PICO ENERGY
Petroleum Services & Investments

Coiled Tubing & Stimulation Services

Vision

Focus on quality and improve early production measures of oil & gas fields; our engineers apply years of engineering experiences and innovating designs to maintain our leadership in Advanced Coiled Tubing, Stimulation & Pumping Technology (ACSPT).

Mission

Deliver optimal Coiled Tubing, Stimulation & Pumping quality solutions based on services applications and performance criteria aided by sophisticated engineering database management.

Dominate the oil & gas fields services in Advanced Coiled Tubing, Stimulation & Pumping Technology with an edge in quality and services, adhering to QHSE regulations together with operational outstanding performances to increase the competitiveness and provide advanced technology.

FLOW TO CLEAN

Stimulation Lab

Coiled Tubing (Hydra Rig)

Injector Model	Dimensions				Snub.	Pull	CT Size
	Height (cm)	Width (cm)	Depth (cm)	Weight (Ton)	Capacity (lbs)	Capacity (lbs)	Range (Inch)
HR 680	337	110	140	5.6	40,000	80,000	1 - 3.50
HR 660	337	110	140	5.6	30,000	60,000	1 - 2.875

Control Cabin:

Complete Data Acquisition System to run the coiled tubing operations.

Power Pack:

Provides hydraulic power required to operate and control the coiled tubing unit and well control equipment (BOP), with priority accumulators.

CT Reel (Drop in Reel):

Tubing (QT-900):

- 1 ½ Inch CT string Wall thickness: 0.134 to 0.203 Inch 24,000 ft. (QT 1000)
- 1 ½ Inch CT string wall thickness: 0.134, 0.145 Inch, 17,000 ft. (GT 90)
- 1 ¾ Inch CT string wall thickness: 0.134, 0.145, 0.156 Inch, 17,000 ft.(GT 90)

Well Control Equipment (4 1/16 Inch)

Stripper (NOV)

5000 psi	Max Retract Pressure	5000 psi
5000 psi	Max Pack Pressure	5000 psi
1 – 2 ½	CT Size Range	1 – 2 1/2
10,000 psi	Max Working Pressure	10,000 psi

Quad BOP

- Closing Pressure Min/Max 1500/5000 psi
- Opening Pressure Min/Max 500/2000 psi
- CT Ram Size Range 1 -2 Inch
- Max Working Pressure 10,000 psi
- BOP Bore Size 4.06 Inch

Combi and Shear/Seal BOP

- Closing Pressure Min/Max 1500/4000 psi
- Opening Pressure Min/Max 1500/2000 psi
- CT Ram Size Range 1 – 2 Inch
- Max Working Pressure 10,000 psi
- BOP Bore Size 4.06 Inch

BOP Remote Control Station

In case of emergency, Operator/Supervisor can easily operate the BOP's remotely and independently from the coiled tubing units at a remote distance of approximately 200 ft either Quad BOP or secondary Combi BOP.

Well Control Equipment (3 1/16 Inch)

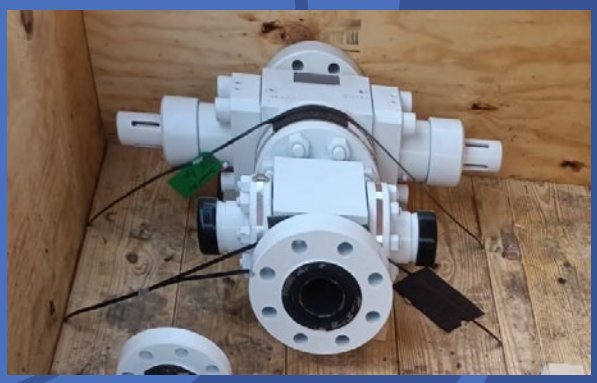
Stripper (Nexus)		Tandem Stripper (Nexus)
5000 psi	Max Retract Pressure	5000 psi
5000 psi	Max Pack Pressure	5000 psi
1 – 2	CT Size Range	1 – 2
10,000 psi	Max Working Pressure	10,000 psi

Quad BOP

• Closing Pressure Min/Max	1500/5000 psi
• Opening Pressure Min/Max	500/2000 psi
• CT Ram Size Range	1 -2 Inch
• Max Working Pressure	10,000 psi
• BOP Bore Size	3.06 Inch

Shear/Seal BOP

• Closing Pressure Min/Max	1500/4000 psi
• Opening Pressure Min/Max	1500/2000 psi
• CT Ram Size Range	1 – 2 Inch
• Max Working Pressure	10,000 psi
• BOP Bore Size	3.06 Inch



Coiled Tubing Applications

Pumping:

The category of applied fluid pumping services involves the concentric tubing services which focus on the ability to place and displace specified fluids within the well bore. Example: Well Killing, Fill Removal, Scale Removal, and Sand Control.

Circulation:

The most popular use for CT is circulation. In case the well is low pressure, a solution would be to attempt to circulate out the fluid using a gas. Circulating can also be used to clean out light debris, which may have accumulated in the hole. Example: Sand Placement, Well Kick Off, and Artificial Lifting.

Production:

Coiled tubing can be used as a production string. The narrow internal diameter results in a much higher velocity than would occur inside conventional tubing or inside the casing, where the high velocity assists in lifting liquids to surface. The coiled tubing may be run inside the casing instead or inside conventional tubing. Example: Matrix Stimulation Treatment & Fishing.

CT Drilling:

CT can be used in drilling, using downhole tools in addition to fluid Pumping from the surface. Example: CT Drilling, Cement Plug & Abandonment, and CT Completions.

Logging and Perforating:

For highly deviated and horizontal wells CT has an advantage over Wire Lines due to its high flexibility in addition to BHA. Example: Open hole logging, Cased hole logging, and CT-Conveyed Perforating.

Pumping Services

No	Items	Single Pump Unit	Twin Pump Unit
1	Detroit Diesel Series 60	Detroit Diesel Series 60	2 Detroit Diesel Series 60
2	Transmission	New Allison 4700 OFS	2 new Allison 4700 OFS
3	Triplexpump	SPM TWS-600	2 SPM TWS-600s
4	Plunger Size	3 ½", 4"	3 ½", 4"
5	Maximum Pump Rate	0.25 – 10 bbl / min	19 bbl / min
6	Maximum Pump Discharge Pressure	10,000 psi	10,000 psi

Nitrogen Services

Max. working Pressure 10,000 PSI
PSI Hydrostatic Test Pressure 15,000 PSIG
Max. Flow Rate 3,000 Scf/min

Nitrogen Tank:

Operating Pressure	65 psi
Gross Capacity	2110 USG, 8000 Liters
Net Capacity	2000 USG, 7600 Liters
Loss Rate	0.8 % per day

Combination Nitrogen And Fluid Pumping Unit

No	Items	Fluid Pump Unit	Nitrogen Pump Unit
1	Motor	Cummins QSX15	Cummins QSX15
2	Transmission	Allison 4700 OFS	Allison 4700 OFS
3	Triplex pump	CS&P Triplex TI-600	CS&P 3-ICP-200 GR with 1.625"
4	Plunger Size	3 ½", 4"	1 5/8''
5	Maximum Pump Rate	0.1 – 8 bbl / min	180 KSCFH
6	Maximum Pump Discharge Pressure	10,000 psi	15,000 psi

Accessories

Fluid Tanks:

Used for mixing and storing of fluids, acids, etc…
With Circulation line, jetting inside, and bypassing manifold.

- 65 bbls Capacity, 1 compartment
- 75 bbls capacity, 1 compartment.
- 105 bbls capacity, 3 compartment
- 150 bbls capacity, 1 compartment
- 150 bbls Capacity, 2 Compartment
- 300 bbls capacity, 2 compartment

Accessories

Raw Acid Tanks (28 – 32 %):

Used for storing & transferring of raw acids.
1,600 Gallons capacity.

Acid Pumps: (air, diesel, electrical)

Used in transferring (28 – 32%) acids
from acid tanks to mixing tanks.

N2 Road Tanker

-9,600 Gallon Liquid N2 Tanker
-7,000 Gallon Liquid N2 Tanker

Choke Manifold

Used in Rig less operations for flow
back control

2" (1502) Treating Iron:

- Standard & H2S service.
- 10,000 & 15,000 psi working pressure.

Risers:

Low pressure & High pressure risers:
- 5,000 psi – 10,000 psi.
- 4, 6, 8, and 10 ft.
- H2S service.

Accessories

Cross Overs:

Quick union crossover assembly for 10,000 psi working pressure, H2S service. Sizes of X-Tree Cross Over are:

- 2 7/8", 3 ½", 4 ½", 5", 5 ¾", and 8 ¼" Inch.
- Types of X-Tree Cross Over are: OTIS, EUE, VIM, IF, and BOUN.

CT Reels

Different wall thickness, and lengths.

BHA on CT String:

- Tubing End Connector (Internal & External).
- D. F. check valve.
- Rigid Centralizer.
- Nozzles (Jetting, Single hole, Lifting, Blind & sidepoint)
- Hydraulic disconnect.
- Knuckle Joint.
- Rotary wash tool.
- Double roll on connector.
- Pulling tools.

Air Compressor:

Supplies compressed air to the remote control panel.

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