SmartFeed™

Chemical Conditioning System
For Geotube® Dewatering Applications

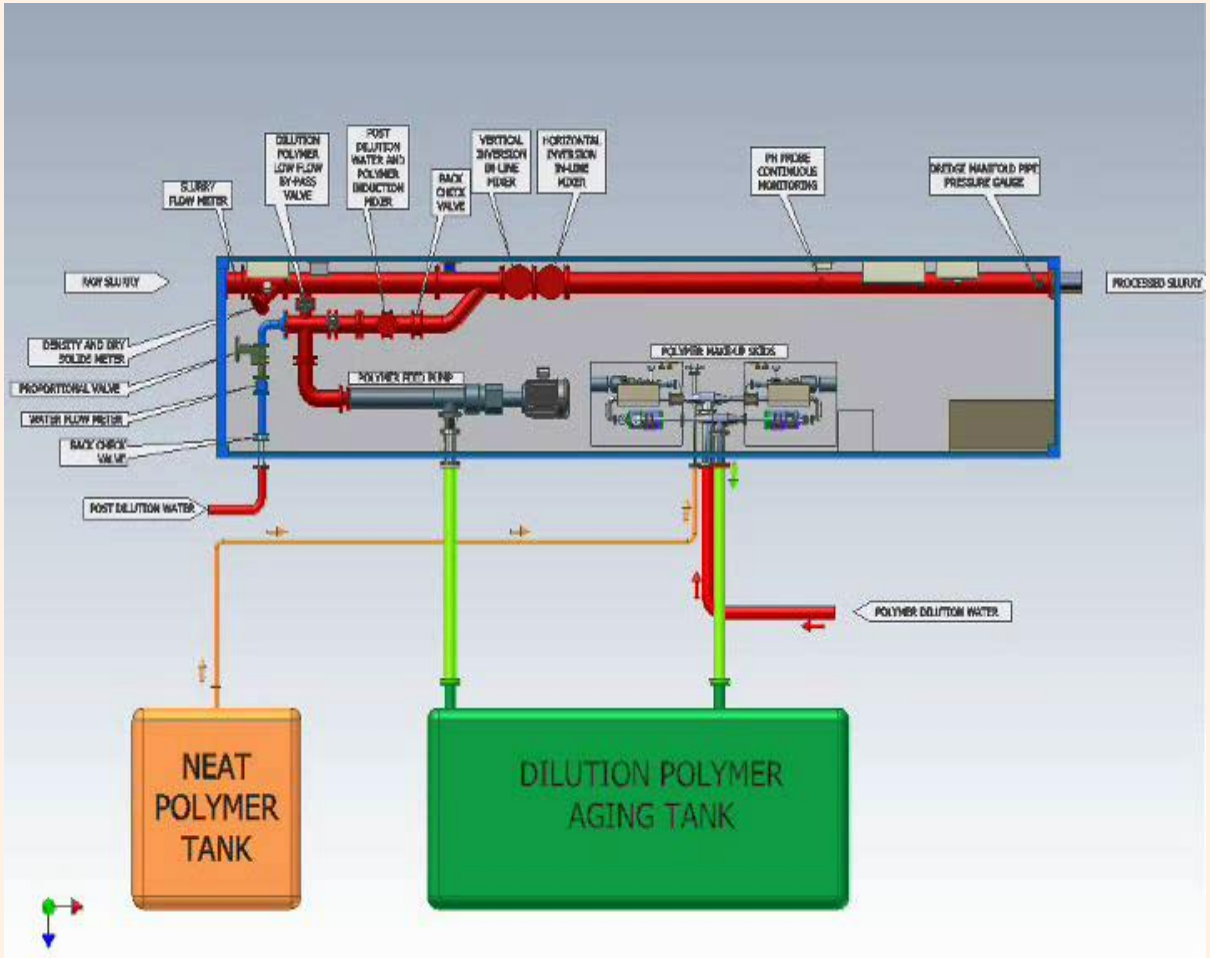
SF SMARTFEED™

TENCATE Geotube®

SmartFeed™ system General Description:

- Smartfeed™ design solves chemical conditioning applications problems for various geotextile containment applications
- Technology was designed to be compatible with dredging and diver operations, variability of flow and solids mass in the slurry
- Technology is comprised of chemical makedown equipment, chemical-to-slurry mixing technology and on-board computer mass-balance reporting
- Technology samples the slurry parameters every 15 seconds and recalculates the chemical dosage rate based on changes

Polymer Make Down



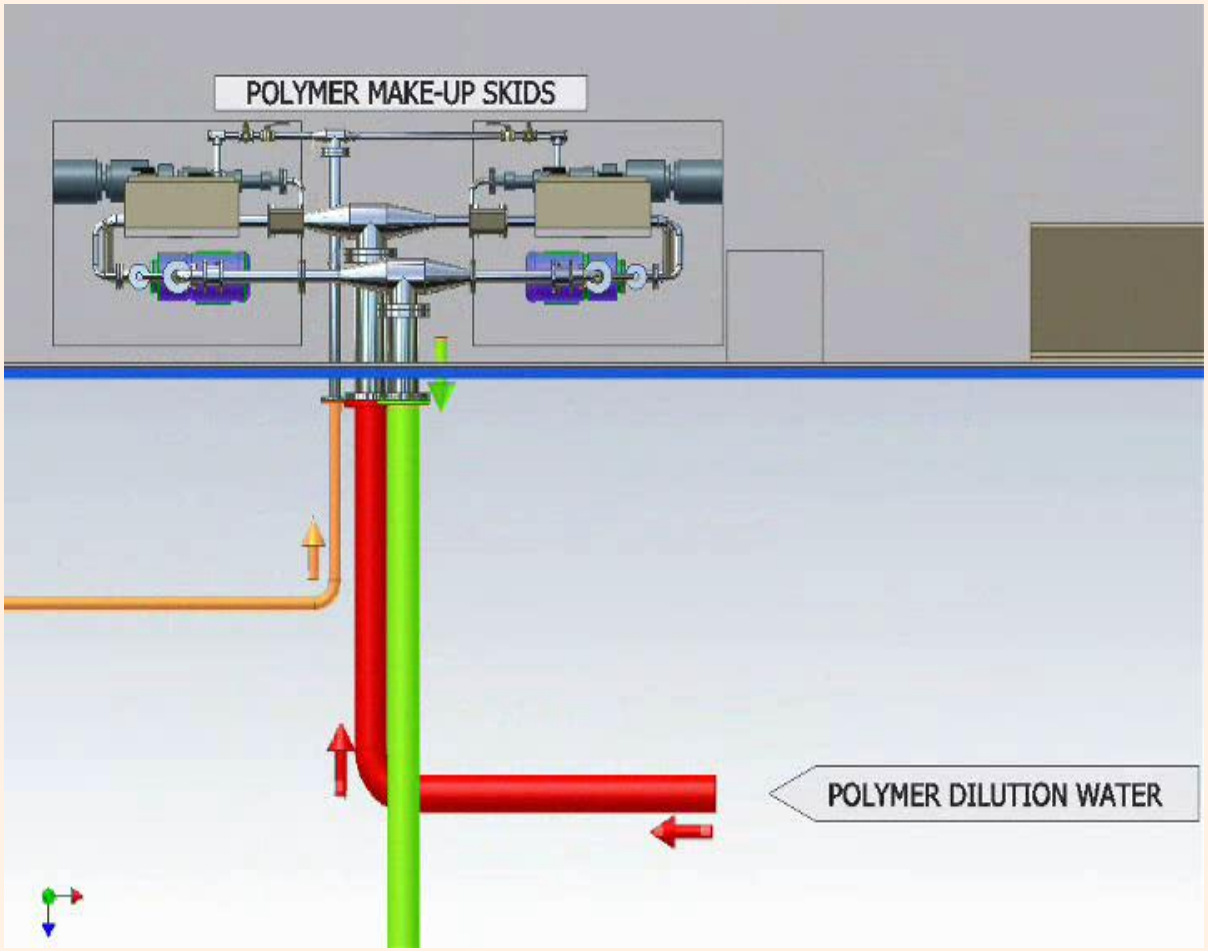
SmartFeed™ system does the following:

- Meters neat emulsion or solution polymers
- Mechanically mixes the product to begin proper activation
- Upgradable to ratio the neat product to the incoming water flow
- Transfers the solution to the application tank

SMARTFEED™

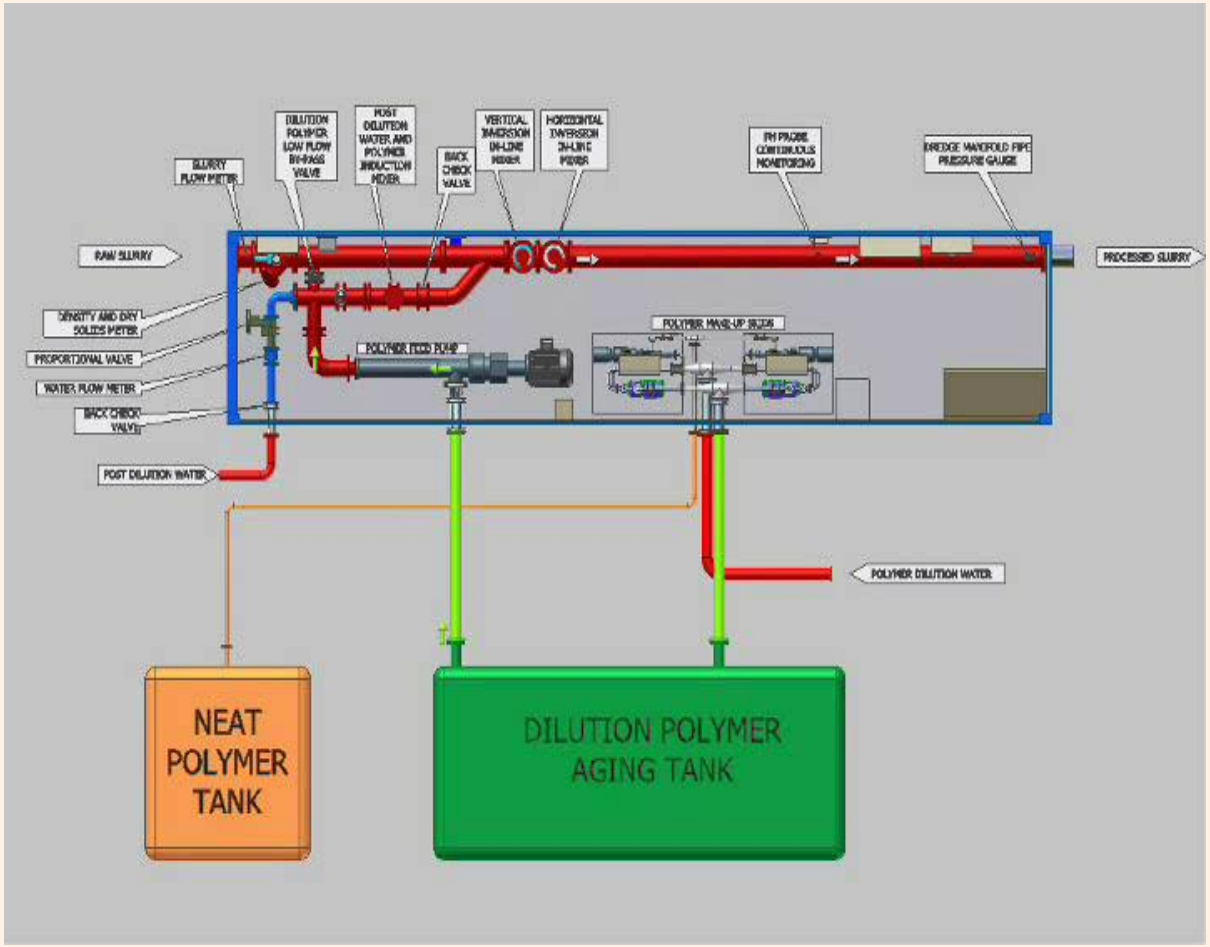
TENCATE Geotube®

Polymer Make Up Skids



- Designed to prepare and store solutions of emulsion grade polymer for onward dosing at the point of application.
- Neat emulsion is metered through a progressive cavity pump and injected into the water flow, prior to passing through an inversion pump to ensure complete dissolution.
- The resultant solution is transferred to a storage tank, ready for dosing at the point of application.

Polymer Addition (non-post dilution)

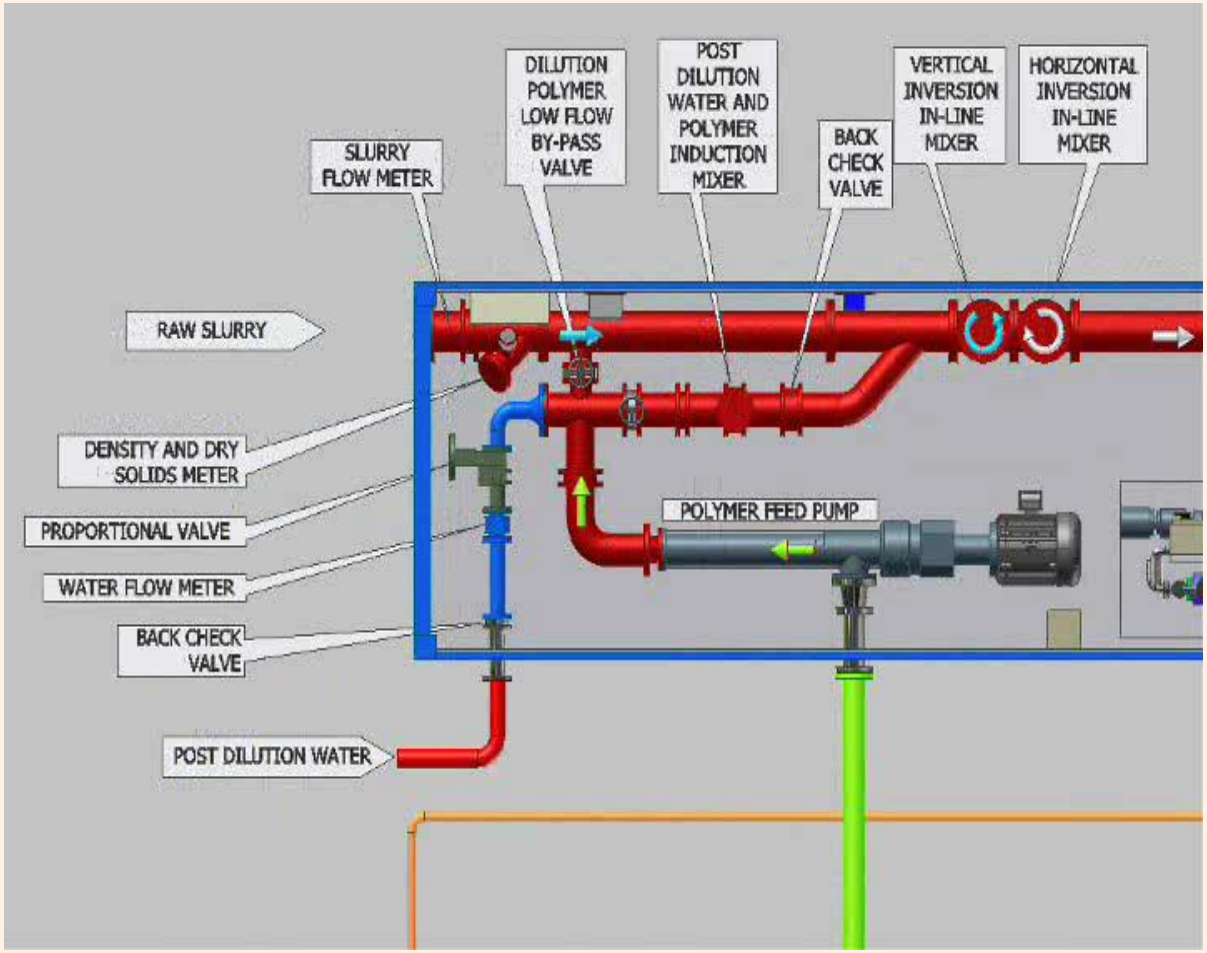


- Flocculation is the destabilization of a hydro-phobic colloidal suspension by bonding between colloidal particles using long polymer chains of high molecular weight (greater than 1 million).
- The amount of polymer required to support continuous flocculation is dependent on the mass of dry solids entering the systems
- The various portable unit are capable of handling up to 600 gpm @ .5% dilution concentration
- This normally supports dredging projects in the 2000-3000 gallon per minute range

SF SMARTFEED™

TENCATE Geotube®

Polymer Addition (post-dilution)



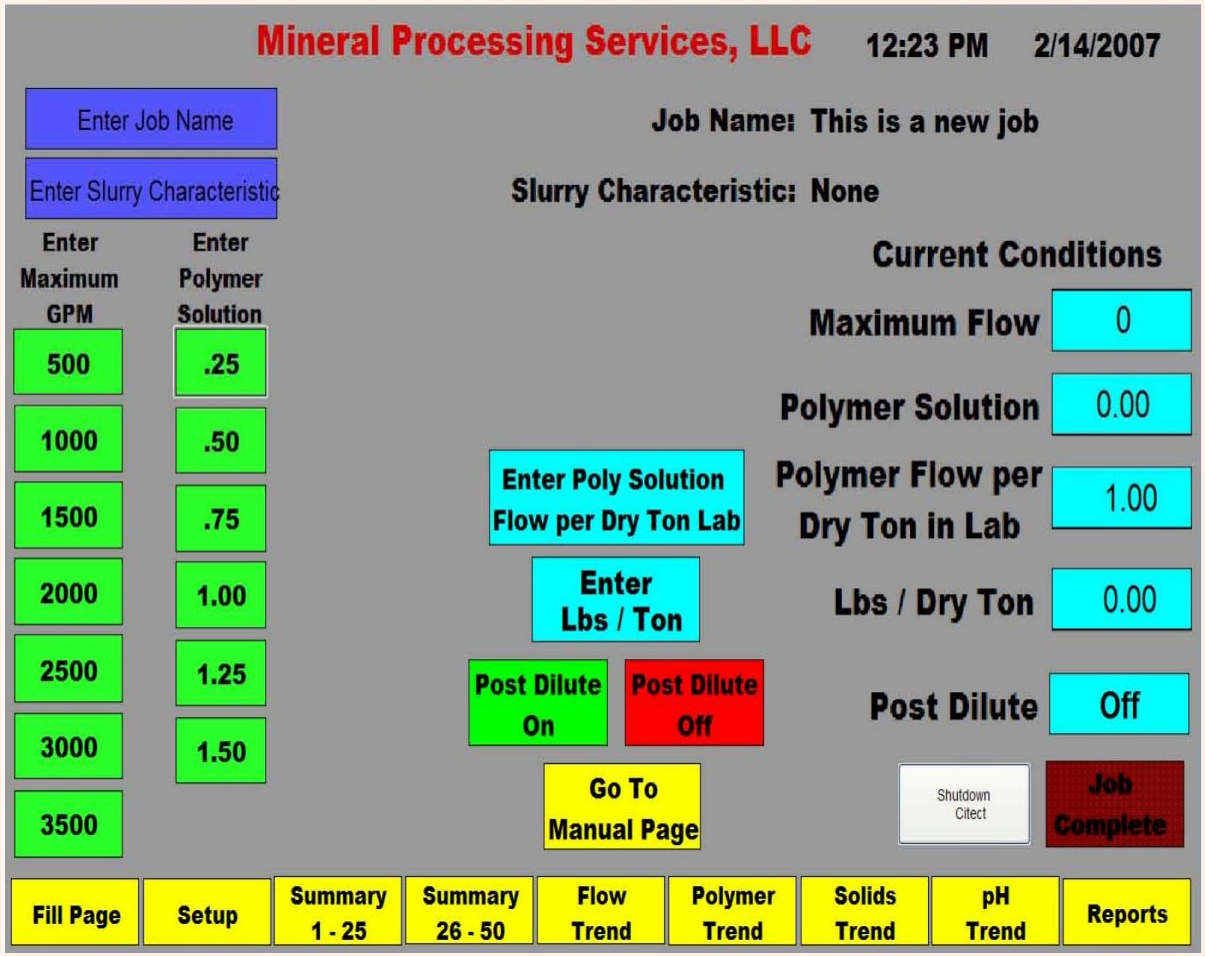
- To reduce the need for fresh water when polymer demand is higher than 600 gpm @ .5% dilution

- Units can be provided with post-dilution systems that allows filtrate from dewatering and or marine water for dilution of polymer in ranges up to 1,200 gpm for a .5% dilution polymer range. This supports dredging projects in the 2,000 – 4,000 gallons per minute range.

SF SMARTFEED™

TENCATE Geotube®

Setup Page

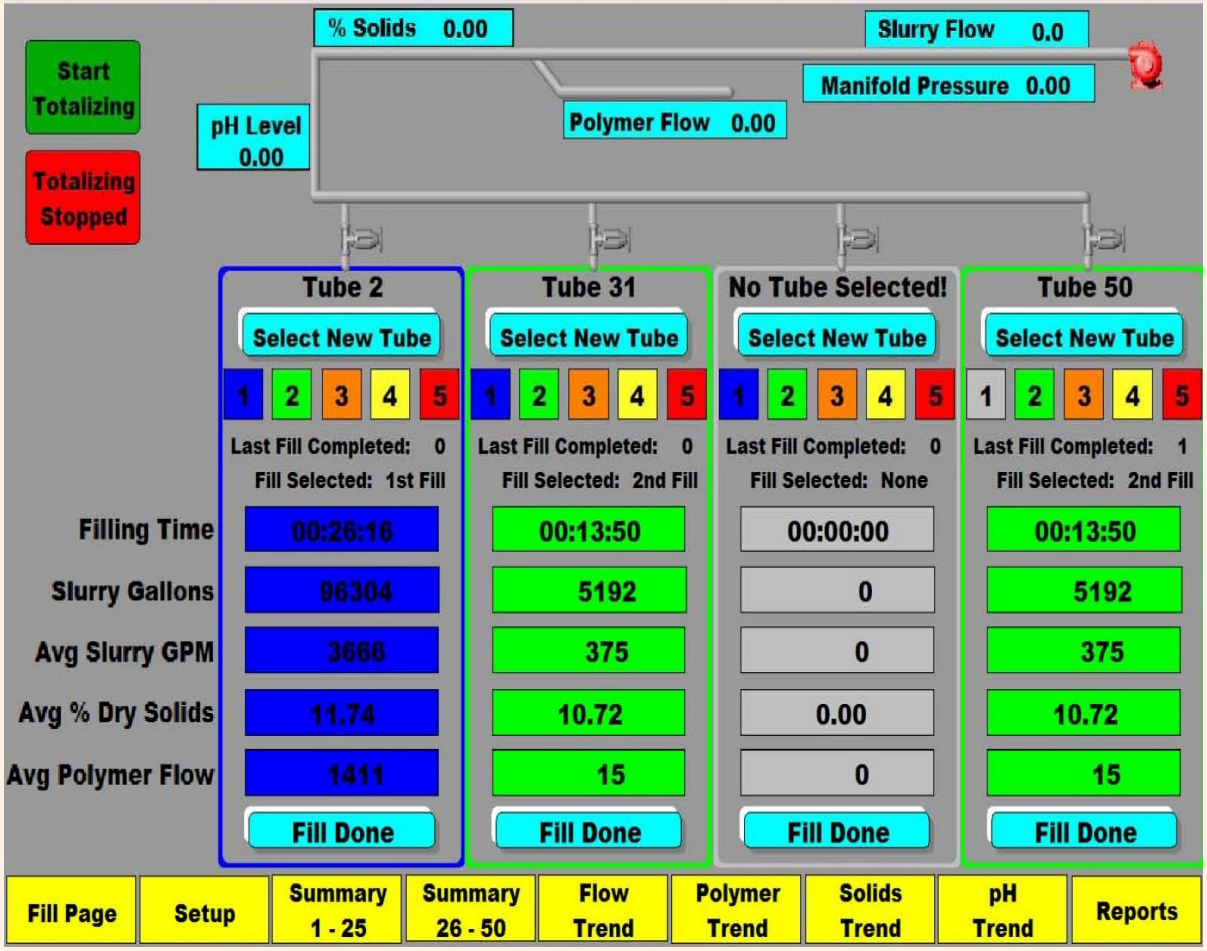


- SmartFeed™ system is a patent-pending technology for chemical dose management
- Specific project operational parameters -- flow, solids range, lbs of polymer per dry ton of solids – are specified on this page

SMARTFEED™

TENCATE Geotube®

Operational Page

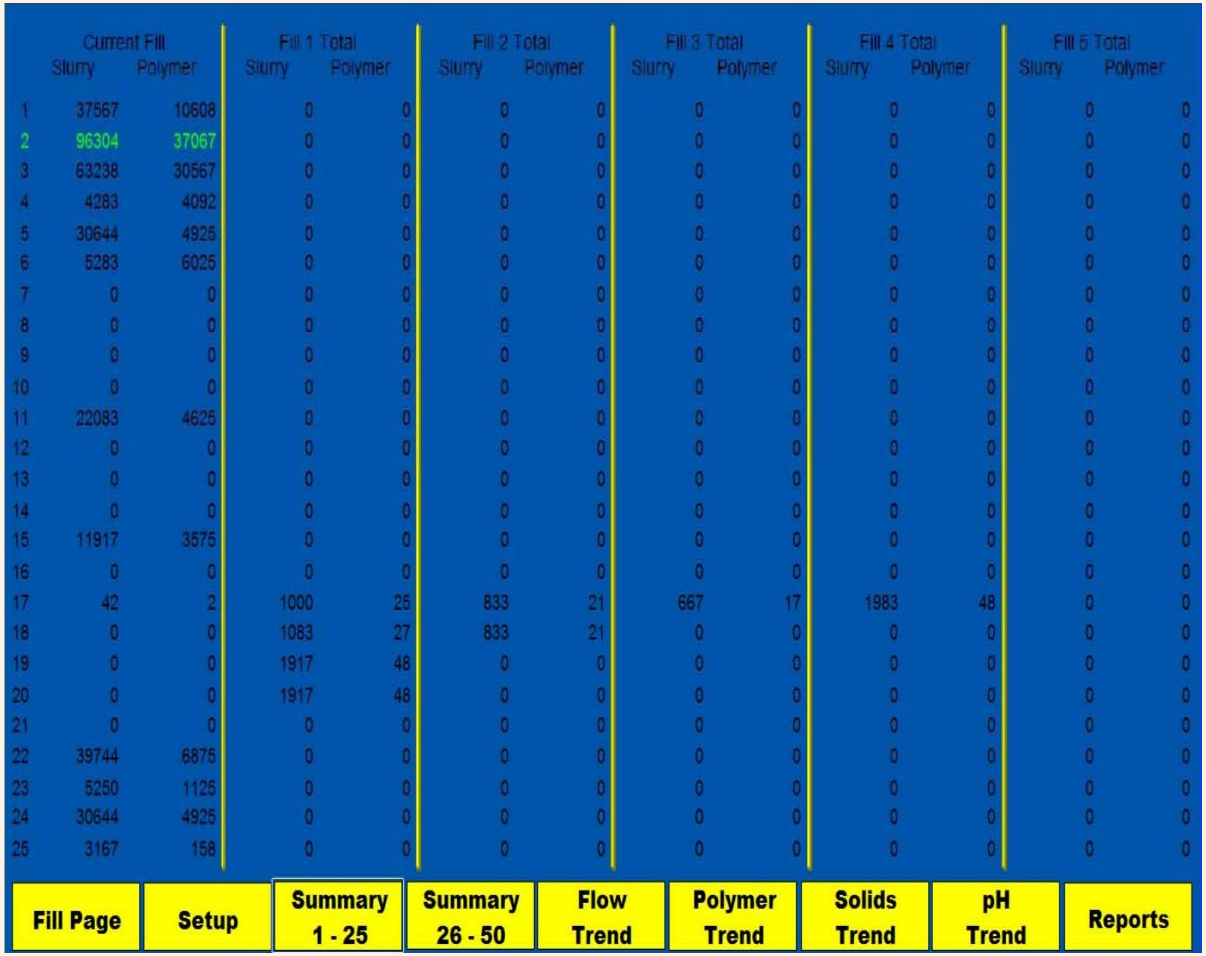


- The operational page allows operator to view, in real time, percent of dry solids, density, flow rate, pH and line pressure
- The operational page selects which tubes are receiving flow

SMARTFEED™

TENCATE Geotube®

Logging Page



	Current Fill		Fill 1 Total		Fill 2 Total		Fill 3 Total		Fill 4 Total		Fill 5 Total	
	Slurry	Polymer	Slurry	Polymer	Slurry	Polymer	Slurry	Polymer	Slurry	Polymer	Slurry	Polymer
1	37567	10608	0	0	0	0	0	0	0	0	0	0
2	96304	37067	0	0	0	0	0	0	0	0	0	0
3	63238	30567	0	0	0	0	0	0	0	0	0	0
4	4283	4092	0	0	0	0	0	0	0	0	0	0
5	30644	4925	0	0	0	0	0	0	0	0	0	0
6	5283	6025	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	22083	4625	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	11917	3575	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	42	2	1000	25	833	21	667	17	1983	48	0	0
18	0	0	1083	27	833	21	0	0	0	0	0	0
19	0	0	1917	48	0	0	0	0	0	0	0	0
20	0	0	1917	48	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	39744	6875	0	0	0	0	0	0	0	0	0	0
23	5250	1125	0	0	0	0	0	0	0	0	0	0
24	30644	4925	0	0	0	0	0	0	0	0	0	0
25	3167	158	0	0	0	0	0	0	0	0	0	0

- Tube logging is updated at the end of each operational day.
- This will download which tubes in the project received how many gallons and dry ton solids that day

SMARTFEED™

TENCATE Geotube®

SmartFeed™

is a patent-pending technology of Mineral Processing Services LLC

James E. Meagher

Mineral Processing Services LLC

PMB 128, 50 Market St. | South Portland, ME 04106

Telephone (207) 741-2955 | Fax (207) 799-3782

Web: http://www.smartfeedsystem.com | E-mail: jmmps@maine.rr.com

SF SMARTFEED™

TENCATE Geotube®