

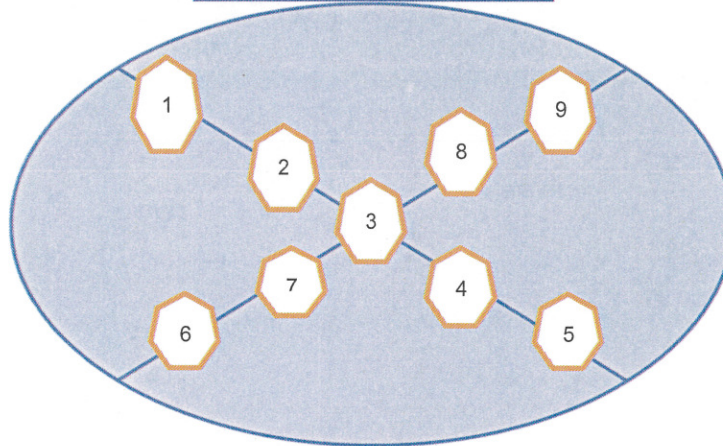
Optional Sampling Method – Sampling from Stockpile after Back-dragging with a Loader

Note: If utilizing this method, ensure that it is included in your 1069 Quality Control/ Quality Assurance plan and approved by ODOT

- 1.0 PURPOSE/SCOPE
 - 1.1. To obtain representative samples that conform to ODOT 1069 or other state agency or customer requirements
 - 1.2. To obtain a representative sample that establishes the variation within aggregate production
- 2.0 APPLICATION
 - 2.1. Plants or load-out yards that include this back-dragging as an acceptable procedure in the QC/QA Plan
- 3.0 ASSOCIATED MATERIALS/EQUIPMENT
 - 3.1. ODOT 1069 Quality Control Plan or other state agency QCP for the individual plant
 - 3.2. ODOT Supplement 1004.03 Chart or other state agency requirements – (sample size)
 - 3.3. Bucket or buckets large enough to hold appropriate amount of aggregate
 - 3.4. Shovel appropriate to satisfy standard method of test (AASHTO T 2-91)
 - 3.5. Sampling tube for fine aggregate samples
- 4.0 STANDARD PROCEDURE
 - 4.1. Samples shall be obtained from stockpiles of representative material. Based on the facilities Quality Control Plan (QCP), an alternate method of sample stockpile preparation can be used to more closely mirror production samples if a need surfaces based on production sample results.
 - 4.2. Loader Operators are to assist a Level 1 or Level 2 or appropriately trained employee in preparing a test sample stockpile that is representative of the material within the main stockpile
 - 4.2.1. Main stockpile is to be opened up at right angles (90°) to the production stream or flow of material from the belt by the Loader Operator in order to expose sufficient face to identify stockpile variation
 - 4.2.2. Loader Operator is to obtain a minimum of three loader buckets of material from three separate locations using the “Front, Middle, Back” procedure as specified in Aggregate Level I training. Material should be dumped out of the loader bucket in a clean level area adjacent to the main stockpile by rolling the material out of the bucket onto the surface. Material should not be dropped out of the loader bucket at an excessive height.
 - 4.2.2.1. If Level 1 or Level 2 employee or the Loader Operator determines greater variation may be present in the main stockpile by visual examination of the main stockpile, more than three loader buckets may need to be pulled to get a representative test sample stockpile
 - 4.2.3. Test sample stockpile shall be mixed by the Loader Operator approaching test sample stockpile from each end, keeping bucket just above hard surface, moving material into bucket, lifting material and rolling material out of bucket. Loader Operator should then do the same from the side of the test sample stockpile

- 4.2.3.1. If Level 1 or Level 2 employee or the Loader Operator determines greater variation may be present in the test sample stockpile by visual examination of the stockpile, the test sample stockpile should be re-mixed again to get a consistent test stockpile
- 4.3. Once test sample stockpile is adequately mixed, the test stockpile may be struck-off or back-dragged and leveled off by;
 - 4.3.1. Gently dragging the loader bucket across the sample stockpile utilizing the front edge, or "lip" of the loader bucket. Pile should be struck or back-dragged so pile remains from two (2) to four (4) ft. high across the majority of the back- dragged pile.
- 4.4. Sample should be taken on the top of the pile with a shovel, using an "X" pattern (see suggested pattern below).
- 4.5. Obtain multiple samples utilizing the "X" pattern. Obtain enough samples to satisfy weight requirements of ODOT Supplement 1004 (below)
- 4.6. Sampling shovel should be inserted vertically into the top of the pile then gently tilted and lifted from the pile to prevent loss of material.
- 4.7. The material should be identified and tagged (as per manual) and delivered to appropriate test area for analysis.

Suggested Sampling Pattern



**ODOT SUPPLEMENT 1004
SAMPLE SIZE/WEIGHT – AGGREGATE TESTS
1004.03 Samples – Points A, B, and C**

ODOT Standard Aggregate Size	Minimum Weight of Raw Sample (LBS)	Minimum Weight of Raw Sample (Kg)	Number of Splits To Obtain Portion For Test	Minimum Weight of Sample to Be Tested After Splitting (LBS)	Minimum Weight of Sample to Be Tested After Splitting (Kg)
1's	100	45	0	100	45
2's and 24's	100	45	0	77	45
3's, 357's	100	45	1	44	20
4's and 467's	66	30	1	33	15
5's, 56's and 57's	66	30	1	22	10
6's, 67's and 68's	66	30	2	11	5
7's, 78's, 8's and 89's	66	30	3	7.7	3.5
9's and 10's	22	10	4	1.1	500g
703.05	22	10	4	1.1	500g
703.10	22	10	4	1.1	500g
304	70	32	1	35	16
411	70	32	1	35	16

The portion of fine aggregate for sieve analysis shall weigh, after drying, approximately 500 grams (1.1 pounds) and shall be weighed to the nearest .1 gram (.0022 pounds)

The portion of coarse aggregate for test shall be weighed to the nearest 10 grams (.22 pounds) on the larger balance except for the No. 9 and 10 standard sizes which shall be weighed to 1 gram (.0022 pounds) on the smaller balance

NOTE: All portions to be tested for sieve analysis shall be obtained by the use of a sample splitter

NOTE 2: Fine aggregates shall be thoroughly mixed and in a moist condition prior to splitting

NOTE 3: Trying to select a portion of a test to an exact predetermined weight shall not be attempted