

NURICON WIRELINE SERVICES (PRIVATE) LTD.

Is a Member of NURiCON Group of Companies

CORPORATE OFFICE:

4th. Floor Mubarak Manzil, 39 Garden Road, Karachi, Pakistan.

Tel: (+92-21) 3273 5051- 4 Lines, Fax: (+92-21) 3273 4162,
E-mail: karachi@nuricon.com, ameen.hussain@nuricon.com

ISLAMABAD OFFICE:

Plot No. 39, Street No. 1, I-10/3, Islamabad-44000, Pakistan

Tel: (+92-51) 410 2001- 4 Lines, Fax: (+92-51) 444 3749,
E-mail: islamabad@nuricon.com khalid.khan@nuricon.com

Introduction

Our Intervention services include Slickline Mechanical services and Fishing operations, deployment of Downhole Pressure/Temperature-Data Memory equipment, installation of chemical injection/gas lift valve, Equipping our top-notch team of experts with Slickline units, sour and high-pressure equipment, simple and robust units, and a complete inventory of tools to meet the most challenging Slickline hurdles, has allowed **NWSSL** to become a reputable Slickline Service provider in the Pakistan Region. **NWSSL** offers Slickline equipment with varying capabilities and specifications for performing the following operations.

- Running & Pulling Downhole Tools**
- Gas Lift/Chemical Injection Valves**
- Open & Close all Types Off SSD**
- Tubing Caliper**
- Gauge and Tubing Drift Run**
- Bottom Hole Pressure/Temperature Survey**
- F-Collar Stop, Tubing Stop setting / Retrieving**
- Fishing Services**
- Downhole Safety Valve Change-outs**
- De-Waxing/De-Scaling**
- Magnets**
- Sand and Sample Bailers**
- Tubing Puncher**
- Setting and Retrieving of Plugs / Check Valve**

Introduction

Our full-line of Slickline Intervention Services makes it straight forward for integrated production services to meet our customers' needs. That is because our highly experienced crews use reliable, fit-for-purpose equipment that can service a routine well or the most challenging pressure-control situations. The full complement of Slickline equipment and our well site experience helps us to reduce expenses for customers because we get the job done right. It's our commitment to excellence that continues to set us apart from our competitors.



Slickline Unit

The Close and Open Loop Single/dual Drum Slickline Units and Power Pack is designed for heavy duty slick line operations using wire sizes from 0.108" to 0.125". The renowned open loop hydraulic system in conjunction with a powerful diesel engine provides excellent jarring characteristics and higher line speeds making this unit ideal for all standard slick line and heavy duty fishing operations.

General

Full shot blast zinc oxide primer.

Benefits

- High performance (over 3,000lbs. line pull)
- Designed for ease of operation
- Large range of line pulls and speeds
- Compact Containerized air/con Unit
- Ease of maintenance and drum change-out
- Designed for operator comfort
- Flexible for various zoned requirements
- Ease of transportation
- Benchmark Digital recording
- Digital display panel



Slickline Unit

Hydraulic/Drive System

- Renowned open loop hydraulic system
- Compact transmission with 4 speed gearbox
- Mechanical / Pneumatic braking
- One handed operation
- Low maintenance system
- Operators adjustable handbrake

Features

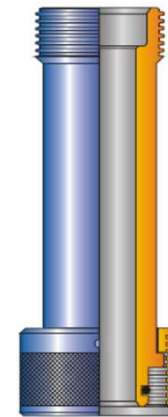
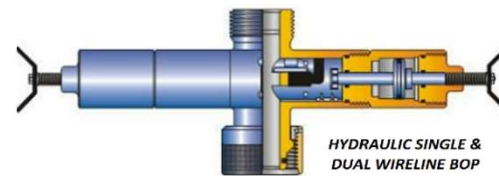
- Single or 4-point lift
- Integral fork lift pockets
- Excellent jarring capabilities
- Power pack can be sighted away from Wire Line Unit



Slickline Equipment

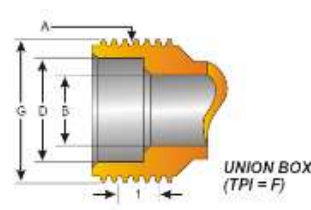
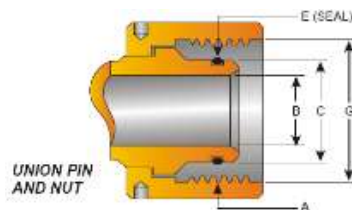
Pressure Control Equipment

The Pressure Control Equipment provided by **NWSL** is suitable for sour service. Equipment comes in varying sizes of ID ranging from 3" to 4" for normal services and for special services we have equipment upto 7" on request. All equipment is available for pressure rating upto 15Kpsi.



Acme Union Lubricators

Lubricators can be supplied with Integral Unions and include bleed of Ports. Unions OTIS type.



Slickline Equipment

Slickline Tools

Assorted, different types of Slickline, Downhole Tool Strings, Running, Pulling, Fishing, Scale Removing, LIBs, Drifting, Sand/Sample bailer, and Tubing Dimensioning Tools. All our Downhole Tools and Equipment are from OEM's (OTIS, CAMCO, BAKER, RUIXIN etc) which are of either Sweden, USA, UAE and China Origin.



Slickline Equipment

Pressure Surveys

NWSL has High Temperature and Pressure Electronic Quartz Memory Gauges which have ease of operation, simple maintenance routines, high reliability and robust design that have been proven over time in the industry.

Features of Electronic Memory Pressure Gauges

EASE OF OPERATION - Gauges are designed to be compact and lightweight for convenient handling and space limited applications. All the gauges are designed to be run by Slickline / Service personnel.

RELIABLE PERFORMANCE - Innovative mechanical and electronic design makes the gauges resistant to vibration and interference. With the advanced technology, gauges are one of the slimmest, high precision, high pressure measuring. The gauges will work consistently for a long period of time under high temperature and high-pressure conditions.

HIGH SENSITIVITY - **NWSL** offers both Quartz gauges or Piezo gauges detail specification are attached.

Memory Pressure Gauge (1 1/4" Piezo)

Piezo Features

- Commodity Pricing Strategy
- High Temperature Reliability
- Inconel 718 - NACE MR0175
- 1 Million Samples

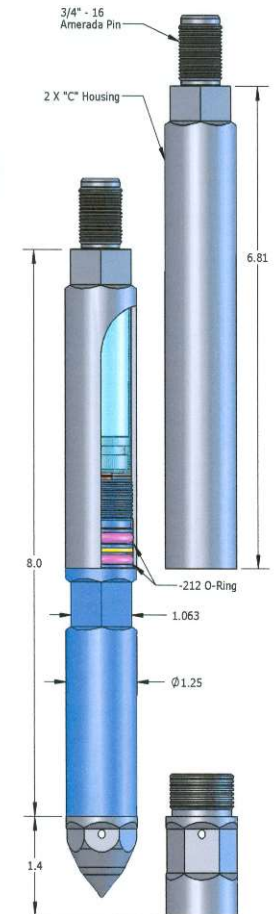
Additions / Accessories	Part No.
1.25 00 Piezo Bullnose	100488
1.25 00 Piezo Crossover	100489
1.25 00 Piezo Battery Housing 1 X "C"	100485
1.25 00 Piezo Battery Housing 2 x "C"	100486
USB To Serial Converter Assembly	100682
1.25 00 Piezo Pelican Case Assembly	100501

0.75" OD Piezo – Inconel 718		
Pressure	Temperature	Part No.
750 psi	100°C	100654
1,500 psi	120°C	100655
3,000 psi	150°C	100656
6,000 psi		100657
10,000 psi	177°C	100658
15,000 psi		100659
20,000 psi		100660
25,000 psi		100661

SPECIFICATIONS		
	Pressure	Temperature
Accuracy	0.022% F.S.	0.25°C
Resolution	0.0003% F.S.	0.005°C
Drift	<3 psi / year	<0.1°C / year
Power Consumption/Sample**	2.5mAh per second	
Power Consumption @ Rest**	100mAh per second	
Maximum Operation Time	200 days	
Capacity	1 Million Samples	
Communication Method	USB	

** Assuming operation at 135°C

*** Assuming 30 second sample rate with a single C cell



Memory Pressure Gauge (1 1/4" Quartz)

Quartz Features

- Super Seal Technology
- 30,000 psi @ 1.25" OD
- Metal to Metal
- Extended Battery Life •• Modular Memory Cartridge
- 200°C Option
- 2 Million Samples
- Inconel 718/ MP35N - NACE MR0175

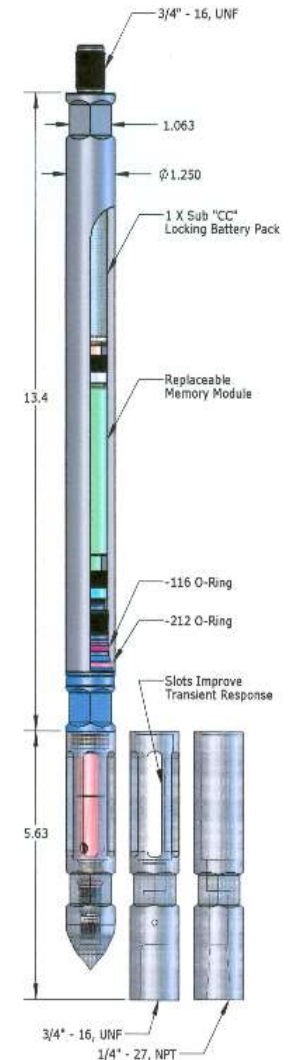
Additions / Accessories	Part No.
1.25 00 Quartz Replaceable Memory Module 177°C	100024
1.25 00 Quartz Replaceable Memory Module 200°C	100765
1.25 00 Quartz Bullnose	100128
1.25 00 Quartz Crossover	100129
1.2500 Quartz Crossover 0.25NPT Inconel718	100130
1.25 00 Quartz Battery Housing, 1 X "SubCC"	100132
USB To Serial Converter Assembly	100682
1.25 00 Quartz Pelican Case Assembly	100235

0.75" OD Piezo – Inconel 718		
Pressure	Temperature	Part No.
10,000 psi	150°C	100711
16,000 psi	150°C	100228
16,000 psi	177°C	100229
20,000 psi	177°C	100230
20,000 psi	200°C	100231
25,000 psi	177°C	100232
25,000 psi	200°C	100233
30,000 psi	200°C	100234

SPECIFICATIONS		
	Pressure	Temperature
Accuracy	0.02% F.S.	0.25°C
Resolution	0.00006% F.S.	0.005°C
Drift	<3 psi / year	<0.1°C / year
Power Consumption/Sample**	2.5mAh per second	
Power Consumption @ Rest**	100mAh per second	
Maximum Operation Time	300 days	
Capacity	2 Million Samples	
Communication Method	USB	

** Assuming operation at 135°C

*** Assuming 30 second sample rate with a single AA cell

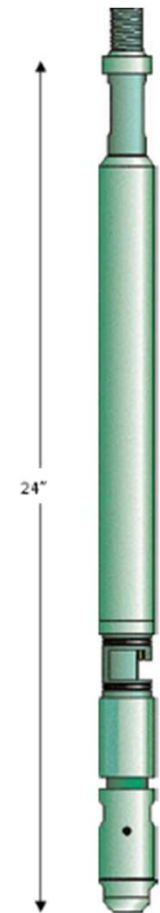


Memory Pressure Gauge (Metrolog)

Metrolog CGM4-XHT Features

- ❑ High resolution & high stability even at high temperature and pressure
- ❑ Used by any technician with no previous knowledge of electronic gauges
- ❑ Operated without being open thanks to its unique connection system
- ❑ Powered by Smart batteries which remember their use, can be tested for their remaining life and offer up to 10 months of downhole recording
- ❑ With innovative features such as:
 - shock absorber mounted electronics
 - metal-to-metal seal for extended test in gas wells
- ❑ Reservoir and well testing, Interference test, Long duration data recording, Multi well surveys without reprogramming

Mechanics		
Material	Stainless steel	(For sour service)
O.D. (inch)	1.25	(31.75 mm)
Length (inch)	24	(61 cm)
Weight (lbs)	5	(2.5 kg)
Thread connection	15/16" SR	(pin up * box down)
Bottom nose connection	1/4" NPT	(female)



Metrology		
Pressure (Quartzdyne quartz crystal sensor)		
Sensor range (psi)	up to 30000	Up to 2000 bar
Accuracy (% of FS)	0.02	
Resolution (psi)	<0.01	(<0.001 bar)
Temperature		
Range (°F)	0 TO 365	-20 to 185°C)
Accuracy (°F)	0.3	
Resolution (°F)	0.01	
Memory capacity (points)	2 800 000	

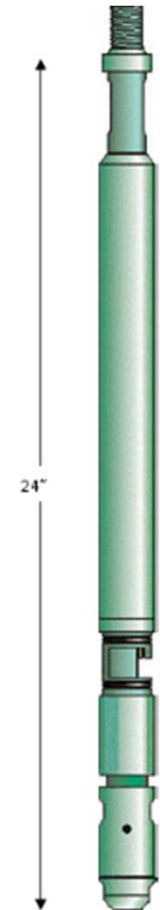
Programming		
Modes		
Conventional	Yes	
Advance	Yes	(Up to 64 intervals)
Parameters		
Scanning rate	Any	(from 1 s to 18 hrs)
Time delay	Any	(from 0 s to 41 days)
Pressure start	Yes	(Threshold and trigger)
Smart battery type	P15 or P20	

Memory Pressure Gauge (Metrolog)

Metrolog CGM4-HT Features

- ❑ High resolution & high stability even at high temperature and pressure
- ❑ Used by any technician with no previous knowledge of electronic gauges
- ❑ Operated without being open thanks to its unique connection system
- ❑ Powered by Smart batteries which remember their use, can be tested for their remaining life and offer up to 10 months of downhole recording
- ❑ With innovative features such as:
 - shock absorber mounted electronics
 - metal-to-metal seal for extended test in gas wells
- ❑ Reservoir and well testing, Interference test, Long duration data recording, Multi well surveys without reprogramming

Mechanics		
Material	Stainless steel	(For sour service)
O.D. (inch)	1.25	(31.75 mm)
Length (inch)	24	(61 cm)
Weight (lbs)	5	(2.5 kg)
Thread connection	15/16" SR	(pin up * box down)
Bottom nose connection	1/4" NPT	(female)



Metrology		
Pressure (Quartzdyne quartz crystal sensor)		
Sensor range (psi)	up to 30000	Up to 2000 bar
Accuracy (% of FS)	0.02	
Resolution (psi)	<0.01	(<0.001 bar)
Temperature		
Range (°F)	0 TO 350	-20 to 177°C)
Accuracy (°F)	0.3	
Resolution (°F)	0.01	
Memory capacity (points)	2 800 000	

Programming		
Modes		
Conventional	Yes	
Advance	Yes	(Up to 64 intervals)
Parameters		
Scanning rate	Any	(from 1 s to 18 hrs)
Time delay	Any	(from 0 s to 41 days)
Pressure start	Yes	(Threshold and trigger)
Smart battery type	P15 or P20	

Memory Pressure Gauge (Metrolog)

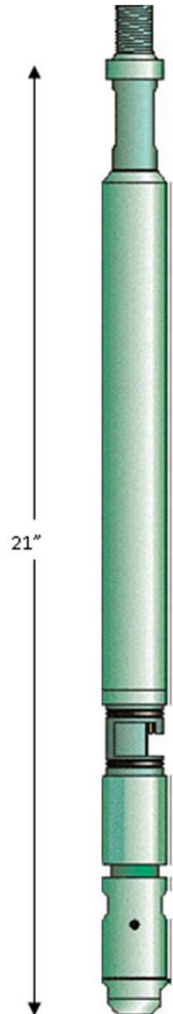
Metrolog CGM4 Features

- ❑ High resolution & high stability even at high temperature and pressure
- ❑ Used by any technician with no previous knowledge of electronic gauges
- ❑ Operated without being open thanks to its unique connection system
- ❑ Powered by Smart batteries which remember their use, can be tested for their remaining life and offer up to 10 months of downhole recording
- ❑ With innovative features such as:
 - shock absorber mounted electronics
 - metal-to-metal seal for extended test in gas wells
- ❑ Reservoir and well testing, Interference test, Long duration data recording, Multi well surveys without reprogramming

Metrology		
Pressure (Quartzdyne quartz crystal sensor)		
Sensor range (psi)	up to 30000	Up to 2000 bar
Accuracy (% of FS)	0.02	
Resolution (psi)	<0.01	(<0.001 bar)
Temperature		
Range (°F)	0 TO 300	-20 to 150°C)
Accuracy (°F)	0.3	
Resolution (°F)	0.01	
Memory capacity (points)	1 400 000	

Mechanics		
Material	Stainless steel	(For sour service)
O.D. (inch)	1.25	(31.75 mm)
Length (inch)	21	(53 cm)
Weight (lbs)	4	(2 kg)
Thread connection	15/16" SR	(pin up * box down)
Bottom nose connection	1/4" NPT	(female)

Programming		
Modes		
Conventional	Yes	
Advance	Yes	(Up to 64 intervals)
Parameters		
Scanning rate	Any	(from 1 s to 18 hrs)
Time delay	Any	(from 0 s to 41 days)
Pressure start	Yes	(Threshold and trigger)
Smart battery type	P15	(for up to 12 months recording)



Kuster K10 Quartz XT

The K10 Quartz XT is a slickline, E-line, or coiled tubing conveyed downhole memory gauge. The instrument has been designed with an external RTD for rapid temperature response. Using a proven quartz technology pressure transducer coupled with an external RTD, the K10 Quartz XT will provide quality and accurate downhole data. With enhanced features, the K10 Quartz XT is a low-cost instrument producing pressure, rapid temperature response, and depth data for a more complete well survey.

Applications:

- Static and flowing gradient tests
- Downhole leak detection
- Detecting flowing zones
- Injection testing
- Gas lift optimization
- Drill stem testing

Features:

- Entirely designed, manufactured and assembled in the U.S.A.
- Robust electronics section
- "Quartzdyne" digital quartz resonator transducer
- Fast response external RTD temperature sensor
- Redundant memory
- Battery management system within software
- Built-in Surface Readout (SRO) mode
- Delta P/Delta T sampling options
- Depth data with serial encoder for Pressure/Time vs. Depth/Time

Specifications:

Pressure		Temperature	
Range	up to 16,000 psi	Range (Quartz)	150°C
Accuracy	0.02% F.S.	Range (HT Quartz)	177°C
Resolution	0.0006% F.S.	Accuracy	± 0.2°C
		Resolution	0.001°C
		Response Time	1.5 sec/10°C
Physical		Miscellaneous	
Outside Diameter	1.25", 1.50"	Number of Data Points	1,400,000 sets
Length (approx.)	37.5", 40"	Minimum Sample Rate	0.1 sec.
Transducer Type	"Quartzdyne" Digital Quartz	Interface	USB
Material	Inconel/Hastelloy (NACE Compliant) H ₂ S/CO ₂ Resistant as per NACE	Software	Windows 98 and higher



K10 Quartz HPHT (200°C)

The K10 Quartz HPHT (200°C) memory gauge is built around leading-edge technology that has been designed to operate in hostile downhole environments. The unit has been developed to operate in wellbore conditions with temperatures up to 200°C for up to 800 continuous hours. The unit utilizes the proven Quartzdyne digital quartz pressure transducer, FPGA technology and Ceramic packaging. This new generation of HPHT technology will provide quality and reliable data in high temperature and hostile environments.

Applications:

- Static and flowing gradient tests
- Downhole leak detection
- Detecting flowing zones
- Injection testing
- Gas lift optimization
- Drill stem testing

Specifications:

Pressure		Temperature	
Range	up to 20,000 psi	Range	200°C
Accuracy	0.02% F.S.	Accuracy	± 0.2°C
Resolution	0.0006% F.S.	Resolution	0.001°C
Physical		Miscellaneous	
Outside Diameter	1.25/1.50"	Number of Data Points	250,000 sets
Length (approx.)	39"	Available	500,000 sets
Transducer Type	"Quartzdyne" Digital Quartz	Available Sample Rates (Fixed)	2, 4, 8, 16, 32 sec.
Power Source	Lithium	Interface	USB
Material	Inconel/Hastelloy (NACE Compliant) H ₂ S/CO ₂ Resistant as per NACE	Software	Windows 98 and higher

Features:

- Entirely designed, manufactured and assembled in the U.S.A.
- "Quartzdyne" digital quartz resonator transducer
- Depth data with serial encoder for Pressure/Time vs. Depth/Time



SPARKTEK – Quartz Pressure 1.27”

Features:





- Quartz gauge with high-resolution pressure sensor 16Kpsi
- Metal to metal seals
- Operating temperatures up to 200° C
- Large memory capacity
- Long battery life
- Easy setup and programming
- USB data retrieval
- SRO compatible operation
- Carrier compatible operation

Specifications:





MODEL	SS5067	SS5200
Pressure Sensor Type Pressure Ranges (Accuracy % FS)	Quartz 16000 psi (0.020% Full-Scale)	Quartz 16000 psi (0.020% Full-Scale)
Resolution Drift	0.00006% Full-Scale < 0.020 % Full-Scale / year	0.00006% Full-Scale < 0.020 % Full-Scale / year
Temperature Calibrated Range	25°C-177°C [77°F-350°F]	25°C-200°C [77°F-392°F]
Accuracy Resolution	0.5°C [0.9°F] <0.005°C [0.009°F]	0.5°C [0.9°F] <0.005°C [0.009°F]
Power Requirements Voltage (min) Current (Sleep) Current (Sample)	3 V 0.2 mA 7 mA	3 V 4 mA 10 mA
Data acquisition Channels Fastest sample rate Memory Capacity *Optional Redundant Memory	Pressure Temperature Time 10 sample/sec 4,000,000 samples 8,000,000 samples* 2x, 4x	Pressure Temperature Time 1 sample/sec 2,000,000 samples 2x, 4x
Gauge Material Diameter Length Seal Configuration	Inconel 718-NACE MP35N (as required) 1.27 inch [32.3 mm] (Varies with configuration) Metal C-Ring, 2x O-Ring/ Backup	Inconel 718-NACE MP35N (as required) 1.27 inch [32.3 mm] (Varies with configuration) Metal C-Ring, 2x O-Ring/ Backup
Communications	RS 232 / USB	RS 232 / USB
Software Compatibility	Windows 10/8/7/Vista/XP/NT/2000	
Surface Readout	Yes	Yes







NWSL's Customers in Pakistan

	<p><u>Oil and Gas Development Company Limited (OGDCL):</u> OGDCL is the largest company in Pakistan. It has a primary listing on the Pakistan Stock Exchange, and secondary listing on the London Stock Exchange. Established in 1961 by the Government of Pakistan, it is involved in exploring, drilling, refining and selling oil and gas in Pakistan.</p>
	<p><u>Pakistan Petroleum Ltd. (PPL):</u> The pioneer of the natural gas industry in the country, Pakistan Petroleum Limited (PPL) has been a frontline player in the energy sector since the mid-1950s. As a major supplier of natural gas, PPL today contributes over 20 percent of the country's total natural gas supplies besides producing crude oil, Natural Gas Liquid and Liquefied Petroleum Gas.</p>
	<p><u>United Energy Pakistan (UEP):</u> United Energy Pakistan (UEP) assumed control of oil and gas exploration and production assets managed by BP Pakistan in September, 2011. The Company focuses primarily on exploration and production taking care of the whole process. All our operations are based in province Sindh.</p>
	<p><u>Pakistan Oilfields Ltd. (POL):</u> Pakistan Oilfields Limited (POL) is a leading oil and gas exploration and production company of Pakistan listed on all the three stock exchanges of Pakistan located in Rawalpindi, Punjab Province, Pakistan. In addition to exploration and production of oil and gas, POL also manufactures LPG, Solvent Oil and Sulphur.</p>

NWSL's Customers in Pakistan

	<p><u>MOL Pakistan:</u> MOL PAKISTAN OIL AND GAS COMPANY B.V. a fully owned subsidiary of the MOL Group is operating in Pakistan since 1999. MOL Pakistan presently produces Oil & Gas from TAL Block as the operator of the concession. It also holds concessions for Margala and Margala North Blocks.</p>
	<p><u>OMV (Pakistan):</u> OMV (Pakistan) is subsidiary of OMV Austria is an E&P company has been active in Pakistan as operator and partner since 1990. The company was incepted as a part of a Joint Venture consisting of OMV Pakistan as the Operator, ENI Pakistan, Pakistan Petroleum Limited (PPL), and Oil & Gas Development Company Limited (OGDCL). In June 2018, United Energy has acquired OMV Pakistan obtaining the total equity of the company.</p>
	<p><u>Mari Petroleum:</u> Mari Petroleum is one of the leading integrated E&P Companies in Pakistan, with a net hydrocarbon production over 100,000 barrels of oil equivalent per day. With a 23% market share, we are the second-largest gas producer in Pakistan and have a strong reserve base of around 642 million BOE.</p>
	<p><u>HYCARBEX:</u> Hycarbex-American Energy, Inc offers oil and gas exploration and production services. The company was incorporated in 1997 and is based in Islamabad, Pakistan.</p>

NWSL's Customers in Pakistan

 <p>DEWAN PETROLEUM</p>	<p><u>Dewan Petroleum (Pvt.) Limited (DPL):</u> Dewan Petroleum (Pvt.) Limited (DPL) is a Pakistani exploration and production company. DPL is a full cycle E & P company with active involvement in the exploration, development and production of petroleum to meet the growing energy needs of the country.</p>
 <p>AEPL</p>	<p><u>Al-Haj Enterprises (Private) Limited (AEPL):</u> Al-Haj Enterprises (Private) Limited (AEPL) was incorporated in 2012 as a private company under the ordinance of Pakistan. Currently their main focus is on Oil & Gas Exploration within the geographical boundaries of Islamic Republic of Pakistan.</p>
 <p>EASTERN TESTING SERVICES</p>	<p><u>Eastern Testing Services (ETS):</u> Backed by Eastern Group for Energy Services and Eastern National Oilfield Services, Eastern Testing Services shares the vision of achieving excellence in providing safe and effective solutions to the Oil & Gas industry.</p>
 <p>Oil and Gas Services SPRINT</p>	<p><u>Sprint Oil & Gas Services:</u> Sprint Oil & Gas Services FZ provides high-end solutions and relevant quality services to Oil and Gas Exploration and Production Companies in the Middle East, North and East Africa and Asia. Currently, they are serving in the UAE, Pakistan, Iraq, Libya, East Africa and Saudi Arabia.</p>

NWSL's Customers in Pakistan



Weatherford

Weatherford Pakistan:

Weatherford International is leading global energy service company operating in 75 countries. They provide equipment and services used in drilling, evaluation, completion, production, and intervention of oil & gas wells. As a global leader in energy services, operators trust Weatherford to drive the maximum value, streamline operations and enhance safety.

Successful

1500+

Jobs

Certifications

