# Mile Marker One

## SNAKE RIVER TERMINAL POSITIONED TO HANDLE HUGE VOLUME OF PNW GRAIN


**Tri-Cities Grain LLC**
**Pasco, WA • 509-545-0900**

**Founded:** 1999
**Storage capacity:** 2.5 million bushels at one location
**2001 volume:** 11 million bushels
**Annual revenues:** $73 million
**Number of employees:** 5
**Crops handled:** Soft white, white club, hard red winter, and dark northern spring wheat; barley; corn
**Services:** Grain handling and merchandising

**Key personnel:**
- Damon Filan, general manager
- Jay Atchison, merchandiser
- Mark Weber, operations manager
- Steve McClintock, operatins
- Joan Stedman, grain accountant

### Supplier List

**Aeration fans .....** Sukup Mfg. Co.
**Barge winches .....** Keigley & Co.
**Bearing sensors ....** The Rolfes Co.
**Bin sweeps .....** The GSI Group
**Bucket elevators .....** Schlagel Inc.
**Contractor .....** The Haskins Co.
**Conveyors (belt) .....** Hi Roller Conveyors
**Conveyors (drag) ..** InterSystems Inc.
**Distributor .....** Rapat Corp.
**Dust collection system ...** Keigley & Co.
**Dust filters .....** Kice Industries Inc.
**Dust suppression oil ..** E. J. Heck & Sons. Inc.
**Elevator buckets .....** Tapco Inc.
**Engineering .....** The Haskins Co.
**Level indicators ...** 4B Components Ltd.
**Liner .....** Tandem Products Co.
**Manlift .....** Sidney Mfg. Co.
**Motion sensors ....** 4B Components Ltd.
**Samplers .....** InterSystems Inc.
**Steel storage .....** Behlen Mfg. Co.
**Truck dumper .....** Straight International Co.
**Truck scale ...** Mettler Toledo Inc.

*Tri-Cities Grain LLC's barge-loading terminal on the Snake River near Pasco, WA, features roughly 500,000 bushels of upright steel storage and another 2 million bushels in temporary storage capacity. Photos by Ed Zdrojewski.*

Damon Filan first started thinking about building a state-of-the-art barge terminal in the Tri-Cities area of southeast Washington back in the winter of 1994-95, when he was manager of Continental Grain Co.'s river terminal at Pasco, WA.

"It was an antiquated crib house built in the late 1930s, near the confluence of the Snake and Columbia rivers" Filan says. "I thought that with an upgraded terminal, we could maintain Continental's customer base in this part of the country."

After several years on the drawing board, Continental's top management agreed to build a new barge-loading terminal at Pasco. Construction was scheduled to begin late in 1998.

Then the bottom fell out. Continental Grain that year sold its grain division to Cargill Inc. And Cargill made it clear that the company wasn't interested in pursuing

*From left, Damon Filan, general manager; Steve McClintock, operations; Joan Stedman, grain accountant; Mark Weber, operations manager; and Jay Atchison, merchandiser.*

*A 40,000-bph Hi Roller enclosed belt conveyor carries grain out to a computer-operated loadout spout for loading onto barges.*

the barge terminal project.

**New Venture**

Convinced of the need for a new barge terminal in the Tri-Cities area, Filan sought venture partners for a new one. (Cargill continues to operate the former Continental elevator as CLD Pacific Trading LLC, a joint venture with Louis Dreyfus Corp.)

He found his partners in two cooperatives covering a wide swath of the eastern half of the state – Central Washington Grain Growers, Waterville, WA, and Northwest Grain Growers Inc., Walla Walla, WA. His merchandiser, Jay Atchison, came on board from Cenex Harvest States Cooperatives.

A third partner in the venture was Tidewater Barge Co., a barge operator on the Snake and Columbia rivers. Tidewater, which operates its own tank farms for non-grain commodities on the Snake River east of Pasco, signed on in order to develop a piece of property it owned adjacent to the U.S. Highway 12 bridge across the Snake.

"It was just about the only property left in the area where you could develop a grain terminal," Filan says. "The property is served by an abandoned Burlington Northern rail line seven miles long, and it would be a low-cost upgrade to develop a 110-car shuttle-unloading operation."

The clincher, though, is that the site would be the farthest inland terminal barges could reach before the first dam on the Snake River. Currently, a series of four dams on the Snake allow barge traffic to travel upriver as far as Lewiston, ID.

However, environmental groups have been trying to convince the federal government to remove those dams in order to protect the salmon population that migrates up the river to spawn. The movement to remove the dams has been relatively quiet recently, since the 2001 energy crisis on the West Coast. However, if the dams ever are removed, the new venture could attract a large chunk of the grain that formerly went to terminals farther upstream.

With that in mind, the two cooperatives and barge company moved quickly. They formed Tri-Cities Grain LLC in July 1999 and began construction by November. The venture selected The Haskins Co., Spokane, WA (509-535-2978), as the general contractor on the project. Keigley & Co., Spokane (800-333-4889), served as the equipment systems designer.

The terminal was completed in June 2000.

**Steel Facility**

"We went with an all-steel design because it was less expensive than concrete and easier to add onto if we needed to expand," says Operations Manager Mark Weber.

Upright storage consists of a 200,000-bushel Behlen steel tank and four 80,000-bushel Behlen tanks. The large tank is 72 feet in diameter, 53 feet tall at the eaves, and 72 feet tall at the peak. The small tanks are 43 feet in diameter, 59 feet tall at the eaves, and 71 feet tall at the peaks.

All of the tanks are equipped with flat concrete floors, 10-inch GSI sweep augers, and 4B Autoset level monitors. However, they have no grain temperature monitoring systems. "We're turning the house 20 or 30 times a year, so we're just not keeping grain around that long," says Weber.

However, the tanks are equipped with aeration, using a pair of 15-hp Sukup centrifugal fans per tank capable of supplying 1/15 cfm per bushel on small grains. Again, because of the fast turnaround, a higher volume of air is not needed.

In addition to the upright storage, Tri-Cities Grain has set up a 2-million-bushel temporary storage area. The ground pile can be aerated, and plans call for the temporary storage area to be paved this year.

**Grain Handling**

Incoming grain goes to either of two 1,100-bushel, gravity-operated receiving pits, outfitted with E. J. Heck & Sons oil dust suppression systems.

The pits feed a 20,000-bph Schlagel leg outfitted with 31-inch Goodyear belt, two rows of 14x8 heavy-duty Tapco buckets on 10-inch centers, 125-hp U.S. motor, and Dodge speed reducer.

Alternatively, the elevator operator can send grain directly from the receiving pits to barges via a 40,000-bph Hi Roller enclosed belt conveyor. The conveyor, which has a 42-inch belt, runs more than 600 feet on a 6-degree incline out to the waterfront, which has a long enough berth to dock two barges. The operator can load barges using a computer-operated telescoping spout, designed by Haskins and Keigley, which can swivel 180 degrees.

Grain headed for storage is sent to a 6-hole Rapat electric rotary valve distributor, which can reach two of the steel tanks via gravity spout. The spout is lined with Tandem Rhino-Hyde ceramic chip urethane. A 20,000-bph InterSystems drag conveyor can take grain out to the other tanks. The facility has no grain cleaner, but there is space on the roof to install one, if needed.

Grain from the steel tanks is reclaimed onto a below-ground 40,000-bph Hi Roller enclosed belt conveyor, which connects to the barge loadout belt.

The facility has no grain dryer. "We're in the high desert here," Filan says, "and our grain comes in at 6% to 10% moisture."

The entire facility is under Allen Bradley PLC controls, using touchscreen technology.

"So far, everything here has worked really well," says Weber. "We are able to unload up to 30 semis an hour during harvest, and there are no lines."

The next major project for Tri-Cities Grain is to develop a railcar-unloading operation, according to Filan.

*Ed Zdrojewski, editor*

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