PetroTest Inc
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PETROTEST
PETROLEUM COMPLIANCE TESTING SPECIALISTS
Veteran Owned and Operated

EZY 3 LOCATOR PLUS: TANK TIGHTNESS TEST DATA FORM

TEST DATE:	03/10/2020	CUSTOMER NAME:	Kasdy A. Dawoud (David Kasdy)
PRODUCT:	Premium	LOCATION NAME:	Peace and Plenty Mart
TANK SIZE:	8,000	SITE ADDRESS:	3560 Highway 43 North
FACILITY ID:	00-0-0000036172	CITY/STATE:	Vanceboro, NC 28586 (Craven County)

DENSITY: GAS = .026 DIESEL = .031 KERO = .029 MOTOR OIL = .033 BRINE = .049

PRESSURE SENSOR CALIBRATION

13.0	X	0.026	=	0.338	PSI (1)
Inches of Product		Weight of Product			
0.00	X	0.036	=	0.00	PSI (2)
Inches of Water in Tank		Weight of Water			
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.338	PSI (3)
0.00	X	0.036	=	0.00	PSI (4)
Inches of Water Outside Tank		Weight of Water			
Total Head Pressure	(MINUS)	Outside Water Pressure	=	0.338	+/- PSI (5)
Take Line 5	(ADD)	0.5 PSI	=	0.838	PSI (6)
TEST PRESSURE			=	0.84	+/- PSI (7)

NOTE: If Line 6 is less than 0.5 PSI, Line 7 shall be 0.5 PSI

	TIME	PRESSURE
BASELINE BACKGROUND:	10:27am	0.00
BLOWER STARTED:	10:42am	0.00
TEST PRESSURE REACHED:	10:57am	0.84
BLOWER TURNED OFF:	11:12am	0.90
TEST BEGAN:	11:13am	0.87
TEST ENDED:	11:19am	0.87

Depth of Groundwater- Determined:

By: Smart Stick

Where: Tank Field

Product Temperature : 59.7

WATER SENSOR CALIBRATION

Added:

Cal # 1 Cal # 2 Cal #3

Average:

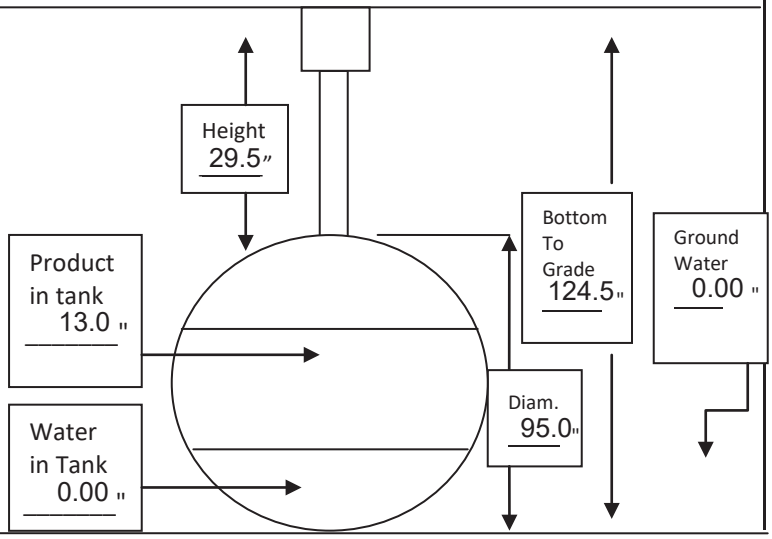
Water Intrusion Test Period: Began:

Ended:

Calibration for Test Period:

÷ 3780= ÷ .05 = x 60 =

Avg. Cal. (A) Factor **Min. Time of Test**



WET PORTION RESULT	PASS	☑	FAIL	☐	N/A	☐
DRY PORTION RESULT	PASS	☑	FAIL	☐	N/A	☐
WATER INTRUSION	YES	☐	NO	☐	N/A	☑

Comments:

Technician's Name: Matthew B. Jenkins

Estabrook's Certification Number: 46-9587

Issue Date: 05 / 16 / 2018

Expiration Date: 05 / 16 / 2020

Technician's Signature: Matthew B. Jenkins

I hereby certify that all the information contained in this report is true, accurate, and in full compliance with legal requirements, and that all tests were conducted exactly according to the equipment manufacturer's protocol and within limitations of the certification of equipment.

Estabrook EZY CHEK Systems

EZY 3 Locator Plus

NON-VOLUMETRIC TANK TIGHTNESS TEST METHOD (VACUUM)

Certification: Leak rate of 0.1 gph with P_D = 100% and P_{FA} = 1.6%.

Leak Threshold: A tank system should not be declared tight when the acoustic signal detected is different from the baseline signal before a vacuum is placed on the tank, or when water ingress is detected by the water sensor.

Applicability: Gasoline, diesel, aviation fuel, fuel oil #4, waste oil.
Other liquids may be tested after consultation with the manufacturer.

Tank Capacity: Maximum of 30,000 gallons. Ullage volume must exceed the greater of 1% of tank volume or 50 gallons.
Maximum of 30,000 gallons per tank for manifolded tank systems with microphone, water sensor and pressure monitoring gauges in each tank.

Waiting Time: None between delivery and testing.

Test Period: When groundwater level in tank excavation backfill is below bottom of tank: A few minutes to determine background noise and about 2 minutes to run the test after desired vacuum is reached.
When groundwater level in tank excavation backfill is above bottom of tank: The time it takes for water ingress to increase the water level in the tank to allow the water sensor to detect the "minimum detectable change in water level" (see "Water Sensor" section below). Test period based on water ingress is dependent on tank size. For example, the test period is 36 minutes for a 10,000 gallon (96' dia x324" lg) tank.
Before starting test, water sensor must be calibrated to "minimum detectable water level" (see "Water Sensor" section below) according to manufacturer's instructions.
There must be no dispensing or delivery during test.

Test Pressure: Pressure differential across tank wall at bottom of tank must be at least 0.5 psig.
Pressure differential across tank wall is equal to the absolute value of vacuum applied to tank, plus pressure of tank excavation backfill on tank, plus groundwater pressure on tank, minus pressure of liquid in tank.

Temperature: Acoustic signal is independent of product temperature.

Water Sensor: Conductivity water sensor must be used to detect water ingress and must be calibrated for every test when groundwater level in tank excavation backfill is above bottom of tank.
Minimum detectable water level is 0.014 inch.
Minimum detectable change in water level is 0.0095 inch.
Minimum water level in tank must be adjusted to at least 0.014 inch (sensor's minimum detectable water level) before calibrating sensor and starting test.

Groundwater: If groundwater level in tank excavation backfill is above bottom of tank, water sensor must be used and test time extended to ensure water ingress detection during test.
Groundwater level in tank excavation backfill must be determined by observation well or soil probe in tank excavation backfill.

Comments: Microphone was 25 ft away from leak source during evaluation.
Although not tested on empty tanks, a third-party acoustics specialist has certified the device is equally effective when tanks are empty as when tanks contain product.
Test may be inconclusive if there is high background noise.
Vacuum test method may not be effective in some tank excavation backfill (such as clay) because it may plug holes in tank.
If free product is present in tank excavation backfill, a leak in the free product zone may not be detected by a vacuum test method.
An observation well or soil probe in tank excavation backfill may help determine backfill material, water level in tank excavation backfill, and free product.
Manufacturer must certify operator at least every 2 years.
More than 4 psi pressure differential across the tank wall at any location in the tank could damage tank.

Estabrook EZY CHEK Systems
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Evaluator: Ken Wilcox Associates
Tel: (816) 443-2494
Date of Evaluation: 07/28/00