

**MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS  
USING A FLEXIBLE WALL PERMEAMETER  
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL  
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO<sub>4</sub>**

PROJECT NAME: GeoPro, Inc. - 2017 Laboratory Testing	PROJECT NUMBER: 02156304.0025
SAMPLE ID: GeoPro's TG Lite / PowerTEC 0.79	DATE: 4/24/2017
BENTONITE (TG Lite) - 27.30%	PANEL IDENTIFICATION: Lenexa Perm Board
PowerTEC - 4.40%	BURETTE AREA: 0.312 cm <sup>2</sup>
DEIONIZED WATER - 68.30%	BURETTE INCREMENT LENGTH: 1.000 cm
Sample tested after a 24 hour curing period.	VOLUME PER INCREMENT: 0.312 cm <sup>3</sup>

INITIAL				ADDITIONAL DATA			
MOISTURE%	DENSITY			SPECIFIC GRAVITY:	2.70	RECOMPACTED?:	YES
W & T, g	WET WT, g	92.9		SPECIFIC GRAVITY: ASSUMED		PROCTOR, pcf:	NA
D & T, g	DIA, in	2.416	6.14	POROSITY, %:	NA	OPTIMUM, %:	NA
T, g	HT, in	0.999	2.54	SATURATION, %:	NA	COMPACTION, %:	NA
	AREA		29.58	VOID RATIO:	NA	OVER OPTIMUM, %:	NA
MOIST-URE, %	DENSITY:	77.3	PCF WET				
	DENSITY:	NA	PCF DRY				

<b>SATURATION:</b>	LATERAL PRESS.: 104.0 psi	BACK PRESSURE (=UPPER=LOWER): 100.0 psi	
<b>DURING TEST:</b>	LATERAL PRESS.: 104.0 psi	H2: 100.0 psi	H1: 100.0 psi
	BIAS PRESSURE (=H1-H2) 0.0 psi		

H1 VALUE	H2 VALUE	ELAPSED TIME, min	DELTA H, cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm <sup>3</sup>	IN FLOW cm <sup>3</sup>	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP. C	TEMP. CORR.:
8.8	66.9	0.00	58.1									
9.3	66.5	149.00	57.2	0.015612	2.16E-08	0.16	0.12	1.25	22.5	5	23.4	0.923
12.1	63.9	1152.00	51.8	0.099164	2.04E-08	0.87	0.81	1.08	20.4	1	23.4	0.923
12.6	63.5	1300.00	50.9	0.017527	2.38E-08	0.16	0.12	1.25	20.1	15	24.4	0.902
13.1	63.0	1536.00	49.9	0.019842	1.68E-08	0.16	0.16	1.00	19.7	19	24.7	0.895

HYDRAULIC CONDUCTIVITY (k<sub>20</sub>) = **AVERAGE 2.1E-08 cm/sec**

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	30	% < 25 AT
HYDRAULIC GRADIENT	1.0E-04 TO 1.0E-05	5	RATIO	MAX	> 1.0E-8
	1.0E-05 TO 1.0E-06	10	<1.25	HYDRAULIC GRADIENT	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT	
	less than 1.0E-07	30		ALLOWED	< 1.0E-8

