

PowerSource

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Sanjel services
the oil and gas
industry with
John Deere
power

Excavators that
know no boundaries

Hipower gen-sets
rule the oilfields

Move frack iron, sand,
and water faster
than ever

A horizontal drill that
takes on the tough jobs

Driller's friend

Sanjel Corporation offers specialty services to the energy industry with a fleet of custom-built machines designed to further boost productivity

The hunt for oil remains a hive of activity, keeping oilfield service companies like Sanjel Corporation bustling to keep rigs running efficiently.

Take Williston, North Dakota, as an example. Once a quiet agricultural community, Williston is now one of America's biggest oil-boom towns and one of the fastest-growing cities in the nation. It sits at the center of the 1,658-square-kilometer (640 square mile) Bakken oil-formation — a reserve that accounts for 90 percent of North Dakota's oil production. The state is now the second-largest U.S. producer of black gold behind Texas.

New technologies, drilling techniques, and services are fueling the oil boom in Williston. Sanjel, headquartered in Calgary, Alberta, is a major support to the industry there. Ranked as Canada's largest privately owned oilfield-service company, Sanjel has over 30 years of experience around the globe offering services like acidizing, cementing, fracturing, coiled tubing, completions, as well as nitrogen pumping.

Interestingly, Sanjel manufactures much of its own equipment that is "custom fit-for-purpose so that it can withstand the rigorous operating demands in the field," according to Darryl Schultz, manager

of corporate maintenance. Sanjel manufactures these machines in the company's Professional Park located in Calgary. One of North America's largest technical oilfield service facilities, Sanjel's Professional Park operates as the technical headquarters for the company and houses its manufacturing, engineering, technology, and training & development groups. The Professional Park also includes a testing facility to ensure that the machines meet stringent criteria. The company staffs 20 Corporate Manufacturing and Equipment Design engineers who are constantly improving upon designs.

Because reliability is paramount in the oilfield-service business, Sanjel relies on John Deere engines, which they purchase from Frontier Power Products. In fact, John Deere engines power more than 100 pieces of Sanjel oilfield-servicing equipment. These include gensets, sand converters, hydraulic power units for the Cementing and Acidizing Units, as well as blower skids on portable bulk plants.

The rise in oil drilling prompted the manufacture of several more John Deere-powered machines. Sanjel recently added two trailer-mounted hydration units powered by the 298-kW (400 hp) PowerTech Plus 9.0L engine. These units hydrate frack-based fluids or gels before they are transferred to the blender.

A Sanjel Cementing and Acidizing Unit features an independent John Deere engine that powers the hydraulics and mixing system.



Funk Pump Drive Model	28000
Number of pads	1
Max input power	242 kW (325 hp)
Max input torque	780 Nm (575 ft-lb)
Input configuration	Clutch driven

In addition, Sanjel increased the number of John Deere-powered chemical-addition units. This mobile mini-laboratory controls the delivery of all of the fluids and gelling systems throughout the pumping operations. The chemical additive system consists of eight hydraulically driven positive-displacement chemical pumps that can deliver nine different chemicals on the fly. A PowerTech PVX 4.5L Interim Tier 4/Stage III B engine serves a dual-power role. A clutch-driven hydraulic pump mounts on the back of the engine, while a belt-driven generator mounts on the front.

“The engine is performing very well,” says Schultz. “The 4.5L engines on the chemical-addition trailers have been the most reliable engines that we have out there. Those units hardly ever shut off because they power the heating system throughout the winter.”

Schultz is also pleased with the fuel economy of the John Deere engines. “Once we started using John Deere engines, we noticed a 50 percent improvement in fuel consumption over our previous engines used in this application,” says Schultz.

The engines are long lasting too. “We had a John Deere-powered gen-set that had 30,000 hours on it; we retired the whole unit — not because it wasn’t working. It’s just our policy to keep machines for a 10-year cycle and then retire them.”

Emissions Cert.	Interim Tier 4/Stage III B	Tier 3/Stage III A
Engine Model	PowerTech PVX 4045HFC93	PowerTech Plus 6090HF485
Displacement	4.5L	9.0L
Rated Power	129 kW (173 hp) @ 2200 rpm	298 kW (400 hp) @ 2200 rpm
Cylinders	4	6
Aspiration	Air-to-air aftercooled	Air-to-air aftercooled
Distributor	Frontier Power Products Calgary, Alberta (403) 720-3735 www.frontierpower.com	

Sanjel makes it a priority to keep its fleet well maintained. Every piece of equipment is on a set maintenance schedule and is iron-tested on a regular basis.

And when the equipment is out in the field, Sanjel relies on the John Deere network of dealers for parts and service. “In the oil patch, our busiest season is from December to the end of March. We can’t afford to have downtime,” states Schultz. “We are in a lot of smaller towns in North America, and in some of these areas where we work, it’s so remote. It would normally take two or three days to get a part up to that location. Fortunately, there’s usually a John Deere dealership nearby that has the part on the shelf, and we can have it up and running on the same day.”

Sanjel supplies a variety of services and support to oil drillers in Williston, North Dakota.

