

Asphalt Seminars Roanoke & Fredericksburg

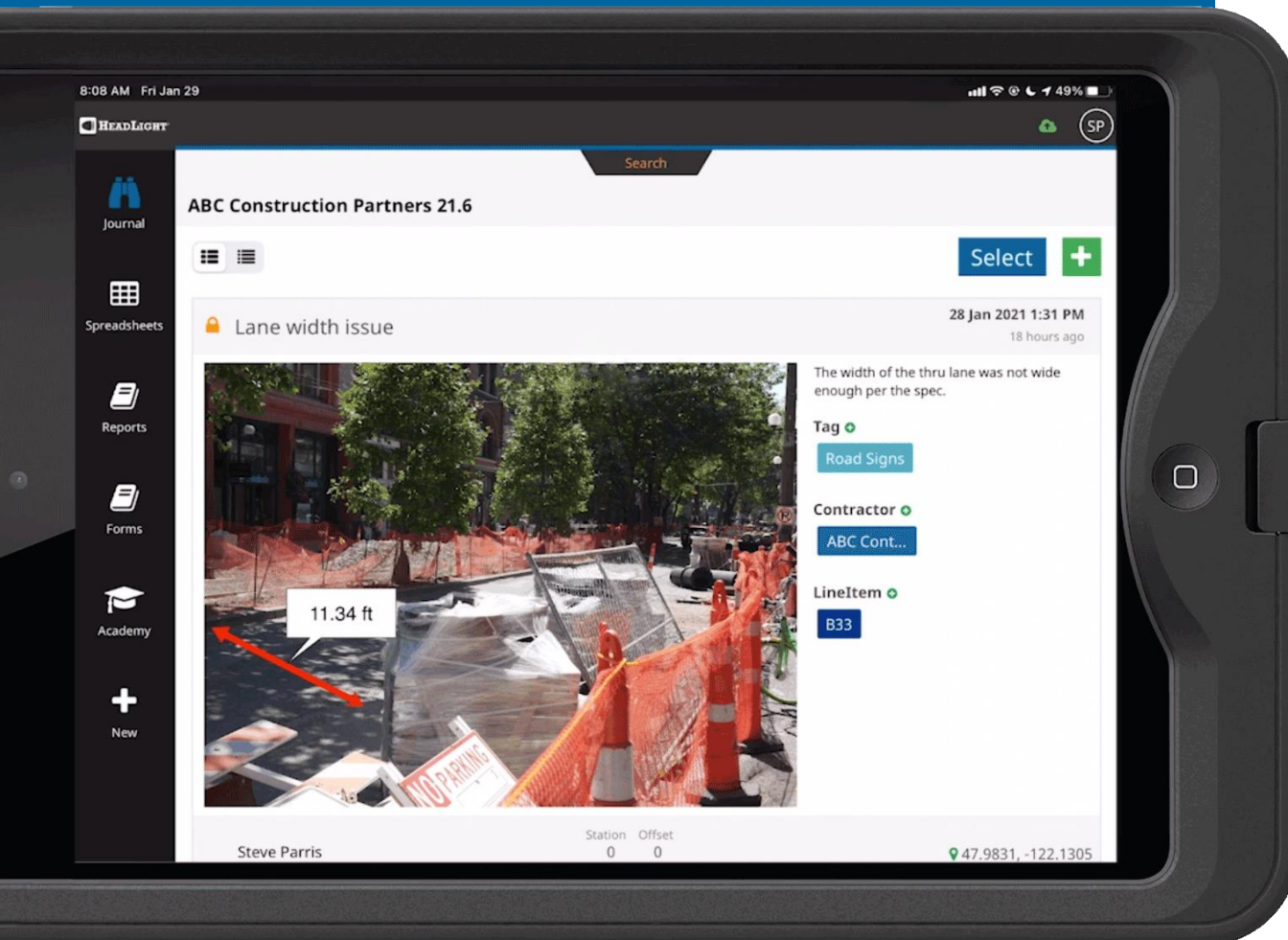
VDOT Smart Forms



David Lee, P.E.
Virginia Asphalt Association



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VDOT – Construction Division



Current quality program largely paper-based

8/6 95°-75° P. CLDY
WED: 0800 - 500 PM

Seq. 9 Telge Rd / Telge Bridge
under pass sta. 2123+00 shot
WB: Drilling SHAFT for Bridge
column

ALLSTATE apply shot-crete to lower
SW/wall of Spring Cypress located at
approx 1924+00 at EBR
US-290

also applying reinforced wire fence 6'6"
to lower SW/wall of Spring Cypress
to secure and stabilize soil wall
ALLSTATE Drilling soil piers on SW/wall
of Spring Cypress at sta. 1925+00 - 1927+00.
Con crete cancelled not able to
complete job.

ALLSTATE SIGNAL: 2 concrete transfer unit
PABLOS crew: 1, supervisor, 6 crew 2 skill 4 unskill
Equip: Track Hoe, Ball Tail, drill 3/4 ton TRK, crane.

8/7 95°-75° PCLDY
THURS 0800 - 500 PM

Seq. 8
BASE: EXCAVATING FOR INSTALLATION
OF STORM BOXES (8'X5'RCB) EBR
US-290 LOCATED AT STA 1172.22-44
OFF 11463R SEE SHEET PLAN 1158

also EXCAVATING FOR INSTALLATION
OF STORM BOXES (6'X3') ALONG EBR
US-290 LOCATED AT STA.

Also EXCAVATED FOR INSTALLATION
OF A SPECIAL JUNCTION BOX (1-EB)
TO BE FORMED CONSTRUCTED FOR
ADJOINING STORM BOXES AT Sta. 1172.22-44

Juan Pablo crew: 1-super, 2-skill
Equip: 1 Dozer, 1 Bobcat, 1 Track Hoe,

WB: EXCAVATING SOIL from EBR
US-290 1190+50 - 1192+00
1-Track Hoe

TL-89 (REV 9/05)

VIRGINIA DEPARTMENT OF TRANSPORTATION
ASPHALT NUCLEAR DENSITY WORKSHEET
ROLLER PATTERN/SAWN PLUGS & CONTROL STRIP TARGET DENSITY

PM 063-966-F17
Schedule 1
Route 1
Lane Direction NB/SS
Mix Type SM12.5A
Lot No 7
Mix Producer Superior

Control Strip No 1
Item No 165817
Forms 00' South of 165817
Application Rate 220
Width of Application 11
Plant Location Paul

Date 8/11
To 165817
Lane 165817
Inch/yd 1

Plant Location Paul

| Saved Specimen Number | A Weight in Air (g) | B Weight in Water (Total g) | C Buret Tare Weight (g) | D Weight in Water (g) | E SSD Weight in Air (g) | F Volume E U | G SSD Bulk Specific Gravity A = F | H Average SSD Bulk Pave Site | I Same as H |
|-----------------------|---------------------|-----------------------------|-------------------------|-----------------------|-------------------------|--------------|-----------------------------------|------------------------------|-------------|
| 1 | 126.5 | | | 744.4 | 1264.2 | 504.8 | 2.481 | | |
| 2 | 127.6 | | | 766.3 | 1280.9 | 514.6 | 2.496 | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |

Average 2.486
Max Specific Gravity (Gmm) 2.625

A Saved Specimen Average % Density 94.9
B Minimum Design Density (Table II - 3 of sec 315) 92.5
C Target Nuclear Density 148.5

TL-89A (12/88)

Asphalt Concrete Density Quality Control (QC) Test Report - Nuclear

Project/Schedule Number: PM 78-967-F18, P461
Route Number: 522
From (Station, MP, Int., etc.): 16.54 County Line
Direction (e.g. NB, SB, etc.): SB
QC Lot #: 2
Asphalt Mix Type: SM 12.5A
Nuclear Gauge Model Number: 4400
Nuclear Gauge Serial Number: 819

Item Number: 16350
County: Loudoun
To (Station, MP, Int., etc.): 16.54 County Line
Lane (Inside, Center, Right, etc.): Right
Application Rate (lb/sy): 230
Asphalt Job Mix Number: 7008-2018-33-1
Gauge Calibration Date: 1-18
Depth Setting (in/mm): 2"

Control Strip Information:

| Control Strip Number and Date | Target Density from Control Strip | Minimum Density (98% Of Control Strip Target Density) | Maximum Density (102% Of Control Strip Target Density) |
|-------------------------------|-----------------------------------|---|--|
| 1 8-13-18 | 148.4 | 145.4 | 151.4 |

QC Testing Results By Nuclear Gauge:

| Sublot No. | Location | Distance | Offset | Nuclear Density lbs/ft³ (kg/m³) | Sublot Average lbs/ft³ (kg/m³) | Joint Density lbs/ft³ (kg/m³) | Left (C or U)* | Right (C or U)* |
|------------|----------|----------|--------|---------------------------------|--------------------------------|-------------------------------|----------------|-----------------|
| 1a | 551 | 6" | | 146.6 | 147.3 | 143.5 | | |
| 1b | 1167 | 8" | | 147.9 | | 143.3 | | |
| 2a | 1416 | 3" | | 144.7 | 146 | 143.4 | | |
| 2b | 2854 | 10" | | 147.2 | | 142.3 | | |
| 3a | 3711 | 4" | | 145.7 | 145.8 | 142.9 | | |
| 3b | 4326 | 5" | | 145.9 | | 143.5 | | |
| 4a | 4864 | 7" | | 147.1 | 146.3 | 143.7 | | |
| 4b | 5285 | 10" | | 145.4 | | 142.6 | | |
| 5a | 6437 | 7" | | DNR | | | | |
| 5b | | | | | | | | |
| 6a | | | | | | | | |
| 6b | | | | | | | | |
| 7a | | | | | | | | |
| 7b | | | | | | | | |
| Average: | | | | | 146.4 | | | |

Does the QC Test Section: (circle one) PASS FAIL

Comments: Total Paved - 5,781
7,500' lots
Did not reach 7,500' due to weather

QC Technician: Hunter Blankenbiller Date: 8-13-18

VAA + HeadLight = Digital Process

You are in edit-mode and can make changes to this form. Save changes Cancel

VDOT
Virginia Department of Transportation

ASPHALT CORE/PLUG DENSITY REPORT - METHOD A (TL-59A)
Admin VDOT - Virginia-TL59A - 11-29-2018

| PROJECT | | | |
|---------------------------|-------------|------------|--|
| Project | Item Number | Date | |
| Virginia Practice Project | 16350 | 11/29/2018 | |

| LOCATION | | | |
|-------------------|--------------------|------------------|--|
| Route & Direction | Lane(s) | County | |
| Rte. 20 | Right | Orange | |
| Lot Number | From (Station, MP) | To (Station, MP) | |
| 1 | MP 1.2 | MP 2.3 | |

| PRODUCTION | | | |
|-------------------------|------------------------|---------------------------|---------------------------|
| Application Length (ft) | Application Width (ft) | Application Rate (lbs/sy) | Calculated Tonnage (tons) |
| 220 | 12 | 200 | 29.3 |
| Asphalt Producer | Asphalt Plant | Asphalt Mix Type | Job Mix ID |
| Superior | Culpepper | SM-9.5E | 7008-2018-33 |

| CONTROL STRIP | | |
|--|--|---|
| Control Strip Number | Control Strip Date | Target Nuclear Density (lbs/ft ³) |
| 1 | 11/29/2018 | 143.2 |
| Min Joint Density (lbs/ft ³) [=95% CS Density] | Min Density (lbs/ft ³) [=98% CS Density] | Max Density (lbs/ft ³) [=102% CS Density] |
| 136.0 | 140.3 | 146.1 |

| NUCLEAR GAUGE | | | |
|----------------------------|-----------------------------|--------------------------------|--------------------|
| Nuclear Gauge Model Number | Nuclear Gauge Serial Number | Nuclear Gauge Calibration Date | Depth Setting (in) |
| P34 | 2 | 11/29/2018 | 4 |

VDOT Smart Forms

- Easy to fill out with automatic calculations
- Clean .pdf that can be sent from the field (**no double entry**)
- Easy searchability
- Learn from the data



Automated reporting

TL-80 (REV. 04/05)

**VIRGINIA DEPARTMENT OF TRANSPORTATION
ASPHALT NUCLEAR DENSITY WORKSHEET
ROLLER PATTERN/SAWN PLUGS & CONTROL STRIP TARGET DENSITY**

PM603-966-F17, Schedule PA601 Control Strip No 1 Date 8/1/17

Route 1 Item No 165817 To

Lane Direction NB/SB Form 500' South of RT 600 Lane Left

Mix Type SM12.5A Application Rate 220 lbs/yd² (kg/m²)

Lot No 2 Width of Application 11 Lot Length 300' ft (m)

Mix Producer Superior Plant Location Powell Lane

| NUCLEAR CALIBRATION CHECK | | | | | | | | | | |
|---------------------------|------------------------|--------------------------------|-----------------------------|--------------------------------|----------------------------|-----------------|--------------------------------------|---------------------------|-----------------------------------|--|
| Sawed Spec. Number | A Weight In Air (g) | B Weight In Water (Total g) | C Basket Tare Weight (g) | D Weight In Water (g) B - C | E SSD Weight In Air (g) | F Volume E-D | G SSD Bulk Specific Gravity A + F | Average SSD Bulk Per Site | Sawed Specimen Thickness In. (mm) | H Target Test Site Nuclear (from TL-58) |
| 1 | 1262.5 | | | 749.4 | 1262.2 | 504.8 | 2.481 | 2.486 | | 1 |
| 2 | 1279.6 | | | 766.3 | 1280.9 | 514.6 | 2.490 | | | 2 |
| 3 | | | | | | | | | | 3 |
| 4 | | | | | | | | | | 4 |
| 5 | | | | | | | | | | 5 |
| 6 | | | | | | | | | | 6 |
| | | | | | | | | | | 7 |
| | | | | | | | | | | 8 |
| | | | | | | | | | | 9 |
| | | | | | | | | | | 10 |
| | | | | | | | | | | Total |

Average 2.486 2.49
(Sum of G2) (Sum of H10)

Max Specific Gravity (Gmm) 2.625

A Sawed Specimen Average % Density 94.9 94.9 %
(avg. SSD Bulk Sp. Gr. / GMM)

B Minimum Design Density (Table III - 3 of sec. 315)
*(A must equal or exceed B) 92.5 %

C Target Nuclear Density 148.5 lb/ft³
(Average from 1)



3:50 PM Fri Oct 1

HEADLIGHT

VDOT
Virginia Department of Transportation

Asphalt Core/Plug Density Report - Method A (TL-89A)
VDOT-TL59A

Form #8

PROJECT

Project PB3G-936-F11,D772 (Phase 2) Item Number Select Date 09/14/2021

LOCATION

Route & Direction NB Lane(s) Right County Orange

Lot Number 9 Application Rate (lbs/ft²) 220 From (Station, MP, Int., etc) 1000 ft from 701 To (Station, MP, Int., etc) Rat 20

PRODUCTION

Application Length (ft) Application Width (ft) 13 Application Rate (lbs/ft²) 220 Calculated Tonnage (tons)

Asphalt Producer Superior Asphalt Plant Select Asphalt Mix Type SM 9.5A Mix Job Number Select

CONTROL STRIP

Control Strip Number 3 Control Strip Date 10/01/2021 Target Nuclear Density (lbs/ft³) 146.0

Min Joint Density (lbs/ft³) [±95% CS Density] 138.7 Min Density (lbs/ft³) [±95% CS Density] 143.1 Max Density (lbs/ft³) [±102% CS Density] 148.9

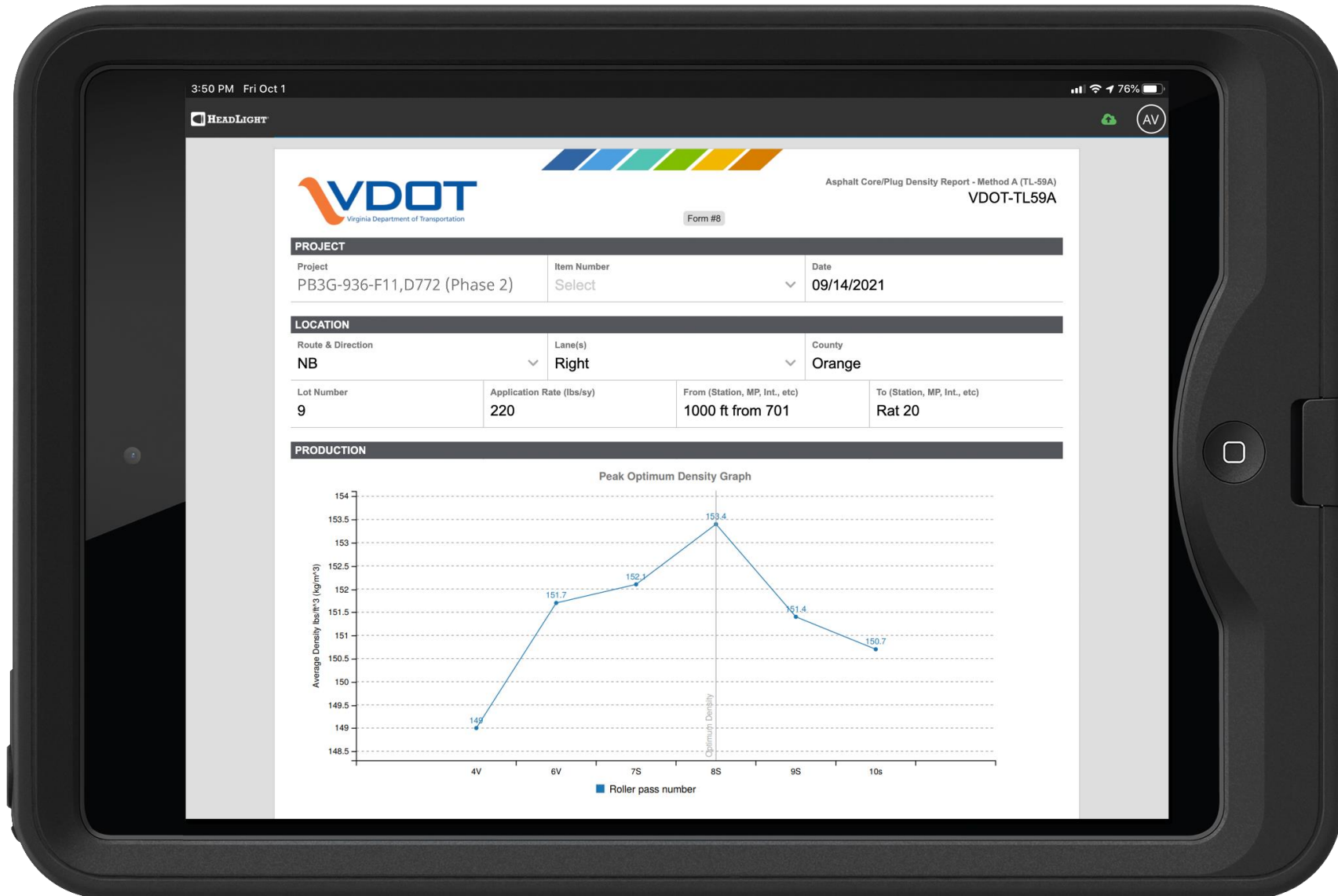
NUCLEAR GAUGE

Model Number Select Serial Number Select Calibration Date Depth Setting Select

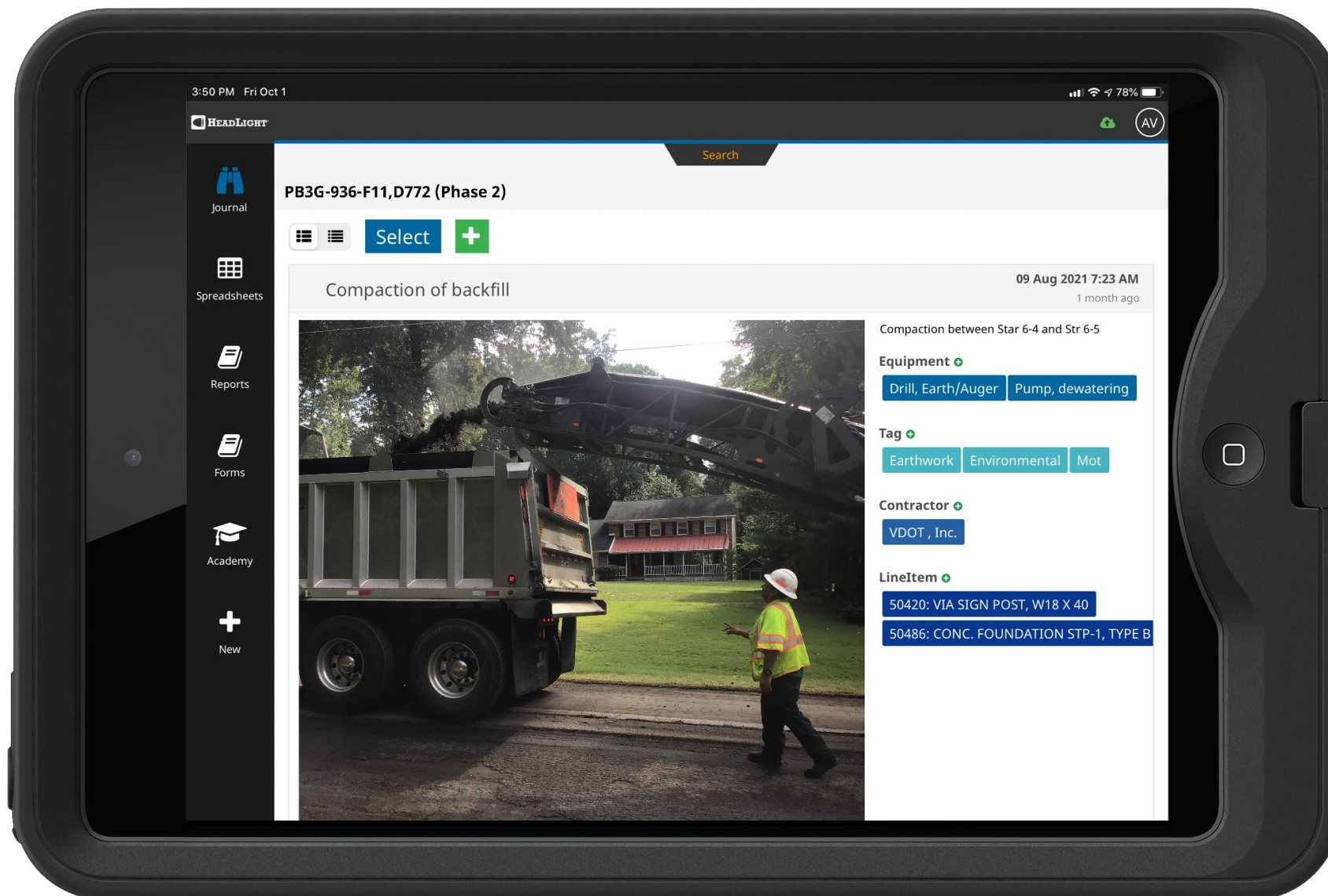
ACCEPTANCE TESTING RESULTS BY PLUGS/CORES

Daily Average Gmm Plant Lot & Sample Number(s) for Gmm Testing

Display results graphically



Combined with HeadLight Fieldbook



Accountability with audit trail

The screenshot shows the HEADLIGHT Fieldbook interface. The top navigation bar includes the HEADLIGHT logo, the word 'Fieldbook', and a building icon. The left sidebar contains icons for Journal, Spreadsheets, Report Details (with a '26' badge), Search, and Add New. The main content area displays report details for 'Default' on 'Apr 12, 2018 3:31:56 PM'. It shows the status as 'Approved' and 'Authorized in Sitemanager'. Below this, there are three tabs: 'Report Items', 'History' (which is highlighted with a green box), and 'Actionable Users' (with a '26' badge). Under the 'History' tab, a list of report items is shown with icons and counts: Work Item (13), Weather (1), Narrative (2), Image (2), Equipment (5), and Contract Personnel (3). At the bottom, there are buttons for 'Dismiss Report', 'Download PDF', and 'Delete Report'.

This screenshot shows the audit trail for a report item, accessed via the 'History' tab. It features a 'Report Items' tab, a 'History' tab (selected), and an 'Actionable Users' tab. A text input field 'Add a comment' with a 'Post' button is at the top. The audit trail consists of several entries, each with a comment icon, a description of the action, the user, and the timestamp. The actions include 'Comment', 'Submitted', 'Reviewed', 'Draft', 'Submitted', 'Submit', 'Reject', and 'Created'. The users involved are 'LADOTD Integration Admin', 'Andy Bajnauth', 'Timothy Outzs', and 'James Mester'. The timestamps range from April 12, 2018, to April 16, 2018.

| Action | User | Timestamp |
|----------------------|--------------------------|----------------------------|
| Comment | LADOTD Integration Admin | on Apr 16, 2018 2:18:45 PM |
| Comment | LADOTD Integration Admin | on Apr 16, 2018 2:18:45 PM |
| Submitted → Reviewed | Andy Bajnauth | on Apr 16, 2018 2:04:34 PM |
| Draft → Submitted | Timothy Outzs | on Apr 16, 2018 7:42:25 AM |
| Comment | James Mester | on Apr 16, 2018 7:21:16 AM |
| Submitted → Rejected | James Mester | on Apr 16, 2018 7:20:16 AM |
| Draft → Submitted | Timothy Outzs | on Apr 12, 2018 3:37:52 PM |
| Created | Timothy Outzs | on Apr 12, 2018 3:32:41 PM |

Density profile across a network



FORMS

VAA + HeadLight Smart Forms Technology

Contact VAA to discuss the smart forms offer + options to lease hardware if needed.

Forms in the bundle:

- TL-56
- TL-57
- TL-58
- TL-59A,B,C
- TL-60
- TL-60A
- TL-143



Application Demonstration



VDOT Inspector Process

- QC Technician responsible for completion of form
- Submitted form emailed to VDOT Inspection team, who will review and validated against their records
- VDOT Inspection team to reply to the email indicating approval, in compliance with VDOT DM 20-4
- VDOT Team to file approved form and approval email in the location that the respective VDOT District is using for project documentation





Thank You

Virtual Smart Forms “Show and Tell” scheduled for March 28th at 11:00am.

More to come!

