

## Appendix G. Request for Approval for Consultant Quality Assurance Materials Testing

<http://www.dot.ga.gov/PS/Local/LAP>

### Federal-Aid Local Let Projects

#### Local Government Responsibilities for Materials Quality Assurance

Local Governments must submit the OM-LAP-1v5 form to the GDOT Project Manager

Local Government must arrange with GDOT to perform the Materials Testing

–or–

Local Government must hire a consultant prequalified in Area Classes 6.04a and 6.04b to perform the Materials Testing and

- Using LAP-OM-1v5 obtain approval of any Consultant testers.
- Notify or have Consultant notify Contractor at the Preconstruction Conference that this is a GDOT Federal-aid project and that QPL sources and the GDOT project number must be utilized
- Notify or have Consultant notify GDOT TMOS\* at least one week prior to any asphalt work
- Ensure or have Consultant ensure that only testing personnel with GDOT certifications perform testing on the project, and all testing must be in accordance with GDOT's Sampling Testing and Inspection Manual
- Complete or require Consultant to complete quarterly Materials Certificate (MC) Checklist and submit to the Materials Audit Unit at GDOT Office of Materials (OM) as required in GDOT Construction Manual. Contact OM if you do not have a Checklist prior to work starting on the project
- Provide test results to GDOT through the Field Data Collection System (FDCS) or hardcopy
- Complete or require Consultant to complete final MC Checklist and submit to the Materials Audit Unit at OM as required in GDOT Construction Manual

Independent Assurance testing will be performed by GDOT based on the names of the technicians submitted on form OM-LAP-1v5

**\*Testing Management Operations Supervisor (TMOS) Phone Numbers:**

| District        | Number       |
|-----------------|--------------|
| 1/Gainesville   | 770-535-5706 |
| 2/Tennille      | 478-552-4707 |
| 3/Thomaston     | 706-646-6614 |
| 4/Tifton        | 229-386-3073 |
| 5/Jesup         | 912-427-5750 |
| 6/Cartersville  | 770-387-3662 |
| 7/Metro Atlanta | 404-608-4835 |

## Office of Materials Contact Information

Chuck Hasty or Rick Douds

404-608-4700

OM-LAP-1v5

Revised October 17, 2012

## Federal-Aid Local Let Projects Material Quality Assurance (Complete for ALL Federal-Aid Local Let Projects)

SELECT ONE

- Request GDOT to perform Materials Testing (Complete Section 1)
- Request Approval for Consultant Quality Assurance Materials Testing (Complete Sections 1 and 2)

### Section 1

Project Number/County: \_\_\_\_\_

GDOT Contract ID Number/Proposed Let Date: \_\_\_\_\_

Project Description: \_\_\_\_\_

Local Government Responsible Letting Project: \_\_\_\_\_

Local Govt. Project Manager Contact Name & Number: \_\_\_\_\_

### Section 2

***GDOT Certified Technicians to be responsible for testing on the project:***

- 1) **Roadway Testing Technicians (RTT)- are required to perform field density testing on embankment, pipe backfill, subgrade and all asphalt layers, along with sampling misc. materials**

List GDOT Certified Roadway Testing technician(s) who will be performing testing:

| GDOT RTT Certification | Name/ Employer |
|------------------------|----------------|
|                        |                |
|                        |                |
|                        |                |

- 2) **Concrete \*\*– GDOT Certified Concrete technician(s) are required to perform all field concrete testing (slump, air, cylinders)**

List who will be performing concrete testing & GDOT certification number:

| GDOT Concrete Certification | Name/ Employer |
|-----------------------------|----------------|
|                             |                |
|                             |                |
|                             |                |

Attach additional sheets as necessary.

\*\*Please note if a Bridge or other major structure is involved:

NOTE: Labs performing any testing shall be accredited in the testing to be performed (i.e. AASHTO T-22 or ASTM C-39 for concrete cylinders) by the AASHTO Accreditation Program (AMRL and/or CCRL).

**3) Hot Mix Asphalt**

GDOT specifications require the Contractor to perform mixture Acceptance testing at the plant. GDOT will perform Verification Testing at the asphalt plant as a part of the existing QPL process. The Local Government is responsible for notifying GDOT's Testing Management Operations Supervisor (TMOS) at least one week prior to start of work.

\*send completed form to Testing Bureau Chief, Rick Douds @ Office of Materials.

APPROVED: \_\_\_\_\_  
State Materials Engineer

Date



OMR-TM-151  
Revised 7/26/2011

**CORRELATION WORKSHEET**

**CALIBRATION OF NUCLEAR GAUGE TO ASPHALT CORES**

|                        |  |             |  |
|------------------------|--|-------------|--|
| Project #              |  | PI#         |  |
| Contract ID            |  | Date        |  |
| County                 |  | Gauge #     |  |
| Plant/Contractor       |  | Type Mix    |  |
| % AC                   |  | Theoretical |  |
| Mix I.D. #             |  | Lot #       |  |
| Density Standard Count |  | Tested By   |  |

**OBTAIN CORE DENSITIES**

|                                            |   |   |   |   |   |
|--------------------------------------------|---|---|---|---|---|
| Sample Numbers                             |   |   |   |   |   |
| Site                                       | 1 | 2 | 3 | 4 | 5 |
| Air Weight                                 |   |   |   |   |   |
| SSD Weight or Wax Weight                   |   |   |   |   |   |
| Water Weight                               |   |   |   |   |   |
| Difference (SSD – Water Weight)            |   |   |   |   |   |
| Specific Gravity (Air Weight ÷ Difference) |   |   |   |   |   |
| Density (Specific Gravity x 62.4)          |   |   |   |   |   |

1. Average Core Density \_\_\_\_\_
2. Average Gauge Density\*\* \_\_\_\_\_
3. Density Offset (1-2) \_\_\_\_\_

Note: If 1 is higher than 2, offset will be a plus (+)  
If 2 is higher than 1, offset will be a minus (-)

**CALCULATE GAUGE DENSITIES**

|                                                                   |   |   |   |   |   |         |
|-------------------------------------------------------------------|---|---|---|---|---|---------|
| Site                                                              | 1 | 2 | 3 | 4 | 5 | Average |
| Gauge Density **<br>(Nuclear Gauge Readings)                      |   |   |   |   |   | **      |
| Core Density                                                      |   |   |   |   |   |         |
| Gauge Density<br>(From 5 gauge readings, after offset is applied) |   |   |   |   |   |         |
| Difference<br>(Core Density – Gauge Density with offset)          |   |   |   |   |   |         |

1. If the average difference is greater than .5 lbs/ft<sup>3</sup> (8.0095 Kg/m<sup>3</sup>), contact Area Coordinator or Field Supervisor for further instruction.

|                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>OMR-TM-158</b><br/>Rev. 07/25/11<br/>Department of<br/>Transportation<br/>State of Georgia</p> <p><b>Nuclear Gauge Calibration<br/>(12" Ring)</b></p> | <p><b>Nuclear Gauge Calibration to Graded Aggregate Base</b></p> <p>Project: _____ County: _____<br/>                 Contract ID: _____ PI #: _____<br/>                 Prime Contractor: _____<br/>                 Quarry: _____<br/>                 Material: _____ Item: _____<br/>                 Tested By: _____ Title: _____</p> |                                         |                 | <p>Date: ____/____/____<br/>                 N/G #: _____<br/>                 Mode: _____<br/>                 Density Standard<br/>                 Count: _____<br/> <br/>                 Moisture Standard<br/>                 Count: _____</p> |
| <p>Maximum Dry Density: _____<br/>                 Optimum Moisture: _____</p>                                                                              |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| <b>IN PLACE DATA (NUCLEAR GAUGE)</b>                                                                                                                        | <b>(1)</b>                                                                                                                                                                                                                                                                                                                                   | <b>(2)</b>                              | <b>(3)</b>      |                                                                                                                                                                                                                                                       |
| Sample No                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Station #                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Depth - Thickness                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Gauge Wet Density (PCF)**                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Density Offset                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Wet Density (Gauge Wet Density +/- Offset)                                                                                                                  |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Gauge Moisture Density (PCF)**                                                                                                                              |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Moisture Offset                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Moisture (PCF) (Gauge Moisture Density +/- Offset)                                                                                                          |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Dry Density (Wet Density - Moisture PCF)                                                                                                                    |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| % Moisture (Moisture PCF ÷ Dry Density)                                                                                                                     |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| <b>IN PLACE WET DENSITY (12" RING)</b>                                                                                                                      | <b>(1)</b>                                                                                                                                                                                                                                                                                                                                   | <b>(2)</b>                              | <b>(3)</b>      |                                                                                                                                                                                                                                                       |
| Sand Density _____                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |
| Gross Wt. (Container and Sand)                                                                                                                              | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Final Wt. (Container / Bag)                                                                                                                                 | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Sand Used (Gross Wt - Final Wt.)                                                                                                                     | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Wet Material from Hole (Include Container)                                                                                                           | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Container / Bag                                                                                                                                      | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Wet Material from Hole (Wet Wt Fr. Hole - Container Wt.)                                                                                             | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| In-Place Wet Density (Wet Wt Fr. Hole x Sand Density ÷ Sand Used)                                                                                           | _____ PCF                                                                                                                                                                                                                                                                                                                                    | _____ PCF                               | _____ PCF       |                                                                                                                                                                                                                                                       |
| In-Place Dry Density (Wt. Density ÷ % Moist. Content ÷ 100 x 100)                                                                                           | _____ PCF                                                                                                                                                                                                                                                                                                                                    | _____ PCF                               | _____ PCF       |                                                                                                                                                                                                                                                       |
| <b>IN-PLACE MOISTURE (FLAME DRY)</b>                                                                                                                        | <b>(1)</b>                                                                                                                                                                                                                                                                                                                                   | <b>(2)</b>                              | <b>(3)</b>      |                                                                                                                                                                                                                                                       |
| Wt. of Wet Sample                                                                                                                                           | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Dry Sample                                                                                                                                           | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Wt. of Water (Wt. Wet Sample - Wt. Dry Sample)                                                                                                              | _____ gms./lbs.                                                                                                                                                                                                                                                                                                                              | _____ gms./lbs.                         | _____ gms./lbs. |                                                                                                                                                                                                                                                       |
| Moisture Content % (Wt. of Water ÷ Dry Sample x 100)                                                                                                        | _____ %                                                                                                                                                                                                                                                                                                                                      | _____ %                                 | _____ %         |                                                                                                                                                                                                                                                       |
| Moisture Content PCF (Wet density - Dry density)                                                                                                            | _____ PCF                                                                                                                                                                                                                                                                                                                                    | _____ PCF                               | _____ PCF       |                                                                                                                                                                                                                                                       |
| <b>CALCULATION FOR DENSITY OFF SET</b>                                                                                                                      |                                                                                                                                                                                                                                                                                                                                              | <b>CALCULATION FOR MOISTURE OFF SET</b> |                 |                                                                                                                                                                                                                                                       |
| Avg. In-Place Wet Density (12" Ring) _____ (A)                                                                                                              | Avg. PCF (Flame Dry Moisture) _____ (A)                                                                                                                                                                                                                                                                                                      |                                         |                 |                                                                                                                                                                                                                                                       |
| Avg. Nuclear Gauge Wet Density** _____ (B)                                                                                                                  | Avg. N/G Moisture Density** _____ (B)                                                                                                                                                                                                                                                                                                        |                                         |                 |                                                                                                                                                                                                                                                       |
| A - B = Density Offset _____                                                                                                                                | A - B = Moisture Offset _____                                                                                                                                                                                                                                                                                                                |                                         |                 |                                                                                                                                                                                                                                                       |
| <p><b>Note:</b><br/>                 If (A) is higher than (B) offset will be a (+)<br/>                 If (B) is higher than (A) offset will be a (-)</p> |                                                                                                                                                                                                                                                                                                                                              |                                         |                 |                                                                                                                                                                                                                                                       |

DOT-319 REV 2/2011 SHEET **A** DEPARTMENT OF TRANSPORTATION OFFICE OF MATERIALS AND RESEARCH CONCRETE TEST REPORT REPORT NO.

PCN

CONTRACT NO.  CONCRETE PLANT  PLANT NAME / LOCATION: \_\_\_\_\_ CLASS CONCRETE

PROJECT NO.  COUNTY: \_\_\_\_\_ TOTAL CUBIC YARDS  PAY ITEM

| MATERIALS          | CODE | TYPE | SIZE | SPECIFIC GRAVITY | WEIGHT PER YARD |                  |
|--------------------|------|------|------|------------------|-----------------|------------------|
| CEMENT             | 78   |      |      | 81               | 84              |                  |
| FLY ASH            | 87   |      |      | 90               | 93              | F/A RATIO        |
| SLAG               | 96   |      |      | 99               | 102             |                  |
| SAND 1             | 105  |      |      | 109              | 112             | F/F RATIO        |
| SAND 2             | 118  |      |      | 122              | 125             |                  |
| COARSE AGGREGATE 1 | 131  |      | 135  | 137              | 140             | C/C RATIO        |
| COARSE AGGREGATE 2 | 144  |      | 148  | 150              | 153             |                  |
| WATER              |      |      |      |                  |                 | GALLONS PER YARD |
| AIR ENTRAINING     |      |      |      |                  |                 | PERCENT (%)      |
| OTHER ADMIXTURE    | 164  |      |      |                  |                 | ADD RATE / YDS   |

| CODE | CLASS CONCRETE | CODE | TYPE ADMIXTURE       | CODE | TYPE STRUCTURE        |
|------|----------------|------|----------------------|------|-----------------------|
| 1    | A              | 1    | RETARDING            | 08   | DITCH PAVING          |
| 2    | B              | 2    | WATER REDUCING       | 09   | MEDIAN                |
| 3    | AA             | 3    | ACCELERATING         | 10   | MISCELLANEOUS         |
| 4    | AA1            | 4    | OTHER                | 11   | SIDEWALK              |
| 5    | AAA            |      |                      | 12   | PRESTRESSED BEAM      |
| 6    | SEAL           |      | TYPE STRUCTURE       | 13   | PRESTRESSED PILE      |
| 7    | CS             | 01   | CULVERT AND END WALL | 14   | PRECAST BRIDGE        |
| 8    | ACCELERATED    | 02   | BRIDGE               | 15   | PRECAST MISCELLANEOUS |
| 9    | PAVEMENT       | 03   | BRIDGE DECK          | 16   | PAVEMENT              |
| 0    | OTHER          | 04   | APPROACH SLAB        | 17   | SPECIAL PURPOSE       |
|      |                | 05   | SLOPE PAVING         | 18   | OTHER                 |
|      |                | 06   | RETAINING WALL       |      |                       |
|      |                | 07   | CURB AND GUTTER      |      |                       |

REMARKS:

FIELD TESTED IN ACCORDANCE WITH ASTM STANDARDS C31, C143, C231 AND C1064.  
TESTER(S) INITIALS AND CERTIFICATION NO(S): \_\_\_\_\_

**(FOR LABORATORY USE ONLY)** TESTED IN ACCORDANCE WITH ASTM STANDARD C19.  
THE SAMPLES BELOW:  MEET THE REQUIREMENTS  FAIL TO MEET THE REQUIREMENTS  
OF SECTION \_\_\_\_\_, EXCEPT NUMBER(S) LISTED: \_\_\_\_\_

| SAMPLE NUMBER | DESCRIPTION AND PLACEMENT LOCATION | TYPE STRT | CUBIC YARDS | AIR (%) | SLUMP (IN.) | DATE MADE |     |     | AGE DAYS | DIAMETER (IN.) | LENGTH (IN.) | AREA (IN <sup>2</sup> ) | MAX. LOAD (LBS) | UNIT LOAD (PSI) | TYPE FRACTURE | LABORATORY NUMBER |
|---------------|------------------------------------|-----------|-------------|---------|-------------|-----------|-----|-----|----------|----------------|--------------|-------------------------|-----------------|-----------------|---------------|-------------------|
|               |                                    |           |             |         |             | MO        | DAY | YR  |          |                |              |                         |                 |                 |               |                   |
| 170           |                                    |           |             |         |             |           |     |     |          |                |              |                         | 197             |                 |               |                   |
| 174           |                                    | 178       | 180         | 184     | 186         |           |     | 189 |          |                |              |                         | 201             |                 |               |                   |
| 205           |                                    |           |             |         |             |           |     |     |          |                |              |                         | 232             |                 |               |                   |
| 209           |                                    | 213       | 215         | 219     | 221         |           |     | 224 |          |                |              |                         | 236             |                 |               |                   |
| 240           |                                    |           |             |         |             |           |     |     |          |                |              |                         | 267             |                 |               |                   |
| 244           |                                    | 248       | 250         | 254     | 256         |           |     | 259 |          |                |              |                         | 271             |                 |               |                   |
| 275           |                                    |           |             |         |             |           |     |     |          |                |              |                         | 302             |                 |               |                   |
| 279           |                                    | 283       | 285         | 289     | 291         |           |     | 294 |          |                |              |                         | 306             |                 |               |                   |
| 310           |                                    |           |             |         |             |           |     |     |          |                |              |                         | 337             |                 |               |                   |

314 318 320 324 326 329 335 341

SUBMITTED BY: \_\_\_\_\_ STATE MATERIALS AND RESEARCH ENGINEER: \_\_\_\_\_

|                                                    |                                             |                 |                        |             |   |
|----------------------------------------------------|---------------------------------------------|-----------------|------------------------|-------------|---|
| DOT 553                                            | <b>GEORGIA DEPARTMENT OF TRANSPORTATION</b> |                 |                        |             |   |
| Rev. 7/26/11                                       | <b>OFFICE OF MATERIALS AND RESEARCH</b>     |                 |                        |             |   |
| <b>ROADWAY COMPACTION REPORT</b>                   |                                             |                 |                        |             |   |
| PROJECT _____                                      | CONTRACT ID _____                           |                 |                        | PI _____    |   |
| ITEM _____                                         | COUNTY _____                                | DISTRICT _____  | PRIME CONTRACTOR _____ |             |   |
| AREA ENGINEER _____                                |                                             | TESTED BY _____ |                        | TITLE _____ |   |
| <b>IN-PLACE DATA</b>                               |                                             |                 |                        |             |   |
| BASE, SUBGRADE, EMB., ETC                          |                                             |                 |                        |             |   |
| GAUGE NO. _____                                    | DATE _____                                  | /               | /                      | /           | / |
| _____                                              | SAMPLE NO _____                             |                 |                        |             |   |
| MODE " _____                                       | STATION _____                               |                 |                        |             |   |
| DENSITY STANDARD COUNT _____                       | LOCATION _____                              |                 |                        |             |   |
| _____                                              | DEPTH THICKNESS _____                       |                 |                        |             |   |
| MOISTURE STANDARD COUNT _____                      | PLAN THICKNESS _____                        |                 |                        |             |   |
| _____                                              | WET DENSITY _____                           |                 |                        |             |   |
| DENSITY OFFSET (BASE, GAB) _____                   | CORRECTED DENSITY (+/-) _____               |                 |                        |             |   |
| _____                                              | MOISTURE (PCF) _____                        |                 |                        |             |   |
| MOISTURE OFFSET (BASE, GAB) _____                  | CORRECTED M. PCF (+/-) _____                |                 |                        |             |   |
| _____                                              | DRY DENSITY _____                           |                 |                        |             |   |
| _____                                              | CORRECTED DRY DENSITY - WHEN NEEDED _____   |                 |                        |             |   |
| _____                                              | % MOISTURE _____                            |                 |                        |             |   |
| "IN-PLACE                                          | WET WEIGHT _____                            |                 |                        |             |   |
| MOISTURE BY                                        | DRIED WEIGHT _____                          |                 |                        |             |   |
| DRYING A SAMPLE                                    | PERCENT (%) _____                           |                 |                        |             |   |
| <b>FAMILY OF CURVES DATA</b>                       |                                             |                 |                        |             |   |
| "MOISTURE IN                                       | WET WEIGHT _____                            |                 |                        |             |   |
| ONE POINT BY                                       | DRIED WEIGHT _____                          |                 |                        |             |   |
| DRYING A SAMPLE                                    | PERCENT (%) _____                           |                 |                        |             |   |
| _____                                              | % MOISTURE (FROM IN-PLACE DATA) _____       |                 |                        |             |   |
| _____                                              | WT. OF MIXTURE + MOLD _____                 |                 |                        |             |   |
| _____                                              | WT. OF MOLD _____                           |                 |                        |             |   |
| _____                                              | WET WT. OF MIXTURE _____                    |                 |                        |             |   |
| _____                                              | WET WT. PER CU. FT. _____                   |                 |                        |             |   |
| _____                                              | MAX DRY DENSITY / FROM CURVE NO. _____      |                 |                        |             |   |
| <b>COMPACTION DATA</b>                             |                                             |                 |                        |             |   |
| _____                                              | MAX DRY DENSITY _____                       |                 |                        |             |   |
| _____                                              | % COMPACTION REQUIRED _____                 |                 |                        |             |   |
| _____                                              | % COMPACTION OBTAINED _____                 |                 |                        |             |   |
| _____                                              | OPTIMUM MOISTURE _____                      |                 |                        |             |   |
| _____                                              | PASSED/FAILED/RECHECK _____                 |                 |                        |             |   |
| * FOR USE WHEN GAUGE WAS NOT USED TO TEST MOISTURE |                                             |                 |                        |             |   |