

# P-GDT

## Pressure-Gravity Dewatering Test Procedures

Steps For A Successful Test Of SmartFeed™ Geotube® Dewatering Technology

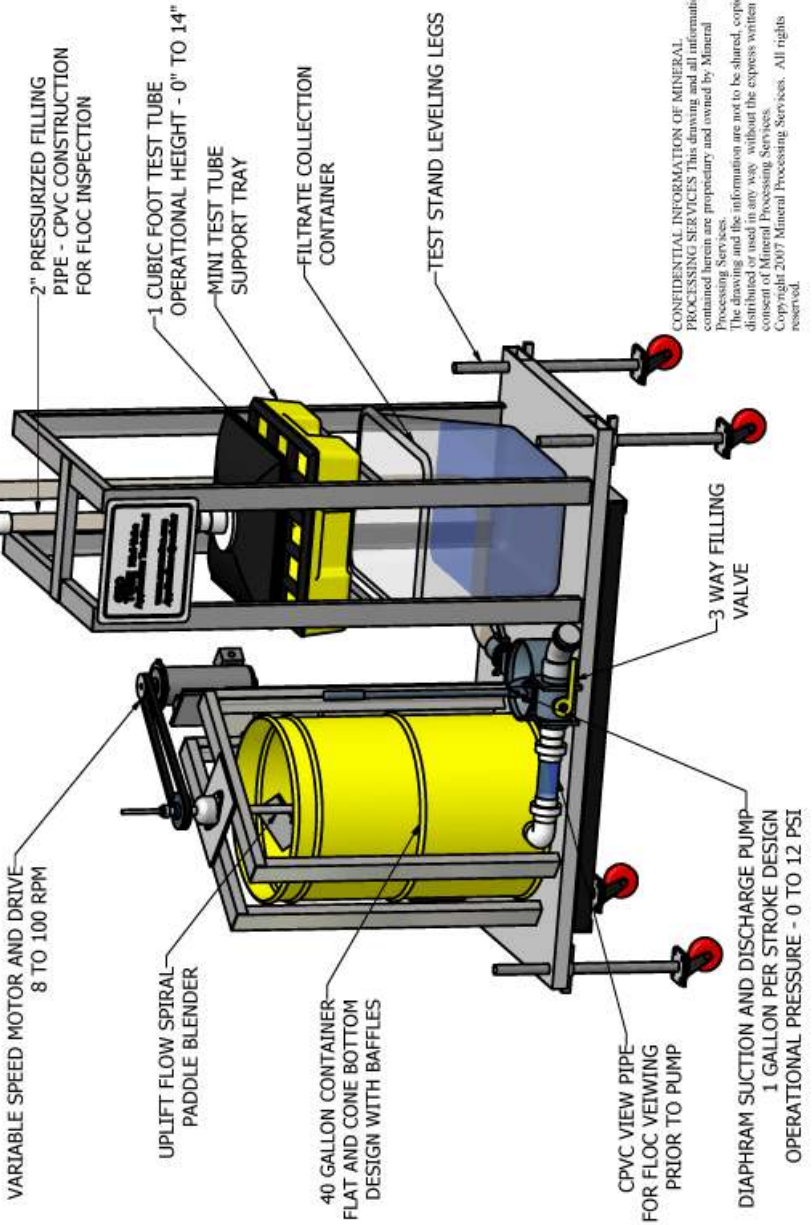


**SF**  
**SMARTFEED®**

**TENCATE**  
**Geotube**

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# P-GDT Test Stand



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SmartFeed™ P-GDT (Pressure-Gravity Dewatering Test) is a demonstration, using a Geotube® MiniTube™, of sludge dewatering under field conditions.



Once complete, the P-GDT will establish baseline measurements for the use of SmartFeed™ technology that can then be carried forward and applied to an entire dewatering project.

The purpose of the test is to:

- » Visualize the dewatering process
- » Simulate physical force interaction between permeability of filter fabric selection and polymer performance under full-scale application pressure
- » Confirm chemical program (polymer) dosage are representative of full-scale application
- » Create samples of filtrate and filter cake
- » Confirm application mass-balance of Geotube® filtration area required for project

*Note: Prior to P-GDT testing, a Geotube® distributor needs to conduct a Rapid Dewatering Test (RDT) for polymer screening of the project.*

*Note: Protective eyewear and face shields are required for personnel operating the P-GDT test unit.*

## Step 1



Sample quantity varies depending on slurry type and percent of solids of slurry.

Insert 2" hose supplied with test unit in to sample storage container using test stand pump for transfer slurry to mix tank. *Note: Valve 1 handle in suction position*

Turn on tank mixer remove 300 ml sample from mix tank for dry solids testing

Record gallons measurement on side of mix tank

Install MiniTube™ 1 cubic foot capacity on stand support tray and connect piping

Turn on mixer speed at 50%

## Step 2



Add polymer to mix tank at dose rate determined by Rapid Dewatering Test (RDT)

Adjust mixer until floc is evenly distributed in tank

Pump slurry thru piping re-circulate to mix tank *Note: Connect pump discharge hose to mix tank re-circulation fitting*

Once recirculated, discharge slurry has similar floc as mix tank, stop pumping and connect hose to MiniTube™ fill manifold

Confirm gallon measurements on side of mix tank

## Step 3



"1st phase fill": Operate fill pump until pressure gauge located on pump discharge achieves discharge pressure of Geotube circumference 30' circ 2.6 psi \* 45' circ 3.0 psi \* 80' circ 3.5 psi

Maintain test pressure on MiniTube™ for 60 sec then stop pumping

Stop slurry mixer

Allow MiniTube™ to drain for 20 minutes

## Step 4



Record level in mix tank and subtract amount from previous volume to attain gallons of slurry processed in 1st phase fill

Record volume in filtrate collection tray after 20 minutes as filtrate from 1st phase fill

## Step 5



Start mixer

“2nd phase fill”: Operate fill pump until MiniTube™ achieves pressure as in 1st fill phase and hold for 60 seconds

Stop mixer

Record volume in mix tank as volume processed in 2nd fill phase

Allow MiniTube™ to drain for 20 minutes and record volume as 2nd fill phase

## Step 6



Start mixer

“3rd phase fill”: Operate fill pump until MiniTube™ achieves pressure as in 2nd fill phase and hold for 60 seconds

Stop mixer

Record volume in mix tank as volume processed in 3rd fill phase

Allow MiniTube™ to drain for 20 minutes and record volume as 3rd fill phase

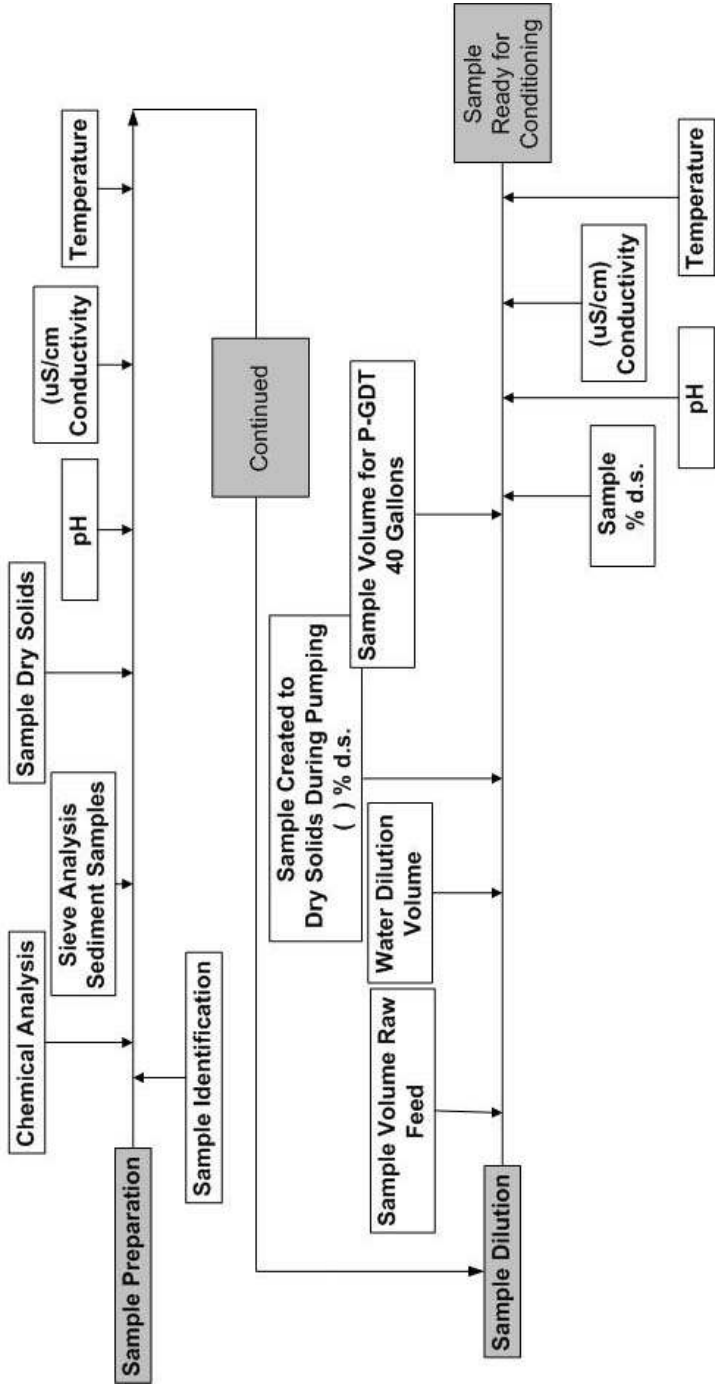
The data collected and samples resulting from P-GDT test will allow Geotube® distributor to estimate filtration area required for project. Samples can be used for further testing in a physical and chemical analysis to support permitting requirements.

# Smartfeed Geotube® Dewatering Testing

P-GDT

Sample Preparation Matrix

REV 03

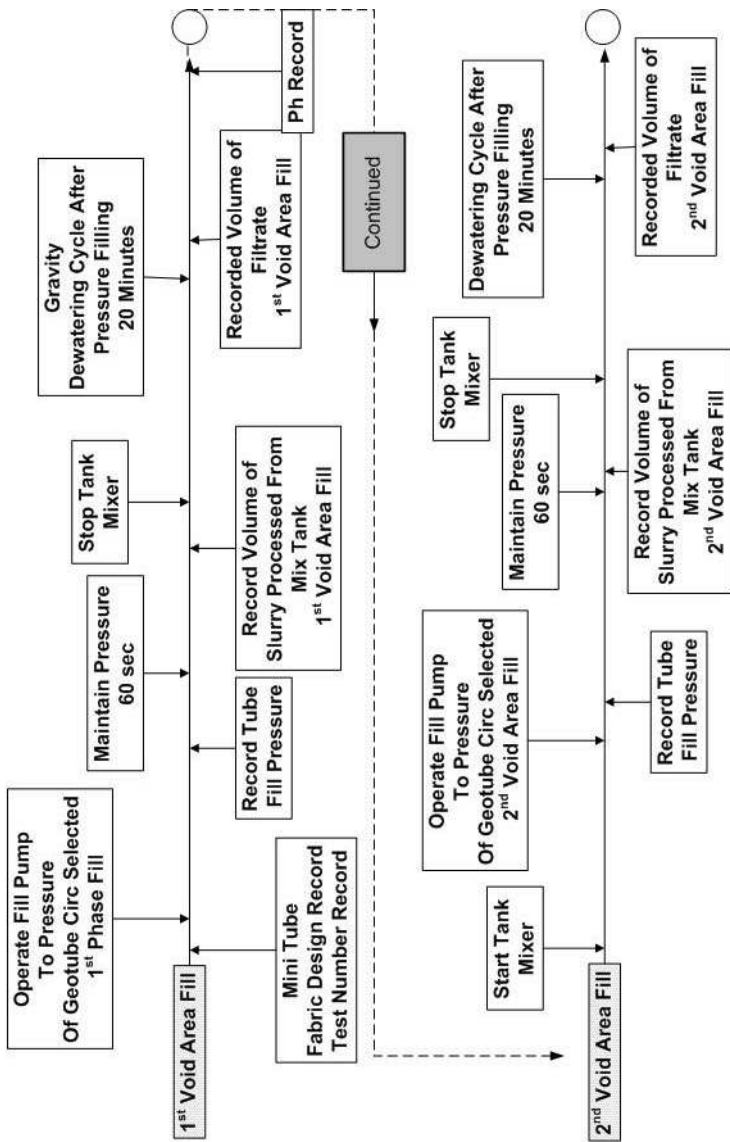


# P-GDT

## SmartFeed™ Geotube® Dewatering Testing

P-GDT Testing Data Collection Matrix  
Fill 1<sup>st</sup> Fill Phase

REV 3

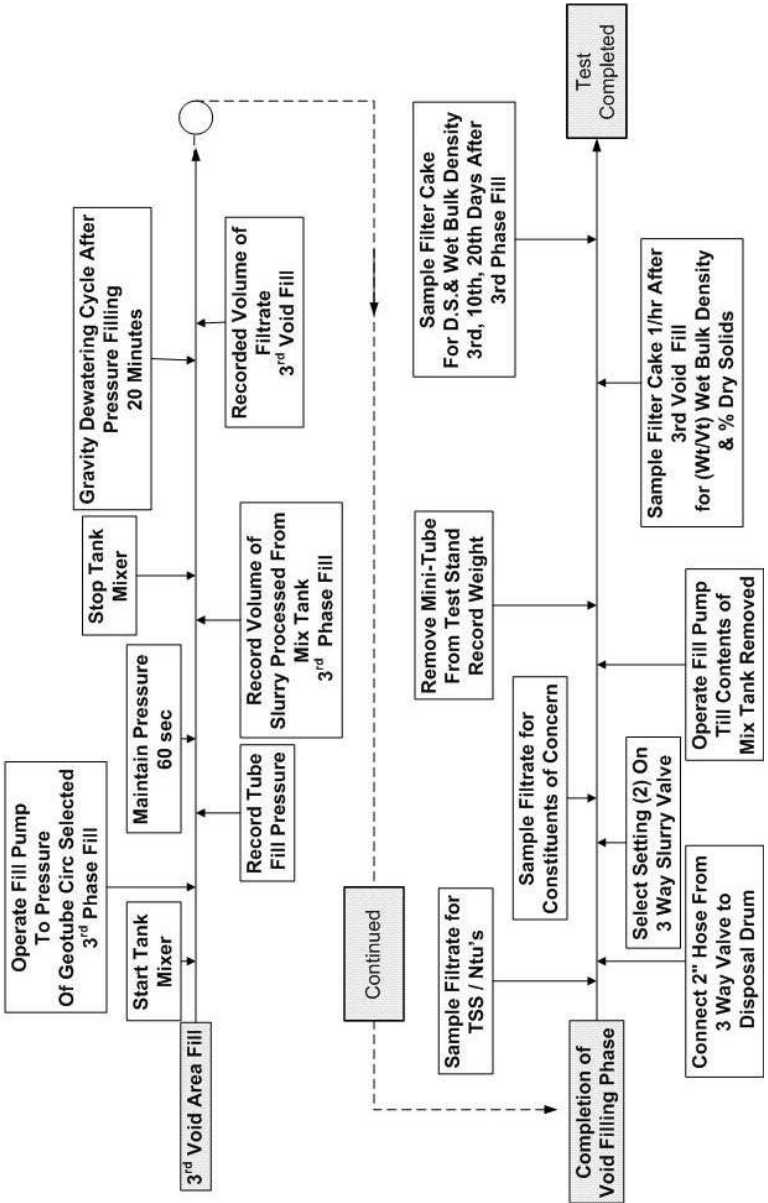


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# Smartfeed Geotube® Dewatering Testing

P-GDT Testing Data Collection Matrix  
1<sup>st</sup> Fill Phase – 3<sup>rd</sup> Void Area Fill

REV 3



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