve TIC. A.S.
Scope of Project	:	16 ea Rock Bits in Various Sizes Supply for Geothermal Drilling.

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	GEOEN D.O.O.
Scope of Project	:	1 ea 8 ½" Rock Bit and 1 ea 5 7/8" PDC Bit Supply for Geothermal Drilling.

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	SIS ENERJI URETIM A.S.
Scope of Project	:	4 ea 17 <sup>1</sup> / <sub>2</sub> " Rock Bits Supply for Geothermal Drilling

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	TURKERLER JEOTERMAL ENERJI ARAMA ve URETIM A.S
Scope of Project	:	2 ea 12 ¼" and 2 ea 8 ½" PDC Bits Supply for Geothermal
		Drilling

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	TURKERLER JEOTERMAL ENERJI ARAMA ve URETIM A.S
Scope of Project	:	22,100 meters Casing for Geothermal Drilling

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	GURSUM ENERJI A.S.
Scope of Project	:	Casing, Wellhead Equipment and Floa

Scope of Project	:	Casing, Wellhead Equipment and Floating Equipment supply for
		Geothermal Drilling

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	ATLI INSAAT A.S.
Scope of Project	:	Supply of Drift Indicator and Rotary Torque for Geothermal
		Drilling



#### **OILFIELD EQUIPMENT SUPPLY, TURKEY**

Company	:	GUNEY YILDIZI A.S.
Scope of Project	:	Tubing, Wellhead Equipment, Floating Equipment, Decanting
		Centrifuge and other related equipment Supply for Drilling
		Services

#### SOLID CONTROL EQUIPMENTS SUPPLY, TURKEY

Company	:	PETROTEK A.S.
Scope of Project	:	Desander, Desilter, Centrifugal Pump and Mixing Hopper
		Supply

#### **OILFIELD EQUIPMENT SUPPLY, TURKEY**

Company	:	BULUTLAR SONDAJ LTD. STI.
Scope of Project	:	Handling Tools, Solid Control Equipment, Drilling Instruments,
		Mud Test Equipment and other related equipment Supply

#### EQUIPMENT SUPPLY FOR GEOTHERMAL DRILLING, TURKEY

Company	:	GUL SONDAJ LTD. STI.
Scope of Project	:	BOP, Closing Unit, Cementing Equipment, Wellhead
		Equipment, Safety Valves, Cup Type Testers and other related
		equipment Supply

#### TUBING SUPPLY, TURKEY

Company	:	SDS ENERJI A.S.
Scope of Project	:	Tubing supply for Geothermal Drilling

#### DRILLING EQUIPMENT SUPPLY, TURKEY

Company	:	BM HOLDING/GUMUSKOY JEOTERMAL ENERJI A.S.
Scope of Project	:	Drill Pipe & Accessories, Fishing Tools, Handling Tools,
		Stabilizers, Drilling Instruments, Power Unit and other related
		equipment Supply

#### OILFIELD EQUIPMENT SUPPLY, TURKEY

Company	:	KOZA IPEK A.S.
Scope of Project	:	Casing, Wellhead Equipment, Casing Accessories, Stabilizer,
		Centralizer and other related equipment supply

#### FIBERGLASS LINE PIPE & TUBING SUPPLY, TURKEY

Company	:	TPAO
Scope of Project	:	Supply of 4"-6"-8" Fiberglass Line Pipes and 2 7/8" – 3 ½" Tubing



#### SURGE VALVE SUPPLY AND MAINTENANCE SERVICE, TURKEY

Company	:	BAKU-TBILISI-CEYHAN CRUDE OIL PIPELINE (BTC)	
Scope of Project	:	Spare part of M&J Surge Skids at Baku-Tbilisi-Ceyhan Crude Oil	
		Pipe Line	
ACTUATOR SUPPLY, TUR	KEY		
Company	:	BAKU-TBILISI-CEYHAN CRUDE OIL PIPELINE (BTC) /	
		IGDAS	
Scope of Project	:	Supply of 65 / 100 ea Electro-Hydraulic Actuators with Control	
		Units	
ACTUATOR SUPPLY, TURKEY			

# Company:AKFEL / VASTAS / KALE KALIP A.S.Scope of Project:27 / 14 / 46 ea Gas Over Oil Gas-Hydraulic-Actuators with<br/>Control Units



### **OTHER REFERENCES**

#### RMS-A CONSTRUCTION, IZMIR/TURKEY

Company	:	TURKERLER INSAAT
Date of Completion	:	02.2012
Scope of Project	:	Design of Izmir Esbas OSB 40.000 m3/h RMS-A and inlet &
		outlet valve connections of AOSB 25.000 m3/h RMS-B.

#### TIRE 50,000 Nm<sup>3</sup>/h RMS A CONSTRUCTION, IZMIR/TURKEY

Company	:	IZMIRGAZ
Date of Completion	:	11.2007
Scope of Project	:	Design and detailed engineering of 50,000 m <sup>3</sup> /h Capacity Pinlet
		75 bar Poutlet 19 bar NG Reducing and Measuring Station with
		Pipeline Connections to Main Distribution System.

#### ALIAGA 20,000 Nm<sup>3</sup>/h RMS A CONSTRUCTION, IZMIR/TURKEY

Company	:	IZMIRGAZ
Date of Completion	:	02.2007
Scope of Project	:	Design and detailed engineering of 20,000 m <sup>3</sup> /h Capacity Pinlet
		75 bar Poutlet 19 bar NG Reducing and Measuring Station with
		Pipeline Connections to Main Distribution System.

#### NATURAL GAS DISTRIBUTION LINE CONSTRUCTION, ISTANBUL /TURKEY"

Company	:	Istanbul Leather Industrial Estate Free Zone Area
Date of Completion	:	15.07.2006
Scope of Project	:	Design of 800 m. 8"-6" high pressure steel pipeline, 2,850 m. 180-
		32 mm. medium pressure polyethylene pipeline, 2 RMS-B
		stations with 15,000 Nm³/h and 10,000 Nm³/h flow.

#### ATATURK OSB 25,000 NM<sup>3</sup>/H RMS-A, IZMIR/TURKEY

Company	:	IZMIRGAZ
Date of Completion	:	03.07.2006
Scope of Project	:	Design and detailed engineering of 25,000 m <sup>3</sup> /h Capacity Pinlet
		70 bar Poutlet 19 bar NG Reducing and Measuring Station with
		Pipeline Connections to Main Distribution System.



#### NATURAL GAS DISTRIBUTION LINE CONSTRUCTION GEBZE-KOCAELI/TURKEY

Company :	Guzel	ler Inc	lustrial	Estate A	rea
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- Date of Completion : 19.01.2006
- Scope of Project:Design and detailed engineering of 900 m. 6"-4" high pressure<br/>steel pipeline, 4,700 m. 180-32 mm. medium pressure<br/>polyethylene pipeline.

#### TUZLA-TEPEOREN 45,000 Nm<sup>3</sup>/h RMS A, ISTANBUL/TURKEY

Company	:	IGDAS
Date of Completion	:	17.08.2005
Scope of Project	:	Design and detailed engineering of 45,000 m <sup>3</sup> /h Capacity Pinlet
		70 bar Poutlet 25 bar NG Reducing and Measuring Station with
		Pipeline Connections to Main Distribution System.

#### VELIMESE-NE NATURAL GAS STOPPLE OPERATION, CORLU-TEKIRDAG/TURKEY

Company	:	AMITY OIL INT. PTY. LTD., AUSTRALIA
Date of Completion	:	15.08.2005
Scope of Project	:	Design and detailed engineering of Gas transmission to TPAO
		natural gas pipeline by stopple operation from Amity natural gas
		pipeline, 300 m, 4" and measuring station on pipeline.

#### NATURAL GAS DISTRIBUTION LINE CONSTRUCTION, ISTANBUL/TURKEY

Company	:	Istanbul Leather Industrial Estate Free Zone Area
Date of Completion	:	08.07.2005
Scope of Project	:	Design and detailed engineering of 11,100 m. 2"-20" high
		pressure steel pipeline, 26,600 m. 180-32 mm. medium pressure
		polyethylene pipeline and 12 piece RMS-B stations with 13,000
		m3/h flow.

#### NATURAL GAS DISTRIBUTION LINE CONSTRUCTION, OSTIM-ANKARA/TURKEY

Company	:	Ankara OSTIM Industrial Estate Area
Date of Completion	:	06.06.2005
Scope of Project	:	Design and detailed engineering of 1,300 m. high pressure steel
		pipeline and 50,000 m. 180-32 mm. medium pressure
		polyethylene pipeline, 2 RMS-B, 1 MS.



## TUPRAS REFINARY NATURAL GAS TRANSMISSION LINE CONSTRUCTION, KIRIKKALE/TURKEY

Company	:	TUPRAS-KIRIKKALE Rafinary
Date of Completion	:	30.04.2005
Scope of Project	:	Design and detailed engineering of 2,500 m. 6"-8" high pressure
		steel pipeline and RS-B.

## INDUSTRIAL ESTATE AREA NATURAL GAS DISTRIBUTION LINE CONSTRUCTION, KARAMAN/TURKEY

Company	:	Karaman Industrial Estate Area
Date of Completion	:	10.09.2004
Scope of Project	:	Design and detailed engineering of 1,910 m. 12"-8"-6" high
		pressure steel pipeline, 1,410 m. 180-32 mm. medium pressure
		polyethylene pipeline and 2 piece RMS-B stations with 13,000
		m3/h flow.



### **INDUSTRIAL NATURAL GAS / LNG CONVERSION**

- ✓ ALL ALCI A.S. ANKARA, BATMAN
- ✓ AYDIN KURUYEMIS SAN. VE TIC. LTD. STI SAKARYA
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- ✓ BARUT HOTELS ANTALYA
- ✓ BASAS AMBALAJ A.S. ISTANBUL
- ✓ BERDAN TEKSTIL SAN. VE TIC. A.S. TARSUS/MERSIN
- ✓ BESLER GIDA KIMYA SAN. TIC. A.S. ADANA
- ✓ BEYAZ KAGIT TEMIZLIK URUNLERI LTD. STI. ADANA
- ✓ BISKOT BISKUVI SAN VE TIC. A.S. KARAMAN
- ✓ BOSSAN HALI LTD. STI. GAZIANTEP
- ✓ CEVAHIR DERI SAN. VE TIC. LTD. STI. -ISTANBUL
- ✓ CLUB BLUE DREAMS HOTELS BODRUM, MUGLA
- ✓ CORINTHIA CLUB HOTEL ANTALYA
- ✓ CROSS JEANSWEAR CO. CORLU TEKIRDAG
- ✓ CINE AKMADEN MADENCILIK A.S AYDIN
- ✓ DERIMSAN DERI SAN. VE TIC. STI. ISTANBUL
- ✓ DURKAR HALI SAN. VE TIC. LTD. STI GAZIANTEP
- ✓ ENTEKSER MUHENDISLIK SAN. VE TIC. LTD. STI. KASTAMONU
- ✓ ETAP TARIM SAN. VE TIC. A.S. MERSIN
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- ✓ GENSA ALUMINYUM LTD. STI. KOCAELI
- ✓ GOZE TARIM A.S. MERSIN
- ✓ HAMBOYA BOYACILIK SAN. VE TIC. A.S. TEKIRDAG
- ✓ HEKTAS TARIM ILACLARI TIC. A.S. KOCAELI
- ✓ HENKEL A.S. ISTANBUL
- ✓ HES KIMYA A.S. KAYSERI
- ✓ KAYALAR BAKIR ALASIMLARI SAN. VE TIC. A.S. CORLU, TEKIRDAG
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- ✓ LAFARGE DALSAN A.S. KOCAELI
- ✓ LETOONIA CLUB HOTELS FETHIYE, MUGLA
- ✓ LUKS KADIFE SAN. VE TIC. A.S. KAYSERI
- ✓ LYKIA LODGE HOTEL NEVSEHIR
- ✓ MARTY MYRA HOTELS ANTALYA
- ✓ MASS ARITMA SAN. VE TIC. A.S. KOCAELI
- ✓ MENSA MENSUCAT A.S. ADANA
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- ✓ MERINOS HALI SAN. VE TIC. A.S. GAZIANTEP
- ✓ NUH'UN ANKARA MAKARNASI A.S. CANKIRI
- ✓ OGUN MAKARNA A.S. GAZIANTEP



- ✓ OLTAN GIDA A.S. TRABZON
- ✓ ONUR TAAHHUT VE TICARET LTD. STI. KIRIKKALE
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- ✓ TERMO ISI SAN. VE TIC. A.S. ISTANBUL
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- ✓ TURKUAZ SERAMIK SAN. VE TIC. A.S. KAYSERI
- ✓ UGUR METAL SAN. VE TIC. LTD. STI. KOCAELI
- ✓ UYGUNER DERI SAN. VE TIC. A.S. ISTANBUL
- ✓ UCEL TEKSTIL SAN. VE TIC. LTD. STI. SAKARYA
- ✓ VASTAS A.S. TEKIRDAG
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SOME OF ABOVE LNG CONVERSION PROJECTS HAVE BEEN CONTRACTED FOR HABAS AND KOC-STATOIL.



## CERTIFICATES

# Certificate

Standard	ISO 9001:2008
Certificate Registr. No.	01 100 042828
Certificate Holder:	TROYA DOĞALGAZ PETROL MÜHENDİSLİK SAN. VE TİC. LTD. ŞTİ.
	<b>Merkez:</b> Mesa Koru Sitesi Akmeşe Sok.No: 6 06810 Çayyolu / ANKARA / TURKEY <b>Atölye:</b> Organize Sanayi Bölgesi 1.Cadde No: 23 BATMAN / TURKEY
Scope:	Oil, Natural Gas and Geothermal Pipeline, Piping, Field Management, Drilling, Designing/Projecting, Consultancy and Trading, Surface Facility Upgrading
	Proof has been furnished by means of an audit that the requirements of ISO 9001:2008 are met.
	The due date for all future audits is 05-05 (dd.mm).
Validity:	The certificate is valid from 2014-06-06 until 2016-05-05. First certification 2004
	2014-06-06 TÜV Rheinland Cert GmbH Am Grauen Stein · 51105 Köln
DARKS Deutsche Akkreditierungsstelle D-ZM-16031-04-00	

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## PLANT

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Batman / TURKEY

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