

# P-GDT

## Pressure-Gravity Dewatering Test Procedures

Steps For A Successful Test Of SmartFeed™ Technology  
When Used In A Geotube® Slurry Dewatering Project

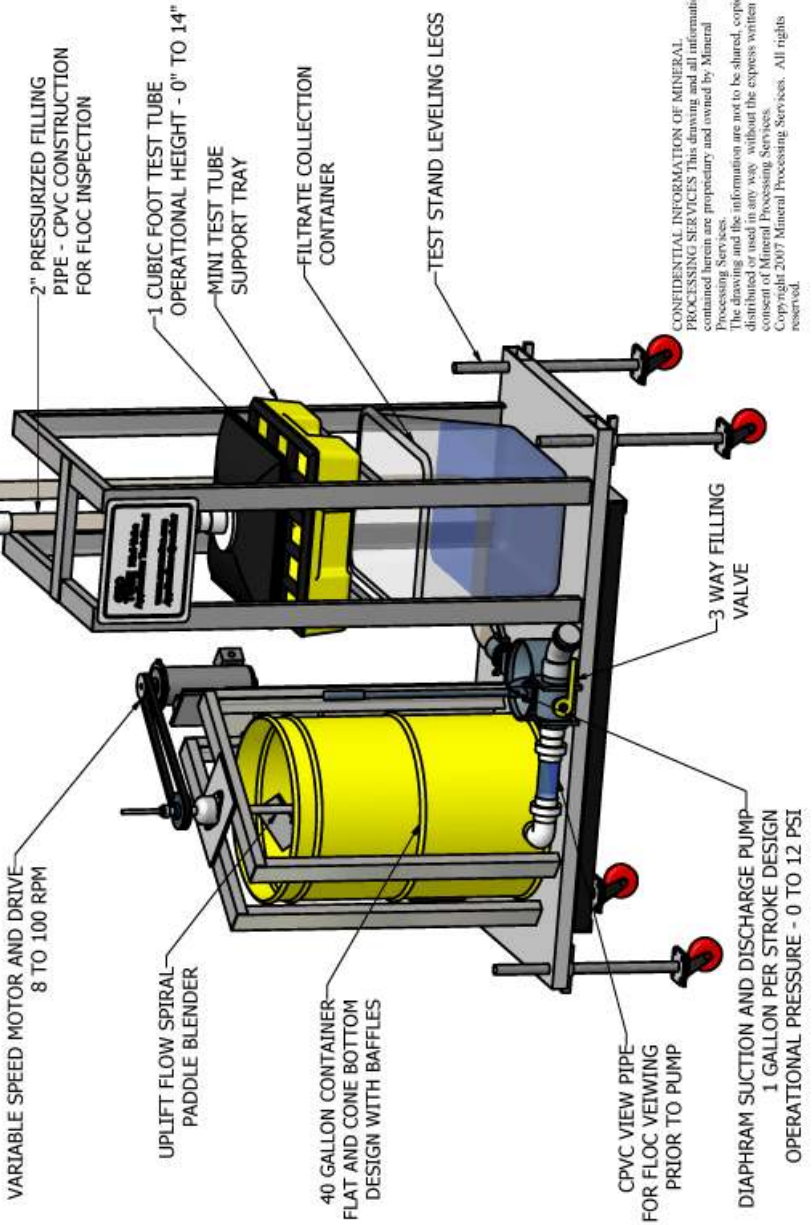


**SF**  
**SMARTFEED®**

**TENCATE**  
**Geotube**

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# P-GDT Test Stand



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SmartFeed™ P-GDT (Pressure-Gravity Dewatering Test) uses a small sample of slurry to simulate full-scale field conditions for a chemically conditioned slurry dewatering project.



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 is representative of full-scale application
- » Create samples of filtrate and filter cake
- » Confirm application mass-balance of Geotube® filtration area required for project

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

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

## Step 1



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

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

Record gallons measurement on side of mix tank.

Install MiniTube™ 1cf capacity on stand support tray and connect piping.

Turn on mixer at 50% speed.

## 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 through piping; recirculate to mix tank. *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



First 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 seconds, then stop pumping.

Stop slurry mixer.

Allow MiniTube™ to drain for 20 minutes.

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## Step 4



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

Record volume in filtrate collection tray after 20 minutes as filtrate from first phase fill.

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## Step 5



Start mixer.

Second phase fill: Operate fill pump until MiniTube™ achieves pressure as in first phase fill and hold for 60 seconds.

Stop mixer.

Record volume in mix tank as volume processed in second fill phase.

Allow MiniTube™ to drain for 20 minutes and record volume as second fill phase.

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## Step 6



Start mixer.

Third phase fill: Operate fill pump until MiniTube™ achieves pressure as in second phase fill and hold for 60 seconds.

Stop mixer.

Record volume in mix tank as volume processed in third fill phase.

Allow MiniTube™ to drain for 20 minutes and record volume as third 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.

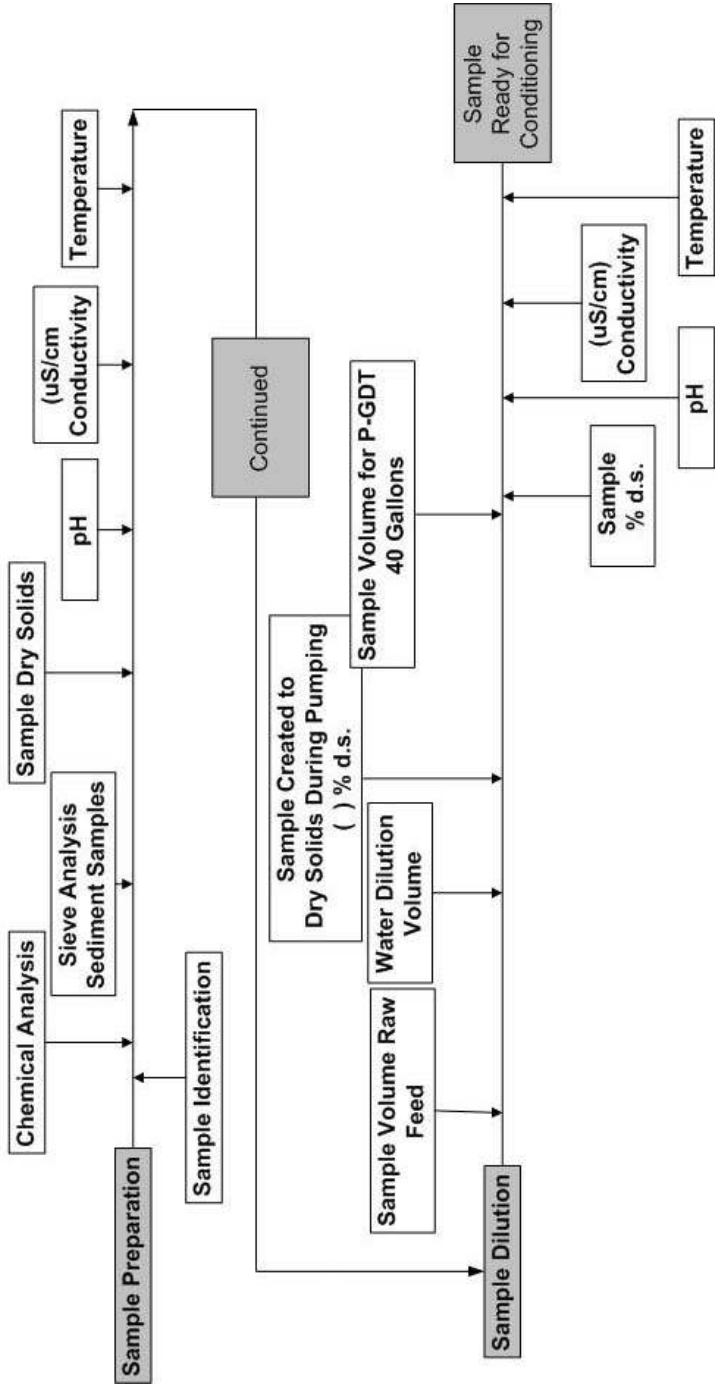


# Smartfeed Geotube® Dewatering Testing

P-GDT

Sample Preparation Matrix

REV 03

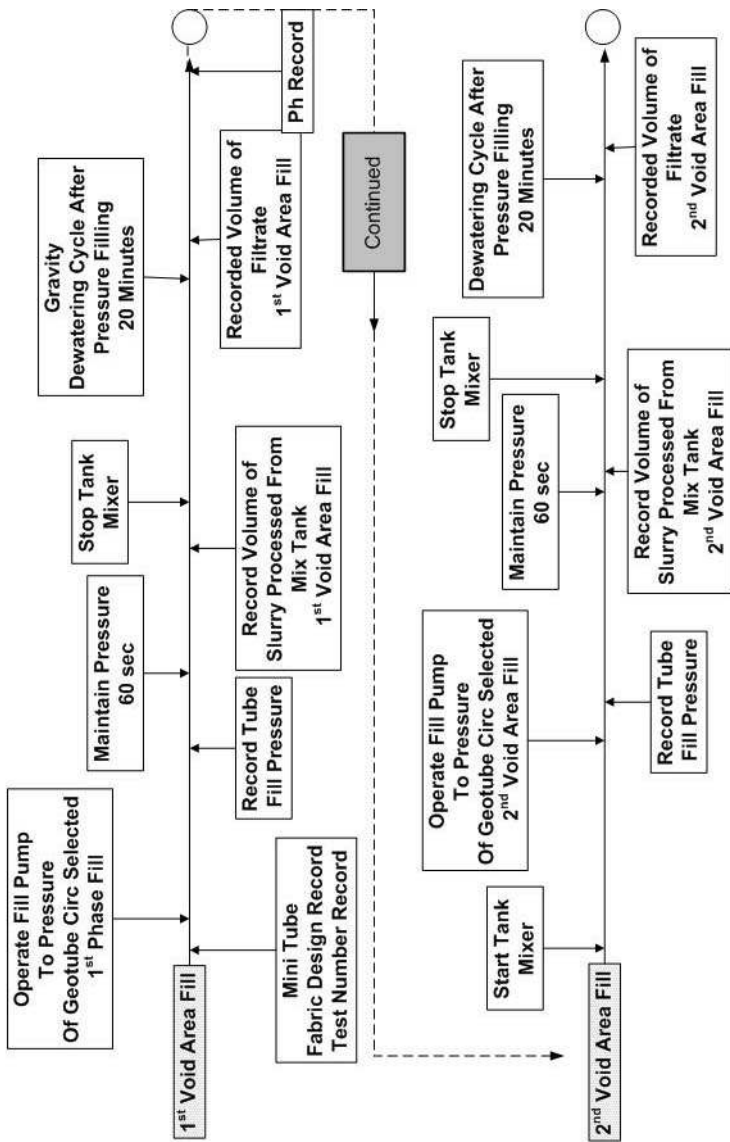


# P-GDT

## SmartFeed™ Geotube® Dewatering Testing

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

REV 3

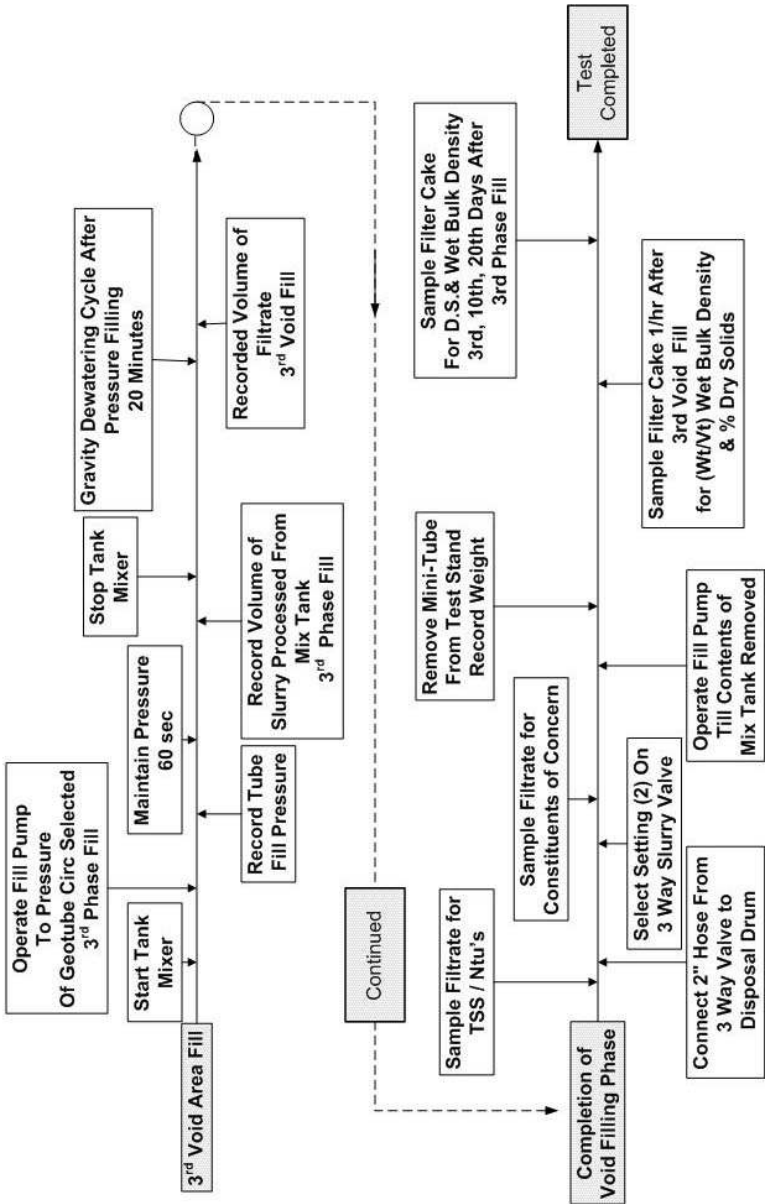


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# Smartfeed Geotube® Dewatering Testing

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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