| STATISTICAL TESTING INPUT DATA | | | | 3.80.00 | File: | NEWPROJ.SS | | | | Date: | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | |
| Section: | SNAKE RIVER (NYSSA) BR. | | | | Estimate #: | | | | Source: | | 23-097-5 | | | | | | |
| Contract: | 12770 | | | | Mix Design: | | | | % Lime: | | | | | | | | |
| Contractor: | FE WARD | | | | Specification #: | | 745 | | % RAP: | | | | | | | | |
| Proj Mgr: | RIC YOUNG | | | | Lot #: | | | | A/C Brand: | | | | | | | | |
| Bid Item #: | 75 | | | | Level: | | | | A/C Grade: | | | | | | | | |
| Matl Type: | 12.5-4.75 LEVEL 3 HMAC AGG. | | | | Lift: | | | | Plant Type: | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Constituent # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Constituent | 19 | 12.5 | 9.5 | 4.75 | 2.36 | 0.6 | 0.075 | fracture | elong | wood | | | | | | | |
| Weight | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | |
| USL | 100 | 95 | 69 | 16 | 10 | 6 | 2.6 | 100 | 10 | 0.1 | | | | | | | |
| LSL | 99 | 85 | 53 | 0 | 0 | 0 | 0 | 75 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Sublot 001 | 100 | 92 | 61 | 7 | 2 | 2 | 1.2 | 93 | 1.6 | 0 | | | | | | | |
| Sublot 002 | 100 | 89 | 62 | 7 | 2 | 2 | 1.2 | 93 | 1.3 | 0 | | | | | | | |
| Sublot 003 | 100 | 89 | 59 | 7 | 2 | 1 | 1.1 | 93 | 1.6 | 0 | | | | | | | |
| Sublot 004 | | | | | | | | | | | | | | | | | |
| Sublot 005 | | | | | | | | | | | | | | | | | |
| Sublot 006 | | | | | | | | | | | | | | | | | |

√ by Lane Miles 3-13-03

4-221

StatSpec 3.70

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| STATISTICAL COMPUTATIONS | | | | 3.80.00 | File: | NEWPROJ.SS | | | Date: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Section: | SNAKE RIVER (NYSSA) BR. | | | | Estimate #: | | | | Source: | | 23-097-5 | |
| Contract: | 12770 | | | | Mix Design: | | | | % Lime: | | | |
| Contractor: | FE WARD | | | | Specification #: | | 745 | | % RAP: | | | |
| Proj Mgr: | RIC YOUNG | | | | Lot #: | | | | A/C Brand: | | | |
| Bid Item #: | 75 | | | | Level: | | | | A/C Grade: | | | |
| Matl Type: | 12.5-4.75 LEVEL 3 HMAC AGG. | | | | Lift: | | | | Plant Type: | | | |
| | | | | | | | | | | | | |
| Constituent # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Constituent | 19 | 12.5 | 9.5 | 4.75 | 2.36 | 0.6 | 0.075 | fracture | elong | wood | | |
| Weight | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | |
| | | | | | | | | | | | | |
| Sum X | 300 | 270 | 182 | 21 | 6 | 5 | 3.5 | 279 | 4.5 | 0 | | |
| Sum X^2 | 30000 | 24306 | 11046 | 147 | 12 | 9 | 4.09 | 25947 | 6.81 | 0 | | |
| Samples | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Mean | 100.0000 | 90.0000 | 60.6667 | 7.0000 | 2.0000 | 1.6667 | 1.1667 | 93.0000 | 1.5000 | 0.0000 | | |
| Std Dev | 0.0000 | 1.7321 | 1.5275 | 0.0000 | 0.0000 | 0.5774 | 0.0577 | 0.0000 | 0.1732 | 0.0000 | | |
| Qu | 1E+09 | 2.89 | 5.46 | 1E+09 | 1E+09 | 7.51 | 24.83 | 1E+09 | 49.07 | 1E+09 | | |
| Ql | 1E+09 | 2.89 | 5.02 | 1E+09 | 1E+09 | 1.732E+09 | 1.732E+10 | 1E+09 | 8.66 | 1E+09 | | |
| Pu | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| Pl | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| P | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| | | | | | | | | | | | | |
| Pay Factor | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | | |
| Wtd. Factor | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | | | | |
| | | | | | | | | | | | | |
| Sum of Weight Factors: | | | 8 | | | | | | | | | |
| | | | | | | | | | | | | |
| Composite Pay Factor: | | | 1.0500 | | | | | | | | | |



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# FIELD WORKSHEET FOR AGGREGATE

| PROJECT NAME (SECTION) | | | CONTRACT NUMBER |
|---|---|---|---|
| Snake River (Nyssa) Bridge | | | 10457 |
| CONTRACTOR OR SUPPLIER | PROJECT MANAGER | | BID ITEM NUMBER |
| Valley Paving & Asphalt | Ric Young | | 750 |
| SOURCE NAME | SOURCE NUMBER | | MATERIAL SIZE |
| Ontario Asphalt | 23-097-5 | | 12.5 - 4.75 |

| TEST NO | DATE | TIME | SAMPLED AT | TO BE USED IN |
|---|---|---|---|---|
| 1 | 2/26/03 | | Stockpile | HMAC |

| SIEVE SIZE | SPECS. LIMITS | SIEVE ANALYSIS AASHTO T27/11 MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 19 | -1 | 0.0 | 0.0 | | | 0.0 | 0.0 | 100 | |
| 12.5 | ±5 | 89.8 | 85.9 | | | 175.7 | 7.6 | 92 | |
| 9.5 | ±8 | 339.2 | 382.1 | | | 721.3 | 31.3 | 61 | |
| 4.75 | ±8 | 554.2 | 686.5 | | | 1240.7 | 53.8 | 7 | |
| 2.36 | ±5 | 51.2 | 66.6 | | | 117.8 | 5.1 | 2 | |
| .600 | ±3 | 5.5 | 6.8 | | | 12.3 | 0.5 | 2 | |
| .075 | ±1.0 | 4.4 | 4.8 | | | 9.2 | 0.4 | 1.2 | |
| PAN | | 4.1 | 0.8 | | | 4.9 | 0.2 | | |

B = INITIAL DRY MASS: 2304.5 D =MASS AFTER SIEVING: 2281.9

| SIEVE SIZE | SPECS. LIMITS | PERCENT FRACTURE IN AGG TM 1 FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | INDIVIDUAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| 12.5 | | 210.5 | 0.0 | 0.0 | 100% | | |
| 9.5 | | 245.6 | 15.2 | 16.9 | 91% | | |
| 4.75 | | 130.9 | 14.5 | 10.5 | 89% | 1005.4 | 15.9 |
| 2.36 | | 30.2 | 1.0 | 2.5 | 91% | | |

| SE T 176 | | | |
|---|---|---|---|
| 1 | 2 | 3 | Samp |
| | | | Clay |
| | | | Sand |
| | | | S.E. |
| | | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 2348.4 |
| DRY MASS & PAN | 2304.5 |
| AFTER WASH DRY MASS & PAN | 2281.3 |

C = DRY MASS AND PAN AFTER WASH - PAN

A = WET MASS & PAN - PAN

[ ] DRY [X] WET WAQTC AASHTO T-27/T11

[X] Round [ ] Square [ ] Rectangle 305mm Size

| | | RESULT | SPEC |
|---|---|---|---|
| Combine % Fracture | TM 1 | 93% | 75 Min |
| Wood Waste | TM225 | 0.00% | 0.10% |
| CleannessValue | TM 227 | | |
| Flat & Elongated | TM 229 | 1.6% | 10.00% |
| Fineness Modulus | T 27/T11 | | |
| MOISTURE %={(A-B) / B} X 100 | | 1.90% | |
| SIEVE LOSS %={(C-D) / C} X 100 | | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | | |

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | [signature] | 3/12/03 |

1792-Base 9-02

# FIELD WORKSHEET FOR AGGREGATE

| | | | |
|---|---|---|---|
| PROJECT NAME (SECTION): Snake River (Nyssa) Bridge | | | CONTRACT NUMBER: 10457 |
| CONTRACTOR OR SUPPLIER: Valley Paving & Asphalt | PROJECT MANAGER: Ric Young | | BID ITEM NUMBER: 750 |
| SOURCE NAME: Ontario Asphalt | SOURCE NUMBER: 23-097-5 | | MATERIAL SIZE: 12.5 - 4.75 |
| TEST NO: 2 | DATE: 2/26/03 | TIME: | SAMPLED AT: Stockpile |
| TO BE USED IN: HMAC | | | |

**SIEVE ANALYSIS AASHTO T27/11**

| SIEVE SIZE | SPECS. LIMITS | MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 19 | -1 | 0.0 | 0.0 | | | 0.0 | 0.0 | 100 | |
| 12.5 | ±5 | 106.2 | 140.6 | | | 246.8 | 10.7 | 89 | |
| 9.5 | ±8 | 307.8 | 328.6 | | | 636.4 | 27.5 | 62 | |
| 4.75 | ±8 | 604.4 | 661.7 | | | 1266.1 | 54.7 | 7 | |
| 2.36 | ±5 | 52.1 | 66.9 | | | 119.0 | 5.1 | 2 | |
| .600 | ±3 | 4.6 | 7.0 | | | 11.6 | 0.5 | 2 | |
| .075 | ±1.0 | 4.6 | 3.8 | | | 8.4 | 0.4 | 1.2 | |
| PAN | | 1.1 | 4.6 | | | 5.7 | 0.2 | | |

B = INITIAL DRY MASS: 2315.6 D =MASS AFTER SIEVING: 2294.0

**PERCENT FRACTURE IN AGG TM 1**

| SIEVE SIZE | SPECS. LIMITS | FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | NOMINAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| 12.5 | | 224.5 | 2.5 | 0.0 | 99% | | |
| 9.5 | | 224.5 | 7.0 | 24.0 | 89% | | |
| 4.75 | | 115.9 | 5.4 | 9.5 | 91% | 1010.2 | 13.2 |
| 2.36 | | 28.5 | 1.4 | 1.5 | 93% | | |

**SE T 176**

| 1 | 2 | 3 | Samp |
|---|---|---|---|
| | | | Clay |
| | | | Sand |
| | | | S.E. |
| | | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 2358.7 |
| DRY MASS & PAN | 2315.6 |
| AFTER WASH DRY MASS & PAN | 2294.4 |

C = DRY MASS AND PAN AFTER WASH - PAN

A = WET MASS & PAN - PAN

[ ] DRY [X] WET

WAQTC AASHTO T-27/T11

[X] Round [ ] Square [ ] Rectangle 305mm Size

| | | RESULT | SPEC |
|---|---|---|---|
| Combine % Fracture | TM 1 | 93% | 75 Min |
| Wood Waste | TM225 | 0.00% | 0.10% |
| CleannessValue | TM 227 | | |
| Flat & Elongated | TM 229 | 1.3% | 10.00% |
| Fineness Modulus | T 27/T11 | | |
| MOISTURE %={(A-B) / B} X 100 | | 1.86% | |
| SIEVE LOSS %={(C-D) / C} X 100 | | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | | |

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | [signature] | 3/12/03 |

1792-Base 9-02

# FIELD WORKSHEET FOR AGGREGATE

| PROJECT NAME (SECTION) | | CONTRACT NUMBER |
|---|---|---|
| Snake River (Nyssa) Bridge | | 10457 |
| CONTRACTOR OR SUPPLIER: Valley Paving & Asphalt | PROJECT MANAGER: Ric Young | BID ITEM NUMBER: 750 |
| SOURCE NAME: Ontario Asphalt | SOURCE NUMBER: 23-097-5 | MATERIAL SIZE: 12.5 - 4.75 |

| TEST NO. | DATE | TIME | SAMPLED AT | TO BE USED IN |
|---|---|---|---|---|
| 3 | 2/26/03 | | Stockpile | HMAC |

**SIEVE ANALYSIS AASHTO T27/11**

| SIEVE SIZE | SPECS. LIMITS | MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 19 | -1 | 0.0 | 0.0 | | | 0.0 | 0.0 | 100 | |
| 12.5 | ±5 | 107.1 | 130.5 | | | 237.6 | 11.0 | 89 | |
| 9.5 | ±8 | 310.5 | 336.9 | | | 647.4 | 30.1 | 59 | |
| 4.75 | ±8 | 609.7 | 500.2 | | | 1109.9 | 51.5 | 7 | |
| 2.36 | ±5 | 52.6 | 65.8 | | | 118.4 | 5.5 | 2 | |
| .600 | ±3 | 4.6 | 4.6 | | | 9.2 | 0.4 | 1 | |
| .075 | ±1.0 | 4.2 | 3.5 | | | 7.7 | 0.4 | 1.1 | |
| PAN | | 1.2 | 3.5 | | | 4.7 | 0.2 | | |

B = INITIAL DRY MASS: 2154 D = MASS AFTER SIEVING: 2134.9

**PERCENT FRACTURE IN AGG TM 1**

| SIEVE SIZE | SPECS. LIMITS | FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | INDIVIDUAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| 12.5 | | 224.5 | 2.5 | 0.0 | 99% | | |
| 9.5 | | 224.5 | 7.0 | 24.0 | 89% | | |
| 4.75 | | 115.9 | 5.4 | 9.5 | 91% | 1005.4 | 15.9 |
| 2.36 | | 28.5 | 1.4 | 1.5 | 93% | | |

**SE T 176**

| 1 | 2 | 3 | Samp |
|---|---|---|---|
| | | | Clay |
| | | | Sand |
| | | | S.E. |
| | | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 2190.7 |
| DRY MASS & PAN | 2154 |
| AFTER WASH DRY MASS & PAN | 2135.4 |

C = DRY MASS AND PAN AFTER WASH - PAN

A = WET MASS & PAN - PAN

[ ] DRY [X] WET

WAQTC AASHTO T-27/T11

[X] Round [ ] Square [ ] Rectangle 305mm Size

| | | RESULT | SPEC |
|---|---|---|---|
| Combine % Fracture | TM 1 | 93% | 75 Min |
| Wood Waste | TM225 | 0.00% | 0.10% |
| CleannessValue | TM 227 | | |
| Flat & Elongated | TM 229 | 1.6% | 10.00% |
| Fineness Modulus | T 27/T11 | | |
| MOISTURE %={(A-B) / B} X 100 | | 1.70% | |
| SIEVE LOSS %={(C-D) / C} X 100 | | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | | |

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | [signature] | 3/12/03 |

1792-Base 9-02

| STATISTICAL TESTING INPUT DATA | | | | 3.80.00 | File: | 12770 FINE HMAC AGG.SS | | | | Date: | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section: | SNAKE RIVER (NYSSA) BR. | | | | Estimate #: | | | | Source: | | 23-097-5 | | | | | | |
| Contract: | 12770 | | | | Mix Design: | | | | % Lime: | | | | | | | | |
| Contractor: | FE WARD | | | | Specification #: | | 745 | | % RAP: | | | | | | | | |
| Proj Mgr: | RIC YOUNG | | | | Lot #: | | | | A/C Brand: | | | | | | | | |
| Bid Item #: | 75 | | | | Level: | | | | A/C Grade: | | | | | | | | |
| Matl Type: | 4.75-0 HMAC AGG | | | | Lift: | | | | Plant Type: | | | | | | | | |
| Constituent # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Constituent | 9.5 | 4.75 | 2.36 | 0.6 | 0.075 | SE | | | | | | | | | | | |
| Weight | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | |
| USL | 100 | 100 | 75 | 41 | 12 | 100 | | | | | | | | | | | |
| LSL | 99 | 89 | 61 | 27 | 6 | 45 | | | | | | | | | | | |
| Sublot 001 | 100 | 96 | 68 | 33 | 9 | 71 | | | | | | | | | | | |
| Sublot 002 | 100 | 95 | 69 | 33 | 8.9 | 70 | | | | | | | | | | | |
| Sublot 003 | 100 | 96 | 68 | 37 | 8.7 | 74 | | | | | | | | | | | |
| Sublot 004 | | | | | | | | | | | | | | | | | |
| Sublot 005 | | | | | | | | | | | | | | | | | |
| Sublot 006 | | | | | | | | | | | | | | | | | |

✓ by Lane Miles 3-13-03

4- 226


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| STATISTICAL COMPUTATIONS | | | | 3.80.00 | File: | 12770 FINE HMAC AGG.SS | | | Date: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Section: | SNAKE RIVER (NYSSA) BR. | | | | Estimate #: | | | | Source: | | 23-097-5 | |
| Contract: | 12770 | | | | Mix Design: | | | | % Lime: | | | |
| Contractor: | FE WARD | | | | Specification #: | | 745 | | % RAP: | | | |
| Proj Mgr: | RIC YOUNG | | | | Lot #: | | | | A/C Brand: | | | |
| Bid Item #: | 75 | | | | Level: | | | | A/C Grade: | | | |
| Matl Type: | 4.75-0 HMAC AGG | | | | Lift: | | | | Plant Type: | | | |
| | | | | | | | | | | | | |
| Constituent # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Constituent | 9.5 | 4.75 | 2.36 | 0.6 | 0.075 | SE | | | | | | |
| Weight | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| | | | | | | | | | | | | |
| Sum X | 300 | 287 | 205 | 103 | 26.6 | 215 | | | | | | |
| Sum X^2 | 30000 | 27457 | 14009 | 3547 | 235.9 | 15417 | | | | | | |
| Samples | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | |
| Mean | 100.0000 | 95.6667 | 68.3333 | 34.3333 | 8.8667 | 71.6667 | | | | | | |
| Std Dev | 0.0000 | 0.5774 | 0.5774 | 2.3094 | 0.1528 | 2.0817 | | | | | | |
| Qu | 1E+09 | 1.732E+09 | 11.55 | 2.89 | 20.51 | 480384427 | | | | | | |
| Ql | 1E+09 | 11.55 | 12.7 | 3.18 | 18.77 | 12.81 | | | | | | |
| Pu | 100 | 100 | 100 | 100 | 100 | 100 | | | | | | |
| Pl | 100 | 100 | 100 | 100 | 100 | 100 | | | | | | |
| P | 100 | 100 | 100 | 100 | 100 | 100 | | | | | | |
| | | | | | | | | | | | | |
| Pay Factor | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | | | | | | |
| Wtd. Factor | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | 1.050 | | | | | | |
| | | | | | | | | | | | | |
| Sum of Weight Factors: | | | 6 | | | | | | | | | |
| | | | | | | | | | | | | |
| Composite Pay Factor: | | | **1.0500** | | | | | | | | | |



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# FIELD WORKSHEET FOR AGGREGATE

| PROJECT NAME (SECTION) | | | CONTRACT NUMBER |
|---|---|---|---|
| Snake River (Nyssa) Bridge | | | 10457 |
| CONTRACTOR OR SUPPLIER | PROJECT MANAGER | | BID ITEM NUMBER |
| Valley Paving & Asphalt | Ric Young | | 750 |
| SOURCE NAME | SOURCE NUMBER | | MATERIAL SIZE |
| Ontario Asphalt | 23-097-5 | | 4.75-0 |

| TEST NO. | DATE | TIME | SAMPLED AT | TO BE USED IN |
|---|---|---|---|---|
| 1 | 2/26/03 | | Stockpile | HMAC |

**SIEVE ANALYSIS AASHTO T27/11**

| SIEVE SIZE | SPECS. LIMITS | MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 9.5 | ±1 | 0.0 | | | | | | | |
| 4.75 | ±7 | 40.2 | 45.1 | | | 85.3 | 4.4 | 96 | |
| 2.36 | ±7 | 281.6 | 256.3 | | | 537.9 | 27.8 | 68 | |
| .600 | ±7 | 395.2 | 278.2 | | | 673.4 | 34.9 | 33 | |
| .075 | ±3.0 | 245.1 | 217.0 | | | 462.1 | 23.9 | 9.0 | |
| PAN | | 10.0 | 11.3 | | | 21.3 | 1.1 | | |

B = INITIAL DRY MASS: 1932.2 D =MASS AFTER SIEVING: 1780.0

**PERCENT FRACTURE IN AGG TM 1**

| SIEVE SIZE | SPECS. LIMITS | FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | INDIVIDUAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**SE T 176**

| 1 | 2 | 3 | Samp |
|---|---|---|---|
| 4.8 | | | Clay |
| 3.4 | | | Sand |
| 71 | | | S.E: |
| | 71 | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 1965.9 |
| DRY MASS & PAN | 1932.2 |
| AFTER WASH DRY MASS & PAN | 1780.1 |

C = DRY MASS AND PAN AFTER WASH - PAN [ ] DRY [X] WET WAQTC AASHTO T-27/T11

A = WET MASS & PAN - PAN

| | RESULT | SPEC |
|---|---|---|
| Combine % Fracture TM 1 | | |
| Wood Waste TM225 | | |
| CleannessValue TM 227 | | |
| Flat & Elongated TM 229 | | |
| Fineness Modulus T 27/T11 | | |
| MOISTURE %=((A-B) / B) X 100 | 1.74% | |
| SIEVE LOSS %=((C-D) / C) X 100 | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | |

[X] Round [ ] Square [ ] Rectangle 305mm Size

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | [signature] | 3/12/03 |

1792-Base 9-02

# FIELD WORKSHEET FOR AGGREGATE

| PROJECT NAME (SECTION) | | | CONTRACT NUMBER |
|---|---|---|---|
| Snake River (Nyssa) Bridge | | | 10457 |
| CONTRACTOR OR SUPPLIER | PROJECT MANAGER | | BID ITEM NUMBER |
| Valley Paving & Asphalt | Ric Young | | 750 |
| SOURCE NAME | SOURCE NUMBER | | MATERIAL SIZE |
| Ontario Asphalt | 23-097-5 | | 4.75-0 |

| TEST NO. | DATE | TIME | SAMPLED AT | TO BE USED IN |
|---|---|---|---|---|
| 2 | 2/26/03 | | Stockpile | HMAC |

**SIEVE ANALYSIS AASHTO T27/11**

| SIEVE SIZE | SPECS. LIMITS | MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 9.5 | ±1 | 0.0 | | | | | | | |
| 4.75 | ±7 | 51.0 | 52.8 | | | 103.8 | 4.6 | 95 | |
| 2.36 | ±7 | 305.0 | 289.9 | | | 594.9 | 26.6 | 69 | |
| .600 | ±7 | 352.1 | 442.2 | | | 794.3 | 35.6 | 33 | |
| .075 | ±3.0 | 299.3 | 243.1 | | | 542.4 | 24.3 | 8.9 | |
| PAN | | 10.0 | 14.4 | | | 24.4 | 1.1 | | |

B = INITIAL DRY MASS: 2233.2 D =MASS AFTER SIEVING: 2059.8

**PERCENT FRACTURE IN AGG TM 1**

| SIEVE SIZE | SPECS. LIMITS | FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | INDIVIDUAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |

**SE T 176**

| 1 | 2 | 3 | Samp |
|---|---|---|---|
| 5.0 | | | Clay |
| 3.5 | | | Sand |
| 70 | | | S.E. |
| | 70 | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 2272.3 |
| DRY MASS & PAN | 2233.2 |
| AFTER WASH DRY MASS & PAN | 2060.2 |

C = DRY MASS AND PAN AFTER WASH - PAN [ ] DRY [X] WET WAQTC AASHTO T-27/T11

A = WET MASS & PAN - PAN [X] Round [ ] Square [ ] Rectangle 305mm Size

| | RESULT | SPEC |
|---|---|---|
| Combine % Fracture TM 1 | | |
| Wood Waste TM226 | | |
| CleannessValue TM 227 | | |
| Flat & Elongated TM 229 | | |
| Fineness Modulus T 27/T11 | | |
| MOISTURE %={(A-B) / B} X 100 | 1.75% | |
| SIEVE LOSS %={(C-D) / C} X 100 | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | |

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | [signature] | 3/26 |

1792-Base 9-02

# FIELD WORKSHEET FOR AGGREGATE

| PROJECT NAME (SECTION) | | | CONTRACT NUMBER |
|---|---|---|---|
| Snake River (Nyssa) Bridge | | | 10457 |
| CONTRACTOR OR SUPPLIER | PROJECT MANAGER | | BID ITEM NUMBER |
| Valley Paving & Asphalt | Ric Young | | 750 |
| SOURCE NAME | SOURCE NUMBER | | MATERIAL SIZE |
| Ontario Asphalt | 23-097-5 | | 4.75-0 |

| TEST NO | DATE | TIME | SAMPLED AT | TO BE USED IN |
|---|---|---|---|---|
| 3 | 2/26/03 | | Stockpile | HMAC |

| SIEVE SIZE | SPECS. LIMITS | SIEVE ANALYSIS AASHTO T27/11 MASS 1 | MASS 2 | MASS 3 | MASS 4 | TOTAL MASS | % RET | % PASS | FM CUMULATIVE % RETAINED |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| | | | | | | 0.0 | 0.0 | 100 | |
| 9.5 | ±1 | 0.0 | | | | | | | |
| 4.75 | ±7 | 41.2 | 43.9 | | | 85.1 | 4.5 | 96 | |
| 2.36 | ±7 | 275.4 | 254.1 | | | 529.5 | 27.8 | 68 | |
| .600 | ±7 | 292.5 | 302.5 | | | 595.0 | 31.2 | 37 | |
| .075 | ±3.0 | 281.2 | 249.5 | | | 530.7 | 27.9 | 8.7 | |
| PAN | | 5.8 | 11.4 | | | 17.2 | 0.9 | | |

B = INITIAL DRY MASS: 1905.2 D =MASS AFTER SIEVING: 1757.5

| SIEVE SIZE | SPECS. LIMITS | PERCENT FRACTURE IN AGG TM 1 FRAC MASS (F) | QUESTIONABLE MASS (Q) | NON FRAC MASS (N) | INDIVIDUAL FRAC % | ELONGATED PIECES TEST MASS | ELONG MASS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SE T 176 | | | |
|---|---|---|---|
| 1 | 2 | 3 | Samp |
| 4.9 | | | Clay |
| 3.6 | | | Sand |
| 74 | | | S.E. |
| | 74 | AVG. | |

| | |
|---|---|
| PAN TARE | 0 |
| WET MASS & PAN | 1945.2 |
| DRY MASS & PAN | 1905.2 |
| AFTER WASH DRY MASS & PAN | 1758.2 |

C = DRY MASS AND PAN AFTER WASH - PAN [ ] DRY [X] WET WAQTC AASHTO T-27/T11

A = WET MASS & PAN - PAN

| | RESULT | SPEC |
|---|---|---|
| Combine % Fracture TM 1 | | |
| Wood Waste TM225 | | |
| CleannessValue TM 227 | | |
| Flat & Elongated TM 229 | | |
| Fineness Modulus T 27/T11 | | |
| MOISTURE %={(A-B) / B} X 100. | 2.10% | |
| SIEVE LOSS %={(C-D) / C} X 100 | 0.0% | |
| Base Agg 2.00mm / 6.3mm | | |

[X] Round [ ] Square [ ] Rectangle 305mm Size

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION [ ] INDEPENDENT ASSURANCE

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| David Kirkland #546 | Kleinfelder, Inc. | | 3/12/03 |

1792-Base 9-02

Oregon State Department of Transportation

# TEST SUMMARY (B-QA)

(FIELD TESTED MATERIALS)

| CONTRACT NO. | SHEET |
|---|---|
| 12770 | 13E |

REVIEWERS AND DATES

| ITEM NO | DESCRIPTION | UNIT | ORIG. QUANT. | FINAL QUANT. |
|---|---|---|---|---|
| 75 | Level 3, 12.5 mm Dense HMAC | mg | 2,000 | |

| LINE | DATE OF SAMPLE, TEST, OR INSPECTION | REPORT NO. | DATA SHEET NO. | LAB REPORT NO. | TESTING BY: QUALITY CONTROL BY CONTRACTOR | REGION-QUALITY VERIFICATION | REGION-INDEPENDENT ASSURANCE | CONTRACTOR-INDEPENDENT ASSURANCE (SPLIT SAMPLE) | | TEST METHOD AND FREQUENCY: SOURCE MATERIAL (QUALIFYING) | MIX DESIGN | SIEVE ANALYSIS (T11/27) | A.C. CONTENT | MDV | PLANT REPORT | TSR | | | | DENSITY | STRENGTH | VISUAL | QUANTITIES: IN COMPLIANCE INCORPORATED | NON-COMPLIANCE INCORPORATED | EXPLANATIONS AND NON-COMPLIANCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/28/03 | | | 03-MD0056 | | | | | | | X | | | | | | | | | | | | | | |
| 2 | 11/07/03 | 1-1 | | | X | | | | | | | | | | | | | | | | | | 1000 | | Lot 1 Base Course Does Comply |
| 3 | 11/07/03 | QC-1 | | | | X | | | | | | | | | X | | | | | | | | | | Does Comply |
| 4 | 11/08/03 | V-1 & QV-1 | | | | X | X | X | | | | X | X | X | | | | | | | | | | | Verification/IA Does Comply |
| 5 | 11/08/03 | | | | X | | | | | | | | | | | | | | | | | | | | Request for small quantity tack |
| 6 | 11/10/03 | 2-1 | | | X | | | | | | | X | X | X | | | | | | | | | | | Lot 2 Wearing Course Does Comply |
| 7 | 11/13/03 | | | | X | | | | | | | | | | | X | | | | | | | | | Does Comply |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | |

WORK PHASE

| | |
|---|---|
| | AGGR. PROD |
| | Source 23-097-5 |
| X | MIX PRODUCTION |
| | DENSITY |
| | OTHER |

734-1902-B(4-96)

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OREGON DEPARTMENT OF TRANSPORTATION
MATERIALS LABORATORY
800 AIRPORT ROAD SE
SALEM, OR 97301-4798

503.986.3000
Fax: 503.986.3096

**Contract No.:** C12770 **EA:** con01479/000 **Lab No.** 03-MD0056

**Project Name:** Snake River (Nyssa) Bridge #01463A **Amendment 1 Date:**
**Highway:** Central Oregon Highway **County:** Malheur **Amendment 2 Date:**
**Begin MP:** 266.82 **End MP:** 266.90 **Amendment 3 Date:**
**Contractor:** F. E. Ward. Inc.
**Project Manager:** Young, Ric 541.889.8558 **Use: Level** 3 12.5mm Dense Mix **Lime** ☐

# CONTRACTOR BITUMINOUS MIX DESIGN REVIEW

**Lab Name:** Kleinfelder **Certified Mix Design Technician:** David Kirkland
**Mix Producer:** Valley Paving **Contractor Mix Design No.:** B01396
**Asphalt Supplier:** IDAHO **Transferred from Lab No.:**
**Asphalt Grade:** PG 70-28 **Antistrip Information:** Unichem 0.50 %

The Project Specifications call for PG 64-28 asphalt with an aggregate treatment of lime or latex polymer required. The contractor proposed to use PG 70-28 asphalt with an amine based liquid antistrip additive in place of the lime or latex polymer treatment.

In considering the proposal the limited quantity of material involved (2,000 Mg of mix) was a major factor. At ODOT's request Kleinfelder submitted additional test data using PG 70-28 asphalt. The TSR test result with PG 70-28 and liquid antistrip was equal to TSR test result with PG 64-28 asphalt and latex polymer aggregate treatment (98). The volumetric test results with both sets of materials were nearly identical. Therefore, there appears to be little risk in substituting PG 70-28 asphalt and liquid antistrip for the specified materials. The proposal is acceptable.

This report is issued with the understanding that the Project Manager concurs with acceptance of the Contractor's proposal.

**Stockpile Information**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Stockpile Size** | 12.5-4.75 | 4.75-0 | | | | | |
| **Stockpile Source** | 23-097-5 | 23-097-5 | | | | | |
| **Stockpile Percentage** | 55 | 45 | 0 | 0 | 0 | 0 | 0 |
| **Bulk Specific Gravity (Gsb)** | 2.569 | 2.554 | 0.100 | 0.100 | 0.100 | 0.100 | 0.100 |

**Job Mix Formula**

| Sieve | % Pass |
|---|---|
| 19mm (3/4") | 100 |
| 12.5mm (1/2): | 95 |
| 9.5mm (3/8"): | 78 |
| 4.75mm (No. 4): | 47 |
| 2.36mm (No. 8): | 32 |
| 0.60mm (No. 30): | 13 |
| 0.075mm (No. 200): | 4.7 |

| Paving Course | | % Asphalt by Wt. of Mixture (Pb) | Maximum Specific Gravity (Gmm): |
|---|---|---|---|
| Wearing | ☑ | 5.4 | 2.412 |
| Base | ☑ | | |
| Leveling | ☐ | | |
| Temporary | ☐ | | |

| | | | |
|---|---|---|---|
| VMA: | 14.6 | VFA: | 71.7 |
| Percent A/C In Rap: | 0.0 | Combined Aggregate Gravity (Gsb): | 2.562 |
| Number of Gyrations: | 100 | Gmb Sample Weight: | 4600 |
| Void Target (Va): | 4.1 | Mix Temp Range: | 163-172 |
| Tensile Strength Ratio: | 98 | Compacted Temp Range: | 138-148 |

**Compliance Statement:** Based on the information submitted for review, this mix design does comply with specifications.

**Total Lab Charges:** $0.00

Bruce M. Patterson P.E. 5-28-03
Reviewed by Signature Date

cc: Files; FHWA; Project Manager; RAS Region 5 ; Dick Dominick, Pavements; Bituminous; Region 5 QA Coord; Contractor

# FIELD WORKSHEET [ ] HMAC (PLANT REPORT)

| | | | |
|---|---|---|---|
| PROJECT [ ] (SECTION): Snake River ( Nyssa) Bridge Section | MIX DESIGN NO.: B01396 | TEST NO.: 1-1 ~~Startup~~ | CONTRACT NUMBER: 12770 |
| CONTRACTOR OR SUPPLIER: Valley Paving | PROJECT MANAGER: Ric Young | DATE: 11/7/03 | AMOUNT REPRESENTED: 239.97Mg | BID ITEM NUMBER: 750 |
| SOURCE NAME: Valley Paving | SOURCE NUMBER: 23-097-5 | TIME: 12:30pm | EAC OR HMAC: Hmac | MIX NOMINAL SIZE: 12.5mm Dense |
| PLANT / MODEL: Boeing | TYPE: Drum | SIZE: 150T | TO BE USED IN: Base ~~leveling~~ course | SAMPLED AT: Mecanical Sampler | JMF MIX TEMP.: 163-172 | MIX TEMP: 169 C |

## SIEVE ANALYSIS

| SIEVE SIZE | MASS 1 | MASS 2 | TOTAL MASS | % RET | % PASS | INCINERATOR CORRECTION FACTOR | CORRECTED % PASSING | JOB MIX FORMULA TARGET | JOB MIX FORMULA TOLERANCE | SIEVE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| 19.0mm | 0 | 0 | | 0.0 | 100.0 | 0 | 100 | 100 | 95 - 100 | 19.0mm |
| 12.5 | 217 | 168.1 | 385.1 | 6.3 | 93.7 | 0 | 94 | 95 | 90 - 100 | 12.5 |
| 9.5 | 518.4 | 638.5 | 1156.9 | 19.0 | 74.7 | 0 | 75 | 78 | | 9.5 |
| 6.3 | 608.8 | 719.4 | 1328.2 | 21.8 | 52.9 | 0 | 53 | | | 6.3 |
| 4.75 | 252.5 | 276.7 | 529.2 | 8.7 | 44.2 | 0 | 44 | 47 | 42 - 52 | 4.75 |
| 2.36 | 411.3 | 432.9 | 844.2 | 13.9 | 30.3 | 0 | 30 | 32 | 28 - 36 | 2.36 |
| 2.00 | 83.4 | 85.7 | 169.1 | 2.8 | 27.6 | 0 | 28 | | | 2.00 |
| 1.18 | 192.2 | 205.8 | 398 | 6.5 | 21.0 | 0 | 21 | | | 1.18 |
| .600 | 184.5 | 195.3 | 379.8 | 6.2 | 14.8 | 0 | 15 | 13 | 9 - 17 | .600 |
| .425 | 71.9 | 76.8 | 148.7 | 2.4 | 12.3 | 0 | 12 | | | .425 |
| .075 | 231.6 | 241.7 | 473.3 | 7.8 | 4.6 | 0 | 4.6 | 4.7 | 2.7 - 6.7 | .075 |
| PAN | 11.3 | 13 | 24.3 | 0.4 | | | | | | |
| | INITIAL DRY MASS | | 6091.4 | | | | % ASPHALT , Pb | 5.4 | 5.2-5.6 | ASPHALT |

## COLD FEED

| | | |
|---|---|---|
| PAN TARE | (T) | 0.0 |
| WET MASS | (A) | 6164.5 |
| DRY MASS | (B) | 6091.4 |
| DRY WASHED MASS | (C) | 5840.9 |
| Mass After Sieve | (D) | 5836.8 |
| MOISTURE %={(A-B)/ (B-T)} X 100= | | 1.2 |
| SIEVE LOSS %={(C-D)/C)}X 100= | | 0.1 |

## MIX MOISTURE

WET TEMP DRY TEMP

| | | |
|---|---|---|
| PAN TARE | (T) | 304.1 |
| WET MASS | (A) | 2854.5 |
| DRY MASS | (B) | 2851.1 |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | 0.13 |

## METER READINGS

| | ASPHALT | WET AGG | WET RAP | ANTISTRIP | FILLER | FIBER |
|---|---|---|---|---|---|---|
| BEGINING | 3.69 | 65.50 | | | | |
| ENDING | 5.36 | 94.30 | | | | |
| SUB TOTAL | 1.67 | 28.80 | | | | |
| MOISTURE | | 1.20 % | % | % | % | % |
| TOTAL | O 1.670 Mg | A 28.46 Mg | B Mg | C Mg | D Mg | E Mg |

## INCINERATOR

| | |
|---|---|
| BASKET TARE | T |
| MIX MASS & BASKET | A |
| AGG MASS & BASKET | B |
| COOL AGG & BASKET | |
| MIX MOISTURE | %M |

(MI) =(A-T)/(1+(%M/100)) (MF) = (B - T)

| | | |
|---|---|---|
| TEMP A | | Mi |
| TEMP B | | Mf |

%I = [(Mi -Mf) / (Mi)] x 100

% INCINERATED %I

CORRECTION FACTOR CF

% AC, Pb=(% I - CF)

% AC, Pb

## RAP MOISTURE

| | | |
|---|---|---|
| PAN TARE | (T) | |
| WET MASS | (A) | |
| DRY MASS | (B) | |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | |

REMARKS:

ASPHALT METER CORRECTION

% ASPHALT HMAC = O / O+A X100= 5.54

% FILLER = D / A+B+D X100=

PLANT MOISTURE AND DRY READINGS

1.0 % % 28.5 ←AGG RAP→

% RAP = B / A+B X100=

% FIBER = E / O+A+B+D+E X100=

% ANTISTRIP = C / A-C X100=

% ASPHALT EAC = O / A X100=

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE | |
|---|---|---|---|---|
| Rodney Roberts # 42860 | Materials Testing & Inspect | Rodney Roberts | 11-7-03 | ✓ QUALITY CONTROL<br>VERIFICATION<br>INDEPENDENT ASSURANCE |

2277 9-01

# DAILY ASPHALT PLANT PRODUCTION

| | | |
|---|---|---|
| PROJECT NAME (SECTION): SNAKE R (NYSSA) BR | | CONTRACT NUMBER: 12770 |
| CONTRACTOR OR SUPPLIER: F.E. WARD | PROJECT MANAGER: RIC YOUNG | REPORT NUMBER: QC-1 |
| | MATERIAL TYPE (HMAC OR EAC): HMAC | DATE: 11/7/03 |

## METER READINGS

| | | |
|---|---|---|
| A | WET AGG BEGIN | 0 |
| B | WET AGG END | 244.30 |
| C | TOTAL WET AGG B-A | 244.30 |
| D | AVERAGE COLD FEED MOISTURE | 1.20 |
| E | TOTAL DRY AGG (C/(100+D))X100= | 241.40 |
| F | WET RAP BEGIN | |
| G | WET RAP END | |
| H | AVERAGE RAP MOISTURE | |
| I | TOTAL DRY RAP ((G-F)/(100+H))X100= | |
| J | ASPHALT BEGIN | 0 |
| K | ASPHALT END | 13.90 |
| L | ASPHALT TOTAL (SHOW METHOD FOR CORRECTION) | 13.90 |
| M | ANTISTRIP BEGIN — correction: 1 — CORRECTED | |
| N | ANTISTRIP DELIVERED | 1 |
| O | ANTISTRIP END | 1 |
| P | ANTISTRIP TOTAL O-M (meter) or N+M-0 (scales) | |

| | | |
|---|---|---|
| a | TRUCK SCALE TOTAL | 253.27 |
| b | MIX WASTE (WEIGHTED) | 6.98 |
| c | UNCOATED AGG WASTE (WEIGHTED) | 6.89 |
| d | TOTAL a+b+c | 267.14 |
| e | AVERAGE MIX MOISTURE | .13 |
| f | TOTAL MATERIALS (d/(100+e))X100= | 266.79 |
| g | TANK STICK BEGIN | 38.61 |
| h | ASPHALT DELIVERED | 0 |
| i | DEDUCTIONS (ASPHALT REMOVED FROM TANK, PRIOR TO METER) | 0 |
| j | TANK STICK END | 24.33 |
| k | TOTAL BY TANK STICKING h+g-i-j | 14.28 |
| q | ANTISTRIP BEGIN INVENTORY | |
| r | ANTISTRIP DELIVERED | |
| s | ANTISTRIP END INVENTORY | |
| t | ANTISTRIP TOTAL q+r-s | |

| | | |
|---|---|---|
| S | % ANTISTRIP (P/(E-P))X100 | T: %RAP (I/(E+I))X100 |
| U | BY TANK % ASPHALT=k/((a+b)/(100+e)) %EMULSION=k/((a+b-k)/(100+D))X100 | 5.49 % |
| V | BY METER % ASPHALT=(L/(L+E+I-c))X100 %EMULSION=(L/(E-c))X100 | 5.44 % |
| W | % ERROR ASPHALT METER vs. TANK MEASURE ((L-k)/k)X100 | -2.66 % |
| X | % ERROR TRUCK SCALE vs. TOTAL METER ((E+I+L-t)/f)X100 EAC ((C+L-d)/d)X100 — ALLOWABLE ±1.00% | -4.36 |
| Y | DAILY DIFFERENCE: TANK vs. METER U-V ALLOWABLE ±0.20 | .05 % |

REMARKS

☐ QUALITY CONTROL ☑ VERIFICATION

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DAT |
|---|---|---|---|
| MARK SANGER 865 | R-5 QA. | Mark Sanger | 11/8/03 |

Verif does Comply.

2401 9-02

# DAILY ASPHALT CEMENT REPORT

| | | |
|---|---|---|
| PROJECT NAME (SECTION): SNAKE R. (NYSSA) BR. | | CONTRACT NUMBER: 12770 |
| CONTRACTOR: F.E. WARD | PROJECT MANAGER: RIC YOUNG | REPORT NUMBER: CDC-1 |
| | SUPPLIER: IDAHO ASPHALT | DATE: 11/7/03 |

## ASPHALT INVENTORY METHOD

| | | |
|---|---|---|
| PREVIOUS ENDING TANK STICK — LINE 8 FROM PREVIOUS REPORT | 1 | 7.62 |

DELIVERIES BEFORE BEGINNING TANK STICK

| INVOICE NO. | Mg | INVOICE NO. | Mg | INVOICE NO. | Mg |
|---|---|---|---|---|---|
| N24889 | 30.99 | | | | |
| | | | | | |

| | | |
|---|---|---|
| TOTAL DELIVERIES | 2 | 30.99 |
| DEDUCTIONS BEFORE BEGINNING INVENTORY EXPLAIN BELOW OR ON ATTACHMENT | 3 | Ø |
| BEGINNING INVENTORY 1 + 2 - 3 (ANY DIFFERENCES WITH LINE 5 OTHER THAN MINOR MEASURING DIFFERENCES, MUST BE RESOLVED) | 4 | 38.61 |

BEGINNING TANK STICK

| TANK NO. | TEMP | TANK STICK | VOLUME IN TANK X | TEMP. CORR. FACTOR X | SPECIFIC GRAVITY | /1000=Mg |
|---|---|---|---|---|---|---|
| 1 | 153.8 | 21 IN | 41065 | .9155 | 1.027 | 38.61 |
| 2 | | | | | | |
| 3 | | | | | | |

| | | |
|---|---|---|
| BEGINNING TANK STICK TOTAL | 5 | 38.61 |

DELIVERIES AFTER BEGINNING INVENTORY

| INVOICE NO. | Mg | INVOICE NO. | Mg | INVOICE NO. | Mg |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

| | | |
|---|---|---|
| TOTAL DELIVERIES | 6 | 0 |
| DEDUCTIONS AFTER BEGINNING INVENTORY (TACK, WASTE, REJECT, SOLD TO OTHERS ETC.) EXPLAIN BELOW OR ON ATTACHMENT | 7 | .38 |

ENDING TANK STICK

| TANK NO. | TEMP | TANK STICK | VOLUME IN TANK X | TEMP. CORR. FACTOR X | SPECIFIC GRAVITY | /1000=Mg |
|---|---|---|---|---|---|---|
| 1 | 154.0 | 16.5 IN | 25881 | .9154 | 1.027 | 24.33 |
| 2 | | | | | | |
| 3 | | | | | | |

| | | |
|---|---|---|
| ENDING TANK STICK TOTAL | 8 | 24.33 |
| ASPHALT CEMENT — LINES 4 or 5 + 6 - 7 - 8 | 9 | 13.90 |

## SMALL QUANTITY METHOD

| | | |
|---|---|---|
| ASPHALT TARGET % FROM JOB MIX FORMULA | C | |
| Mg MIX THIS DATE X C/100 = | 0 | 10 ASPHALT CEMENT INCORPORATED |

## BATCH MASS METHOD

| | | |
|---|---|---|
| BATCH TICKET NO. | | |
| | | |
| ASPHALT CEMENT INCORPORATED | 11 | |

## ASPHALT CEMENT SUMMARY

| | | B.I. NO. |
|---|---|---|
| ASPHALT CEMENT IN MIX | | |
| PREVIOUS REPORT LINE 14 | 12 | 0 |
| THIS REPORT LINE 9, 10, OR 11 | 13 | 13.90 |
| ASPHALT CEMENT IN MIXTURE TO DATE 12 + 13 | 14 | 13.90 |

## ASPHALT MIXTURE SUMMARY

| | | B.I. NO. |
|---|---|---|
| CLASS HMAC | | |
| PREVIOUS REPORT LINE 17 | 15 | |
| MATERIAL RECEIPT TOTAL FOR THIS DATE | 16 | |
| ASPHALT MIXTURE TO DATE 15+16 | 17 | |
| CLASS HMAC | | B.I. NO. |
| PREVIOUS REPORT LINE 20 | 18 | |
| MATERIAL RECEIPT TOTAL FOR THIS DATE | 19 | |
| ASPHALT MIXTURE TO DATE 18+19 | 20 | |

EXPLANATION OIL BY TANK = 5.49%

+ 6.98 MG MIX WASTE X .0549 = .38 MG DEDUCTION (LINE 7)

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| MARK SANGER 865 | R-5 QA | Mark Sanger | 11/8/03 |

2043 9-01

# FIELD WORKSHEET FC HMAC (PLANT REPORT)

| | | | | |
|---|---|---|---|---|
| PROJECT NAME (SECTION): SNAKE R. (NYSSA) BR. | | MIX DESIGN NO.: 03-MD56 | TEST NO.: V-1 | CONTRACT NUMBER: 12770 |
| CONTRACTOR OR SUPPLIER: F.E. WARD | PROJECT MANAGER: RIC YOUNG | DATE: 11/8/03 | AMOUNT REPRESENTED: | BID ITEM NUMBER: 750 |
| SOURCE NAME: ONTARIO ASPHALT | SOURCE NUMBER: 23-97-5 | TIME: 11:30 | EAC OR HMAC | MIX NOMINAL SIZE: 12.5 MM |
| PLANT / MODEL: | TYPE: | SIZE: | TO BE USED IN: LEVEL 3 12.5 MM DENSE | SAMPLED AT: TRUCK |
| JMF MIX TEMP.: | MIX TEMP: | | | |

| SIEVE SIZE | SIEVE ANALYSIS MASS 1 | MASS 2 | TOTAL MASS | % RET | % PASS | INCINERATOR CORRECTION FACTOR | CORRECTED % PASSING | JOB MIX FORMULA TARGET | TOLERANCE | SIEVE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 0 | | 0 | 0 | 100 | | | 100 | 95-100 | |
| 12.5 | 79.7 | | 79.7 | 3.0 | 97 | | | 95 | 90-100 | |
| 9.5 | 486.5 | | 486.5 | 18.6 | 78 | | | | | |
| 6.3 | 640.9 | | 640.9 | 24.5 | 54 | | | | | |
| 4.75 | 309.1 | | 309.1 | 11.8 | 42 | | | 47 | 42-52 | |
| 2.36 | 363.4 | | 363.4 | 13.9 | 28 | | | 32 | 28-36 | |
| .600 | 376.4 | | 376.4 | 14.4 | 14 | | | 13 | 9-17 | |
| .075 | 248.1 | | 248.1 | 9.5 | 4.3 | | | 4.7 | 2.7-6.7 | |
| PAN | 13.8 | | 13.8 | 0.5 | | | | | | |
| | INITIAL DRY MASS 2619.4 | | | | | | % ASPHALT, Pb | 5.40 | 5.20-5.60 | ASPHALT |

**COLD FEED**

| | | |
|---|---|---|
| PAN TARE 20 | (T) | 1312.1 |
| WET MASS | (A) | 3979.0 |
| DRY MASS | (B) | 3931.5 |
| DRY WASHED MASS | (C) | 3831.3 |
| Mass After Sieve | (D) | 3830.0 |
| MOISTURE %=[(A-B)/(B-T)] X 100= | | 1.8 |
| SIEVE LOSS %=[(C-D)/C] X 100= | | .1% |

47.5
2619.4

**MIX MOISTURE**

| WET TEMP | DRY TEMP |
|---|---|
| PAN TARE (T) | |
| WET MASS (A) | |
| DRY MASS (B) | |
| MOISTURE %=[(A-B)/(B-T)] X 100= | |

**RAP MOISTURE**

| | |
|---|---|
| PAN TARE (T) | |
| WET MASS (A) | |
| DRY MASS (B) | |
| MOISTURE %=[(A-B)/(B-T)] X 100= | |

**METER READINGS**

| | ASPHALT | WET AGG | WET RAP | ANTISTRIP | FILLER | FIBER |
|---|---|---|---|---|---|---|
| BEGINING | 7.32 | 133.54 | | | | |
| ENDING | 9.08 | 165.29 | | | | |
| SUB TOTAL | 1.76 | 31.75 | | | | |
| MOISTURE | | 1.8 % | % | % | % | % |
| TOTAL | O 1.76 Mg | A 31.19 Mg | B Mg | C Mg | D Mg | E Mg |

**INCINERATOR**

| | |
|---|---|
| BASKET TARE | T |
| MIX MASS & BASKET | A |
| AGG MASS & BASKET | B |
| COOL AGG & BASKET | |
| MIX MOISTURE | %M |

(MI) =(A-T)/(1+(%M/100)) (MF) = (B - T)

TEMP A: MI
TEMP B: Mf

%I = [(MF -MI) / (MI)] X 100

% INCINERATED %I

CORRECTION FACTOR CF

% AC, Pb=(% I - CF)

% AC, Pb

ASPHALT METER CORRECTION: WET

% ASPHALT= O/(O+A) X100= 5.34%

HMAC

FILLER D/(A+B+D) X100=

PLANT MOISTURE AND READINGS

| % | | % |
|---|---|---|
| 133.54 | ←AGG | |
| 165.29 | RAP→ | |

% RAP = B/(A+B) X100=

% FIBER E/(O+A+B+D+E) X100=

% ANTISTRIP C/(A-C) X100=

% ASPHALT= O/A X100=

FAC

REMARKS:

OIL -
START (REVS) - 8882
END ( " ) - 11020
TEMP. 325 °F = 167.8 °C
GAL/REV = .2329

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| MARK SANGER 865 | R-5 QA | Mark Sanger | 11/8/03 |

QUALITY CONTROL
✓ VERIFICATION
✓ INDEPENDENT ASSURANCE

2519.2
2517.9

IA/Verif Complies
✓ [signature]

# FIELD WORKSHEET [illegible] HMAC (PLANT REPORT)

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NAME (SECTION): Snake River ( Nyssa) Bridge Section | | | MIX DESIGN NO.: B01396 | TEST NO.: Ver 1 | CONTRACT NUMBER: 12770 |
| CONTRACTOR OR SUPPLIER: Valley Paving | PROJECT MANAGER: Ric Young | | DATE: 11/8/03 | AMOUNT REPRESENTED: 367.87 | BID ITEM NUMBER: 750 |
| SOURCE NAME: Valley Paving | SOURCE NUMBER: 23-097-5 | | TIME: 11:15am | EAC OR HMAC: HMAC | MIX NOMINAL SIZE: 12.5mm Dense |
| PLANT / MODEL: Boeing | TYPE: Drum | SIZE: 150T | TO BE USED IN: wearing course | SAMPLED AT: Mecanical Sampler | JMF MIX TEMP.: 163-172 / MIX TEMP: 170 |

## SIEVE ANALYSIS

| SIEVE SIZE | MASS 1 | MASS 2 | TOTAL MASS | % RET | % PASS | INCINERATOR CORRECTION FACTOR | CORRECTED % PASSING | JOB MIX FORMULA TARGET | JOB MIX FORMULA TOLERANCE | SIEVE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| 19.0mm | 0 | 0 | | 0.0 | 100.0 | 0 | 100 | 100 | 95 - 100 | 19.0mm |
| 12.5 | 61.7 | 122.8 | 184.5 | 6.8 | 93.2 | 0 | 93 | 95 | 90 - 100 | 12.5 |
| 9.5 | 233.6 | 278.1 | 511.7 | 18.9 | 74.3 | 0 | 74 | 78 | | 9.5 |
| 6.3 | 326.8 | 325.3 | 652.1 | 24.1 | 50.2 | 0 | 50 | | | 6.3 |
| 4.75 | 145.1 | 144.6 | 289.7 | 10.7 | 39.5 | 0 | 40 | 47 | 42 - 52 | 4.75 |
| 2.36 | 172 | 191.8 | 363.8 | 13.4 | 26.1 | 0 | 26 | 32 | 28 - 36 | 2.36 |
| 2.00 | 30.3 | 37.3 | 67.6 | 2.5 | 23.6 | 0 | 24 | | | 2.00 |
| 1.18 | 76 | 79.4 | 155.4 | 5.7 | 17.9 | 0 | 18 | | | 1.18 |
| .600 | 72.8 | 70.8 | 143.6 | 5.3 | 12.6 | 0 | 13 | 13 | 9 - 17 | .600 |
| .425 | 29.3 | 27.2 | 56.5 | 2.1 | 10.5 | 0 | 11 | | | .425 |
| .075 | 94.7 | 88.4 | 183.1 | 6.8 | 3.7 | 0 | 3.7 | 4.7 | 2.7 - 6.7 | .075 |
| PAN | 6.8 | 6.7 | 13.5 | 0.5 | | | | | | |
| | INITIAL DRY MASS | | 2709.4 | | | | % ASPHALT , Pb | 5.4 | 5.2-5.6 | ASPHALT |

## COLD FEED

| | | |
|---|---|---|
| PAN TARE | (T) | 1594.9 |
| WET MASS | (A) | 4338.7 |
| DRY MASS | (B) | 4304.3 |
| DRY WASHED MASS | (C) | 2615.1 |
| Mass After Sieve | (D) | 2621.5 |
| MOISTURE %={(A-B)/ (B-T)} X 100= | | 1.3 |
| SIEVE LOSS %={(C-D)/C)}X 100= | | 0.2 |

## MIX MOISTURE

| WET TEMP | | DRY TEMP |
|---|---|---|
| PAN TARE | (T) | 358.6 |
| WET MASS | (A) | 1483.5 |
| DRY MASS | (B) | 1482.1 |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | 0.12 |

## RAP MOISTURE

| | | |
|---|---|---|
| PAN TARE | (T) | |
| WET MASS | (A) | |
| DRY MASS | (B) | |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | |

## METER READINGS

| | ASPHALT | WET AGG | WET RAP | ANTISTRIP | FILLER | FIBER |
|---|---|---|---|---|---|---|
| BEGINING | 7.29 | 133.50 | | | | |
| ENDING | 9.04 | 165.30 | | | | |
| SUB TOTAL | 1.75 | 31.80 | | | | |
| MOISTURE | | 1.30 % | % | % | % | % |
| TOTAL | O 1.750 Mg | A 31.39 Mg | B Mg | C Mg | D Mg | E Mg |

ASPHALT METER CORRECTION

% ASPHALT HMAC = O / (O+A) X100= 5.28

% FILLER = D / (A+B+D) X100=

PLANT MOISTURE AND DRY READINGS: 1.2 % | % | ←AGG | RAP→

% RAP = B / (A+B) X100=

% FIBER = E / (O+A+B+D+E) X100=

% ANTISTRIP = C / (A-C) X100=

% ASPHALT EAC = O / A X100=

## INCINERATOR

| | | |
|---|---|---|
| BASKET TARE | T | |
| MIX MASS & BASKET | A | |
| AGG MASS & BASKET | B | |
| COOL AGG & BASKET | | |
| MIX MOISTURE | %M | |

(MI) =(A-T)/(1+(%M/100)) (MF) = (B - T)

| | | |
|---|---|---|
| TEMP A | | Mi |
| TEMP B | | Mf |

%I = [(Mi -Mf) / (Mi)] x 100

% INCINERATED %I

CORRECTION FACTOR CF

% AC, Pb=(% I - CF)

% AC, Pb

REMARKS:

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Charles D Walker # 2738 | Materials Testing & Inspect | Charles D. Walker | 11/8/03 |

☒ QUALITY CONTROL
☐ VERIFICATION
☐ INDEPENDENT ASSURANCE

2277 9-01

# Memorandum

**To:** Ric Young - ODOT

**CC:** Eric Meisgeier - FEW

**From:** Dan Payne

**Date:** Saturday, November 08, 2003

**Re:** HMAC PREPAVING MTG –small quantity allowance

---

In accordance with your "small quantity guideline", we are requesting that QC sampling and testing be waived for the CSS-1 tack applied at the job site. The estimated quantity of tack will be less than 50Mg as per specification #00730 in the small quantity table and Valley Paving & Asphalt has supplied a copy of the certification for the CSS-1 tack prior to use on a previous project.

Please feel free to contact me if you have any question, and thank you for your assistance in these matters.

Dan Payne
FEWARD

Approved
Eric T. Young
11-8-03

**EMERGENCY RESPONSE: PLEASE CONTACT CHEMTREC: 1-800-424-9300**

Shipment may contain oil or asphaltic materials as defined in 49CFR Part 130.5 unless otherwise noted.

# IDAHO ASPHALT SUPPLY, INC.

**ASPHALTS - INDUSTRIAL OILS - FUELS**

P.O. Box 50538 • Idaho Falls, ID 83405 • (208) 524-5871

| B/L No. |
|---|
| N24296 |

SPLIT, REAR

## COMBINATION BILL OF LADING AND VENDOR'S CERTIFICATE OF COMPLIANCE

Return of Product Shipped on Original B/L No. _____

Customer: VALLEY PAVING & ASPHALT-MCCALL/ONTARIO Date 9/ 3/03

IAS Contract No. 3038 P.O. No. _____ Origin NAMPA PA/Group No. _____

Destination EXIT 374,N 1/2MI,W ON CHESTER 1MI OVER FWY,RT 1 MILE TO HP

Project No. _____

Project Description 2003 ONTARIO HOTPLANT SUPPLY

Carrier IAS Freight Bill No. _____ Refinery Manifest or Wt. Tkt No. WN39484

Truck No. 23 Trailer No. 108A Trailer No. 112A Load Time 05:00AM Delivery Time 07:00AM

Load Time In 04:45AM Load Time Out 05:51AM Time Arrived _____ Start Unload _____ Finish Unload _____

Remarks 8.274 METRIC TONS

**Product Specifications:** Penetration 133 @ 77 °F RESIDUE Flashpoint _____ °F Lbs/gal 8.478

Spec. Gravity @ 60°F 1.018 Viscosity 25 @ 77 °F ORIGINAL Remarks _____

**Certificate of Compliance:** This is to certify that this shipment of asphaltic material complies with all applicable standards for the product as specified by STATE OF OREGON/IDAHO SPECIFICATIONS

Producer's Representative: [signature]

| Additive | Temp. | Gross Gal. | Net Gal. |
|---|---|---|---|
| ____ % | 160 | 2234 | 2131 |

| | Gross | Tare | Net |
|---|---|---|---|
| Wt. 1 Lbs. | 0 | 0 | 0 |
| Wt. 2 Lbs. | 25990 | 7740 | 18240 |
| Total Lbs. | 25990 | 7740 | 18240 |

| Quantity | HM | D.O.T. Classification | | Product | Net Tons |
|---|---|---|---|---|---|
| | | ELEVATED TEMPERATURE LIQUID, N.O.S. ASPHALT, 9, UN 3257, III | (PLACARDED: MARKED HOT, 3257) | | |
| | | HOT TARS, LIQUID, 3, NA 1999, III | (PLACARDED: FLAMMABLE) | | |
| 1 TK | XX | NOT REGULATED | | CSS-1 | 9.128 |
| | | OTHER: | | | |

Remarks: _____

| Office Use | Units | Price | Amount |
|---|---|---|---|
| Product | | | |
| Additive | | | |
| Freight | | | |
| Spread | | | |
| Demurrage | | | |
| | | Tax | |
| | | Total | |

This conveyance has been inspected and found to be free of contaminating materials. Where required a sample of this material has been taken from the conveyance after loading for delivery to the customer by the driver. This also certifies that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Driver Signature: [signature]

Was this product delivered as ordered? ☐ Yes ☐ No

Was this load... ☐ on time or ☐ late?

Received By: JERRY WALKER

STATE

# FIELD WORKSHEET I HMAC (PLANT REPORT)

| | | | |
|---|---|---|---|
| PROJECT NAME (SECTION): Snake River ( Nyssa) Bridge Section | MIX DESIGN NO.: B01396 | TEST NO.: daily test | CONTRACT NUMBER: 12770 |
| CONTRACTOR OR SUPPLIER: Valley Paving | PROJECT MANAGER: Ric Young | DATE: 11/10/03 | AMOUNT REPRESENTED: | BID ITEM NUMBER: 750 |
| SOURCE NAME: Valley Paving | SOURCE NUMBER: 23-097-5 | TIME: 11:00am | EAC OR HMAC: HMAC | MIX NOMINAL SIZE: 12.5mm Dense |
| PLANT / MODEL: Boeing | TYPE: Drum | SIZE: 150T | TO BE USED IN: wearing course | SAMPLED AT: Mecanical Sampler | JMF MIX TEMP.: 163-172 | MIX TEMP: 168 |

## SIEVE ANALYSIS

| SIEVE SIZE | MASS 1 | MASS 2 | TOTAL MASS | % RET | % PASS | INCINERATOR CORRECTION FACTOR | CORRECTED % PASSING | JOB MIX FORMULA TARGET | JOB MIX FORMULA TOLERANCE | SIEVE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| 19.0mm | 0 | | | 0.0 | 100.0 | 0 | 100 | 100 | 95 - 100 | 19.0mm |
| 12.5 | 110 | | 110 | 4.3 | 95.7 | 0 | 96 | 95 | 90 - 100 | 12.5 |
| 9.5 | 402.3 | | 402.3 | 15.8 | 79.9 | 0 | 80 | 78 | | 9.5 |
| 6.3 | 574.3 | | 574.3 | 22.6 | 57.3 | 0 | 57 | | | 6.3 |
| 4.75 | 324.8 | | 324.8 | 12.8 | 44.5 | 0 | 45 | 47 | 42 - 52 | 4.75 |
| 2.36 | 388.9 | | 388.9 | 15.3 | 29.2 | 0 | 29 | 32 | 28 - 36 | 2.36 |
| 2.00 | 67.1 | | 67.1 | 2.6 | 26.6 | 0 | 27 | | | 2.00 |
| 1.18 | 160.1 | | 160.1 | 6.3 | 20.3 | 0 | 20 | | | 1.18 |
| .600 | 146.7 | | 146.7 | 5.8 | 14.5 | 0 | 15 | 13 | 9 - 17 | .600 |
| .425 | 56.5 | | 56.5 | 2.2 | 12.3 | 0 | 12 | | | .425 |
| .075 | 195.1 | | 195.1 | 7.7 | 4.6 | 0 | 4.6 | 4.7 | 2.7 - 6.7 | .075 |
| PAN | 23.6 | | 23.6 | 0.9 | | | | | | |
| | INITIAL DRY MASS | | 2543.5 | | | | % ASPHALT , Pb | 5.4 | 5.2-5.6 | ASPHALT |

## COLD FEED

| | | |
|---|---|---|
| PAN TARE | (T) | 0.0 |
| WET MASS | (A) | 2596.9 |
| DRY MASS | (B) | 2543.5 |
| DRY WASHED MASS | (C) | 2449.3 |
| Mass After Sieve | (D) | 2449.4 |
| MOISTURE %={(A-B)/ (B-T)} X 100= | | 2.1 |
| SIEVE LOSS %={(C-D)/C)}X 100= | | 0.0 |

## MIX MOISTURE

| WET TEMP | | DRY TEMP |
|---|---|---|
| PAN TARE | (T) | 362.2 |
| WET MASS | (A) | 2662.5 |
| DRY MASS | (B) | 2659.6 |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | 0.13 |

## RAP MOISTURE

| | | |
|---|---|---|
| PAN TARE | (T) | |
| WET MASS | (A) | |
| DRY MASS | (B) | |
| MOISTURE %= [(A-B)/(B-T)] X 100= | | |

## METER READINGS

| | ASPHALT | WET AGG | WET RAP | ANTISTRIP | FILLER | FIBER |
|---|---|---|---|---|---|---|
| BEGINING | 3.06 | 56.60 | | | | |
| ENDING | 4.363 | 79.80 | | | | |
| SUB TOTAL | 1.303 | 23.20 | | | | |
| MOISTURE | | 2.10 % | % | % | % | % |
| TOTAL | O 1.303 Mg | A 22.72 Mg | B Mg | C Mg | D Mg | E Mg |

## INCINERATOR

| | | |
|---|---|---|
| BASKET TARE | T | |
| MIX MASS & BASKET | A | |
| AGG MASS & BASKET | B | |
| COOL AGG & BASKET | | |
| MIX MOISTURE | %M | |

(MI) =(A-T)/(1+(%M/100)) (MF) = (B - T)

| | | |
|---|---|---|
| TEMP A | | Mi |
| TEMP B | | Mf |

%I = [(Mi -Mf) / (Mi)] x 100

| | |
|---|---|
| % INCINERATED | %I |
| CORRECTION FACTOR | CF |
| % AC, Pb=(% I - CF) | |
| % AC, Pb | |

REMARKS:

ASPHALT METER CORRECTION

% ASPHALT= HMAC O / O+A X100= 5.42

% FILLER D / A+B+D X100=

PLANT MOISTURE AND DRY READINGS

1.2 % %

22.95 ←AGG RAP→

% RAP = B / A+B X100=

% FIBER E / O+A+B+D+E X100=

% ANTISTRIP C / A-C X100=

% ASPHALT= EAC O / A X100=

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE | |
|---|---|---|---|---|
| Rodney Roberts # 42860 | Materials Testing & Inspect | Rodney Roberts | 11-10-03 | ✓ QUALITY CONTROL<br>VERIFICATION<br>INDEPENDENT ASSURANCE |

2277 9-01

# TENSILE STRIPPING STRENGTH (TSR)

| PROJECT NAME (SECTION) | | | | CONTRACT NUMBER |
|---|---|---|---|---|
| Snake River (Nyssa) Bridge section | | | | 12770 |
| CONTRACTOR OR SUPPLIER | | | PROJECT MANAGER | BID ITEM NUMBER |
| Valley Paving | | | Ric Young | 750 |
| MIX DESIGN NO. | MAX SPECIFIC GRAVITY | % ASPHALT | NUMBER OF BLOWS | MIX NOMINAL SIZE |
| B01396 | 2.428 | 5.28 | 45 | 12.5mm |

| Sample # | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
|---|---|---|---|---|---|---|---|---|---|
| D. diameter, in | 4.012 | 4.019 | 4.011 | 4.006 | 4.005 | 4.004 | 4.000 | 4.007 | |
| t. thicknenss, in | 2.557 | 2.581 | 2.599 | 2.545 | 2.517 | 2.551 | 2.587 | 2.525 | |
| A. WT. in air, g | 1122.6 | 1144.7 | 1114.6 | 1111.5 | 1107.0 | 1109.4 | 1102.4 | 1091.2 | |
| B. SSD. WT. g | 1135.3 | 1152.3 | 1123.6 | 1121.8 | 1116.4 | 1119.5 | 1110.4 | 1101.2 | |
| C. WT. in H2O, g | 635.2 | 643.2 | 628.2 | 626.8 | 622.0 | 624.3 | 619.4 | 615.8 | |
| E. Volume (B-C) | 500.1 | 509.1 | 495.4 | 495.0 | 494.4 | 495.2 | 491.0 | 485.4 | |
| F. Bulk SpSg A/E | 2.245 | 2.248 | 2.250 | 2.245 | 2.239 | 2.240 | 2.245 | 2.248 | AVG |
| H. % voids | 7.5 | 7.4 | 7.3 | 7.5 | 7.8 | 7.7 | 7.5 | 7.4 | **7.5** |
| I. Vol of air voids | 37.51 | 37.67 | 36.16 | 37.13 | 38.56 | 38.13 | 36.83 | 35.92 | |
| Test Cond. wet | W | W | W | D | D | D | W | D | |
| X. Desired Wt. gain | 24.4 | 24.5 | 23.5 | 24.1 | 25.1 | 24.8 | 23.9 | 23.3 | |
| Target SSD Wt. | 1147.0 | 1169.2 | 1138.1 | 1135.6 | 1132.1 | 1134.2 | 1126.3 | 1114.5 | |
| B' SSD Wt. after Sat. | 1153.1 | 1176.8 | 1141.2 | | | | 1131.7 | | |
| J' Vol absorbed H20 | 30.5 | 32.1 | 26.6 | | | | 29.3 | | |
| % saturation | 81.3 | 85.2 | 73.6 | | | | 79.6 | | **79.9** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P. Load for dry sample | | | | 6735 | 7865 | 7960 | | 8760 | |
| Std =2P / (txDx3.14) | | | | 420.8 | 497.0 | 496.4 | | 551.5 | **491.4** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P' Load for wet sample | 7120 | 7015 | 7280 | | | | 7175 | | |
| Stm =2P' / (txDx3.14) | 442.1 | 430.7 | 444.8 | | | | 441.6 | | **439.8** |

Visual Stripping Rating , 0 - 5 [ 1 ]

Tensile Strength Ratio = (Stm / Std) 100 **89.5**

Remarks

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Rodney Roberts # 42860 | Materials Testing & Inspect | Rodney Roberts | 11-13-03 |

2050 tsr 9-01

Oregon State Department of Transportation

# TEST SUMMARY (B-QA)

(FIELD TESTED MATERIALS)

| CONTRACT NO. | SHEET |
|---|---|
| 12770 | 13F |

| REVIEWERS AND DATES | ITEM NO | DESCRIPTION | UNIT | ORIG. QUANT. | FINAL QUANT. |
|---|---|---|---|---|---|
| | 75 | Level 3, 12.5 mm Dense HMAC | mg | 2,000 | |

| LINE | DATE OF SAMPLE, TEST, OR INSPECTION | REPORT NO. | DATA SHEET NO. | LAB REPORT NO. | TESTING BY: QUALITY CONTROL BY CONTRACTOR | REGION-QUALITY VERIFICATION | REGION-INDEPENDENT ASSURANCE | CONTRACTOR-INDEPENDENT ASSURANCE (SPLIT SAMPLE) | | TEST METHOD AND FREQUENCY: | CONTROL STRIP | VOIDS WORKSHEET GYRATORY | SPECIFIC GRAVITY | | | | | | | DENSITY | STRENGTH | VISUAL | QUANTITIES: IN COMPLIANCE INCORPORATED | NON-COMPLIANCE INCORPORATED | EXPLANATIONS AND NON-COMPLIANCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11/07/03 | 1-1 | | | X | | | | | | | X | X | | | | | | | | | | | | Lot 1 |
| 2 | 11/07/03 | 1-1 | | | | | | | | | X | | | | | | | | | | | | | | |
| 3 | 11/07/03 | 1-1 | | | | | | | | | | | | | | | | | | 5 | | | | | Does Comply 92.0% |
| 4 | 11/08/03 | V-1 & Ver-1 | | | | X | X | X | | | | X | | | | | | | | | | | | | Verification/IA Does Comply |
| 5 | 11/08/03 | 2-1 | | | X | | | | | | | | | | | | | | | 5 | | | | | Does Comply 92.9% |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | |

WORK PHASE

| | |
|---|---|
| | AGGR. PROD |
| | MIX PRODUCTION |
| X | DENSITY |
| | OTHER |

Source 23-097-5

734-1902-B(4-96)

**This sheet**

**was intentionally**

**left blank.**

# VOIDS WORKSHEET GYRATORY

| PROJECT NAME (SECTION) | | | | | | CONTRACT NUMBER |
|---|---|---|---|---|---|---|
| Snake River (Nyssa) Bridge Section | | | | | | 12770 |
| CONTRACTOR OR SUPPLIER | | | PROJECT MANAGER | | | BID ITEM NUMBER |
| Valley Paving | | | Ric Young | | | 750 |
| MIX DESIGN NO. | DESIGN Gsb | DESIGN GMM | DESIGN VMA | DESIGN VOIDS | DESIGN ASPHALT % | MATERIAL TYPE |
| B01396 | 2.562 | 2.412 | 14.6 | 4.1 | 5.4 | 12.5.0 HMAC |
| COMPACTOR MAKE | SERIAL NUMBER | AC SUPPLIER | GRADE | | | PLACEMENT TEMP RANGE |
| Pine | 1675 | Idaho Asphalt | PG-70-28 | | | 138-148 |

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| 11/7/03 | ~~Startup~~ 1-1 | 5.54 | 2.425 | 2.337 | 3.6 | 13.8 | 73.8 | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/(B-C) |
|---|---|---|---|---|---|---|
| 1 | 114.7 | 100 | 4600.5 | 2646.6 | 4616.3 | 2.336 |
| 2 | 113.5 | 100 | 4606.1 | 2651.8 | 4621.9 | 2.338 |

| | |
|---|---|
| PYCNOMETER + LID + MIX | 4716.3 |
| PYCNOMETER + LID | 2999.2 |
| MASS OF DRY SAMPLE | 1717.1 |
| PYCNOMETER + LID+H2O | 7375.6 |
| PYCNOMETER+ LID+H2O+MIX | 8384.5 |
| Gmm | 2.425 |

REMARKS TIME SAMPLED: 12:30pm TIME COMPACTED: 3:00pm

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/(B-C) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

| | |
|---|---|
| PYCNOMETER + LID + MIX | |
| PYCNOMETER + LID | |
| MASS OF DRY SAMPLE | |
| PYCNOMETER + LID+H2O | |
| PYCNOMETER+ LID+H2O+MIX | |
| Gmm | |

REMARKS TIME SAMPLED: TIME COMPACTED:

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/(B-C) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

| | |
|---|---|
| PYCNOMETER + LID + MIX | |
| PYCNOMETER + LID | |
| MASS OF DRY SAMPLE | |
| PYCNOMETER + LID+H2O | |
| PYCNOMETER+ LID+H2O+MIX | |
| Gmm | |

REMARKS TIME SAMPLED: TIME COMPACTED:

| Previous Forms Results | | | |
|---|---|---|---|
| Test # | Voids | VMA | VFA |
| | | | |
| | | | |
| | | | |

REMARKS

[X] QUALITY CONTROL [ ] VERIFICATION

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Rodney Roberts # 42860 | Materials Testing & Inspect | Rodney Roberts | 11-7-03 |

2050 GV 9-01

# SPECIFIC GRAVITY AND MAXIMUM DENSITY OF HMAC

| PROJECT NAME (SECTION) | | | CONTRACT NUMBER |
|---|---|---|---|
| Snake River (Nyssa) Bridge section | | | 12770 |
| CONTRACTOR OR SUPPLIER | | PROJECT MANAGER | BID ITEM NUMBER |
| Valley Paving | | Ric Young | 750 |
| MIX DESIGN NO. | JMF MAX SPECIFIC GRAVITY | PYCNOMETER | MIX NOMINAL SIZE |
| B01396 | 2.412 | MTI #1 | 12.5mm |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | DATE 11/7/03 | DATE | DATE | DATE | DATE |
| | | TIME 12:30pm | TIME | TIME | TIME | TIME |
| | | LOT & SUBLOT 1-/ | LOT & SUBLOT | LOT & SUBLOT | LOT & SUBLOT | LOT & SUBLOT |
| 1 | PYCNOMETER + LID + MIX | 4716.3 | | | | |
| 2 | PYCNOMETER + LID | 2999.2 | | | | |
| A | MASS OF DRY SAMPLE (1 - 2) | 1717.1 | | | | |
| A SSD | MASS OF SSD SAMPLE (uncoated porous agg.) | | | | | |
| D | PYCNOMETER + LID + WATER | 7375.6 | | | | |
| E | PYCNOMETER + LID + WATER + MIX | 8384.5 | | | | |
| G | MSG ( pre) = A / (A + D - E) | 2.425 | | | | |
| H | MSG SSD =A/(A SSD + D - E) (uncoated porous agg.) | | | | | |
| I | **MAXIMUM DENSITY = G or H X 1000** | 2425 | | | | |
| J | THE PREVIOUS MAMD | 2412 | | | | |
| K | THE DIFFERANCE BETWEEN I & J | 13 | | | | |
| | THE MOVING AVERAGE MAXIMUM DENSITY **(MAMD)** | **2419** | | | | |

| MDT'S Previous Form | |
|---|---|
| TEST NO | MDT |
| | |
| | |
| | |
| | |
| | |

REMARKS

| X | QUALITY CONTROL | | VERIFICATION | | INDEPENDENT ASSURANCE | |
|---|---|---|---|---|---|---|
| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | | | | | COMPANY NAME | SIGNATURE / DATE |
| Rodney Roberts # 42860 | | | | | Materials Testing & Inspect | 11-7-03 |

2050 9-02

DEVELOPMENT OF ROLLER PATTERN

# CONTROL STRIP METHOD OF COMPACTION TESTING

| | | | | | |
|---|---|---|---|---|---|
| PROJECT NAME (SECTION) | Snake River (nyssa) Bridge Section | | | | CONTRACT NUMBER 12770 |
| CONTRACTOR OR SUPPLIER | Valley Paving | | PROJECT MANAGER | Ric Young | BID ITEM NUMBER 750 |
| MIX DESIGN NO. B10396 | JMF PLACEMENT TEMP °C 138-148 | LIFT THICKNESS 50mm | TYPE GAUGE-SERIAL NUMBER | Troxler 3430 #23250 | MIX NOMINAL SIZE 12.5 mm- 0 mm |
| MEASURED PLACEMENT TEMP °C 145.8 | PANEL WIDTH 4 m | | CONTROL STRIP NO. | LOT-SUBLOT P*1 | LIFT 2 / DATE 7-Nov |

| ROLLER TYPE AND DESCRIPTION (MANUFACTURER, WEIGHT, ETC) | | CODES FOR ROLLER TYPES |
|---|---|---|
| BREAKDOWN | Caterpillar CB - 534 DDV | P - PNEUMATIC |
| INTERMEDIATE | Caterpillar CB - 534 DDV | TS - TANDEM STEEL |
| FINISH | Caterpillar RL - 5 DDV | 3WS - THREE WHEEL STEEL<br>SDV-SINGLE DRUM VIBRATORY<br>DDV-DOUBLE DRUM VIBRATORY |

**NOTE: LENGTH OF CONTROL STRIP IS ALWAYS THE LENGTH OF CONTRACTOR'S ROLLING PATTERN** (MAXIMUM 150m)

DENSITY TEST CANNOT BE TAKEN BEHIND PNEUMATIC ROLLER WHEN USED IN THE BREAKDOWN POSITION.

INDICATE IF VIBRATION USED AND DIRECTION BY CIRCLING (F) FORWARD OR (B) BACK.

| ROLLER → | CB-534 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PASSES ↓ | MIX TEMP °C | DENSITY | MIX TEMP °C | DENSITY | MIX TEMP °C | DENSITY | MIX TEMP °C | DENSITY |
| 1 | 130.2 | 2033 ✓ F B | 118.5 | 2192 ✓ F B | 103.3 | 2121 S F B | 95.5 | 2195 S F B |
| 2 | 128.6 | 2099 ✓ F B | 115.2 | 2167 ✓ F B | 101.9 | 2187 S F B | 93.6 | 2203 S F B |
| 3 | 125.9 | 2125 ✓ F B | 108.1 | 2098 ✓ F B | 100.3 | 2169 S F B | 91.4 | 2234 S F B |
| 4 | 123.6 | 2163 ✓ F B | 106.9 | 2115 S F B | 98.5 | 2176 S F B | 89.8 | 2221 S F B |

"INITIAL POINT" (SANDED) DENSITY READING 1 [ ] kg/m³ 2 [ ] kg/m³ AVE = **A** = [ ] kg/m³

NOTE: IF A IS LESS THAN C, MOVE AHEAD, CHANGE ROLLING PATTERN AND START OVER.

| | | 0.3 m from LEFT | MIDPOINT LEFT | CENTER | MIDPOINT RIGHT | 0.3 m from RIGHT |
|---|---|---|---|---|---|---|
| | STATION | | | | | |
| 1 | DENSITY kg/m³ 1 | | | | | |
| 2 | DENSITY kg/m³ 2 | | | | | |
| 3 | AVERAGE DENSITY (DENS 1+ DENS 2) / 2 | | | | | |
| 4 | % COMPACTION DENSITY / MAMD | | | | | |

TARGET AVE = **B1** = [ ] kg/m³

AVE = **B2** = [ ] %

**Note:** If any single value in row 4 is above 95% of **MAMD** contact the Project Manager

MAMD [ ] kg/m³ **X** PERCENT COMPACTION REQUIRED [ ] % = **C** = [ ] kg/m³

| REMARKS | CONTROL STRIP IS VALID ONLY IF: | YES | NO |
|---|---|---|---|
| | **1. B1** is => **C** | ☐ | ☐ |
| | **2.** Individual Results in Row 4 are all within ± 1.5% of **B2** | ☐ | ☐ |

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Randy G. Crum #43262 | Materials Testing & Inspec | Randy | 11/7/03 |

2084 9-02

# NUCLEAR COMPACTION TEST REPORT FOR HMAC

| PROJECT NAME (SECTION) | | | | | CONTRACT NUMBER |
|---|---|---|---|---|---|
| Snake River (nyssa) Bridge Section | | | | | 12770 |
| CONTRACTOR OR SUPPLIER | | | PROJECT MANAGER | | BID ITEM NUMBER |
| Valley Paving | | | RIC YOUNG | | 750 |
| MIX DESIGN NO. | JMF PLACEMENT TEMP °C | LIFT THICKNESS | TYPE GAUGE-SERIAL NUMBER | | MIX NOMINAL SIZE |
| B01396 | 138 -148 | 50 mm | TROXLER 3430 23250 | | 12.5mm -0mm |

| MEASURED PLACEMENT TEMP °C | PANEL WIDTH | CONTROL STRIP NO. | LOT-SUBLOT | LIFT | DATE |
|---|---|---|---|---|---|
| 148.4 | 4 m | | 1*1 | 1 | 11/8/03 |

| ROLLER TYPE AND DESCRIPTION ( MANUFACTURE, WEIGHT, ETC) | | CODES FOR ROLLER TYPES |
|---|---|---|
| BREAKDOWN | CAT CB-534 DDV | P - PNEUMATIC |
| INTERMEDIATE | CAT CB-534 DDV | TS - TANDEM STEEL |
| FINISH | Cat RL-5 DDV | 3WS - THREE WHEEL STEEL<br>SDV-SINGLE DRUM VIBRATORY<br>DDV-DOUBLE DRUM VIBRATORY |

| TEST NUMBER | | 1*1*1 | 1*1*2 | 1*1*3 | 1*1*4 | 1*1*5 |
|---|---|---|---|---|---|---|
| DATE OF TEST | | 11/7/03 | 11/7/03 | 11/8/03 | 11/8/03 | 11/8/03 |
| TEST LOCATION (STATION) | | 0+428 | 5+030 | 0+793 | 0+863 | 0+975 |
| DISTANCE LT. OR RT. OF CENTERLINE (METERS) | | 4.5 m lt | 5.5 m lt | 5 m lt | 5.5 m lt | 6 m lt |
| LIFT / DIST BELOW GRADE / LIFT THICKNESS | | 1/100/50 | 1/100/50 | 1/100/50 | 1/100/50 | 1/100/50 |
| DENSITY kg/m³ | 1 | 2216 | 2229 | 2236 | 2216 | 2216 |
| Max difference between shots 40 kg/m³ | 2 | 2245 | 2238 | 2226 | 2226 | 2232 |
| AVERAGE DENSITY (LINE 1 + LINE 2) / 2 | 3 | 2231 | 2234 | 2231 | 2221 | 2224 |
| CORE TO NUCLEAR CORRELATION LINE 3 X | 4 | | | | | |
| MAMD TARGET DENSITY kg/m³ | 5 | 2419 | 2419 | 2422 | 2422 | 2422 |
| % COMPACTION FOR INDIVIDUAL TESTS (LINE 3 OR 4 / LINE 5) X 100 | 6 | 92.2% | 92.4% | 92.1% | 91.7% | 91.8% |
| SUBLOT OR SECTION LINE 6 AVERAGE % REQUIRED | 91 | 92.0% | | | | |

REMARKS

sta.0+525 to 0+370, 3.5 m lt to 7.5 m lt, N-line 5+006 to 5+036.507, Eric Knapp ODOT QCCS requested that a density shot be taken on N line. A change in rollers on the breakdown was his reason for this request. Sta. 0+750 to 1+016.314, from 3.5 m lt to 7.5 m lt.

X QUALITY CONTROL ☐ VERIFICATION

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Randy G. Crum #43262 | Materials Testing & Inspect | Randy G. Crum | 11-7-03 |

1793 A 9-01

# VOIDS WORKSHEET GYRATORY

| | | | | | | |
|---|---|---|---|---|---|---|
| PROJECT NAME (SECTION) SNAKE R. (NYSSA) BR. | | | | | | CONTRACT NUMBER 12770 |
| CONTRACTOR OR SUPPLIER F.E. WARD | | | PROJECT MANAGER RK YOUNG | | | B/D ITEM NUMBER 750 |
| MIX DESIGN NO. 03-MD56 | DESIGN Gsb 2.562 | DESIGN GMM 2.412 | DESIGN VMA 14.6 | DESIGN VOIDS 4.1 | DESIGN ASPHALT % 5.40 | MATERIAL TYPE LEVEL 3 12.5mm DENSE |
| COMPACTOR MAKE BROVOLD | SERIAL NUMBER R-5 | AC SUPPLIER IDAHO ASPHALT | | GRADE PG 70-28 | | PLACEMENT TEMP RANGE 138-148 |

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | VMA | VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| 11/8/03 | V-1 | 5.34 | 2.419 | 2.296 | 5.1 | 15.2 | 66.4 | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/B-C |
|---|---|---|---|---|---|---|
| 1 | 116.31 | 100 | 4590.1 | 2605.3 | 4602.1 | 2.299 |
| 2 | 116.48 | 100 | 4587.4 | 2596.9 | 4598.5 | 2.292 |

| | |
|---|---|
| PYCNOMETER + LID + MIX | 4704.4 |
| PYCNOMETER + LID | 2983.2 |
| MASS OF DRY SAMPLE | 1721.2 |
| PYCNOMETER + LID+H2O | 7367.2 |
| PYCNOMETER+ LID+H2O+MIX | 8376.8 |
| Gmm | 2.419 |

REMARKS TIME SAMPLED: TIME COMPACTED:

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | VMA | VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/B-C |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

| | |
|---|---|
| PYCNOMETER + LID + MIX | |
| PYCNOMETER + LID | |
| MASS OF DRY SAMPLE | |
| PYCNOMETER + LID+H2O | |
| PYCNOMETER+ LID+H2O+MIX | |
| Gmm | |

REMARKS TIME SAMPLED: TIME COMPACTED:

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | VMA | VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | Gmb A/B-C |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

| | |
|---|---|
| PYCNOMETER + LID + MIX | |
| PYCNOMETER + LID | |
| MASS OF DRY SAMPLE | |
| PYCNOMETER + LID+H2O | |
| PYCNOMETER+ LID+H2O+MIX | |
| Gmm | |

REMARKS TIME SAMPLED: TIME COMPACTED:

| Previous Forms Results | | | |
|---|---|---|---|
| Test # | Voids | VMA | VFA |
| | | | |
| | | | |
| | | | |

REMARKS

☐ QUALITY CONTROL ☑ VERIFICATION

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| MARK SANGER 865 | R-5 QA | Mark Sanger | 11/8/03 |

2050 GV 9-01

# VOIDS WORKSHEET GYRATORY

| PROJECT NAME (SECTION) | | | | | | CONTRACT NUMBER |
|---|---|---|---|---|---|---|
| Snake River (Nyssa) Bridge Section | | | | | | 12770 |
| CONTRACTOR OR SUPPLIER | | | PROJECT MANAGER | | | BID ITEM NUMBER |
| Valley Paving | | | Ric Young | | | 750 |
| MIX DESIGN NO. | DESIGN Gsb | DESIGN GMM | DESIGN VMA | DESIGN VOIDS | DESIGN ASPHALT % | MATERIAL TYPE |
| B01396 | 2.562 | 2.412 | 14.6 | 4.1 | 5.4 | 12.5.0 HMAC |
| COMPACTOR MAKE | SERIAL NUMBER | AC SUPPLIER | GRADE | | | PLACEMENT TEMP RANGE |
| Pine | 1675 | Idaho Asphalt | PG-70-28 | | | 138-148 |

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| 11/7/03 | ~~Startup~~ 1/2 | 5.54 | 2.425 | 2.337 | 3.6 | 13.8 | 73.8 | | | |

**Gmb**

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | A / B-C | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | PYCNOMETER + LID + MIX | 4716.3 |
| | | | | | | | PYCNOMETER + LID | 2999.2 |
| 1 | 114.7 | 100 | 4600.5 | 2646.6 | 4616.3 | 2.336 | MASS OF DRY SAMPLE | 1717.1 |
| 2 | 113.5 | 100 | 4606.1 | 2651.8 | 4621.9 | 2.338 | PYCNOMETER + LID+H2O | 7375.6 |
| | | | | | | | PYCNOMETER+ LID+H2O+MIX | 8384.5 |
| | | | | | | | Gmm | 2.425 |

REMARKS TIME SAMPLED: 12:30pm TIME COMPACTED: 3:00pm

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| 11/8/03 | Ver 1 | 5.28 | 2.428 | 2.314 | 4.7 | 14.4 | 67.6 | 4.2 | 14.1 | 70.7 |

**Gmb**

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | A / B-C | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | PYCNOMETER + LID + MIX | 5099.9 |
| | | | | | | | PYCNOMETER + LID | 2999.2 |
| 1 | 114.8 | 100 | 4556.8 | 2594.0 | 4563.9 | 2.313 | MASS OF DRY SAMPLE | 2100.7 |
| 2 | 115.2 | 100 | 4586.0 | 2611.0 | 4591.4 | 2.316 | PYCNOMETER + LID+H2O | 7375.6 |
| | | | | | | | PYCNOMETER+ LID+H2O+MIX | 8611.1 |
| | | | | | | | Gmm | 2.428 |

REMARKS TIME SAMPLED: 11:30am TIME COMPACTED: 4:15pm

| DATE | TEST NUMBER | TEST % AC | Gmm | Gmb(Average) | VOIDS | VMA | VFA | RUNNING AVERAGE VOIDS | RUNNING AVERAGE VMA | RUNNING AVERAGE VFA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

**Gmb**

| TEST | specimen height | NUMBER GYRATIONS | (A) MASS IN AIR | (C) MASS IN WATER | (B) MASS SSD | A / B-C | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | PYCNOMETER + LID + MIX | |
| | | | | | | | PYCNOMETER + LID | |
| | | | | | | | MASS OF DRY SAMPLE | |
| | | | | | | | PYCNOMETER + LID+H2O | |
| | | | | | | | PYCNOMETER+ LID+H2O+MIX | |
| | | | | | | | Gmm | |

REMARKS TIME SAMPLED: TIME COMPACTED:

| Previous Forms Results | | | |
|---|---|---|---|
| Test # | Voids | VMA | VFA |
| | | | |
| | | | |
| | | | |

REMARKS

Verification sample was held for 2 hours before curing to enable ODOT QA to return to LaGrande.

.Startup sample was tested by Rodney Roberts # 42860

[X] QUALITY CONTROL [ ] VERIFICATION

| CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Charles D Walker # 2738 | Materials Testing & Inspect | Charles D. Walker | 11/8/03 |

2050 GV 9-01

# NUCLEAR COMPACTION TEST REPORT FOR HMAC

| | | | | | | |
|---|---|---|---|---|---|---|
| PROJECT NAME (SECTION) | Snake River (nyssa) Bridge Section | | | | | CONTRACT NUMBER 12770 |
| CONTRACTOR OR SUPPLIER | Valley Paving | | PROJECT MANAGER | RIC YOUNG | | BID ITEM NUMBER 750 |
| MIX DESIGN NO. B01396 | JMF PLACEMENT TEMP °C 138 -148 | LIFT THICKNESS 50 mm | TYPE GAUGE-SERIAL NUMBER | TROXLER 3430 23250 | | MIX NOMINAL SIZE 12.5mm -0mm |
| MEASURED PLACEMENT TEMP °C 145.8 | PANEL WIDTH 4 m | | CONTROL STRIP NO. | LOT-SUBLOT 2*1 | LIFT 2 | DATE 11/8/03 |

| ROLLER TYPE AND DESCRIPTION (MANUFACTURE, WEIGHT, ETC) | |
|---|---|
| BREAKDOWN | CAT CB-534 DDV |
| INTERMEDIATE | CAT CB-534 DDV |
| FINISH | Cat RL-5 DDV |

CODES FOR ROLLER TYPES
P - PNEUMATIC
TS - TANDEM STEEL
3WS - THREE WHEEL STEEL
SDV-SINGLE DRUM VIBRATORY
DDV-DOUBLE DRUM VIBRATORY

| TEST NUMBER | | 2*1*1 | 2*1*2 | 2*1*3 | 2*1*4 | 2*1*5 |
|---|---|---|---|---|---|---|
| DATE OF TEST | | 11/7/03 | 11/7/03 | 11/8/03 | 11/8/03 | 11/8/03 |
| TEST LOCATION (STATION) | | 0+496 | 0+383 | 0+793 | 0+863 | 0+975 |
| DISTANCE LT. OR RT. OF CENTERLINE (METERS) | | 5 m lt | 6 m lt | 4.5 m lt | 5.5 m lt | 6 m lt |
| LIFT / DIST BELOW GRADE / LIFT THICKNESS | | 2/50/50 | 2/50/50 | 2/50/50 | 2/50/50 | 2/50/50 |
| DENSITY kg/m³ | 1 | 2263 | 2253 | 2228 | 2249 | 2269 |
| Max difference between shots 40 kg/m³ | 2 | 2243 | 2247 | 2223 | 2235 | 2271 |
| AVERAGE DENSITY (LINE 1 + LINE 2) / 2 | 3 | 2253 | 2250 | 2226 | 2242 | 2270 |
| CORE TO NUCLEAR CORRELATION LINE 3 X | 4 | | | | | |
| MAMD TARGET DENSITY kg/m³ | 5 | 2419 | 2419 | 2422 | 2422 | 2422 |
| % COMPACTION FOR INDIVIDUAL TESTS (LINE 3 OR 4 / LINE 5) X 100 | 6 | 93.1% | 93.0% | 91.9% | 92.6% | 93.7% |
| SUBLOT OR SECTION LINE 6 AVERAGE / % REQUIRED 92 | | 92.9% | | | | |

REMARKS

sta.0+525 to 0+370, 3.5 m lt to 7.5 m lt, N-line 5+006 to 5+036.507, Eric Knapp ODOT QCCS requested that a density shot be taken on N line. A change in rollers on the breakdown was his reason for this request. Sta. 0+750 to 1+016.314, from 3.5 m lt to 7.5 m lt.

[X] QUALITY CONTROL [ ] VERIFICATION

| CERTIFIED TECHNICAN (PLEASE PRINT) AND CARD NUMBER | COMPANY NAME | SIGNATURE | DATE |
|---|---|---|---|
| Randy G. Crum #43262 | Materials Testing & Inspect | Randy G. Crum | 11/8/03 |

1793 A 9-01

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**was intentionally**

**left blank.**