

STATE OF OHIO
OFFICE OF THE INSPECTOR GENERAL

RANDALL J. MEYER, INSPECTOR GENERAL

REPORT OF
INVESTIGATION



AGENCY: OHIO DEPARTMENT OF TRANSPORTATION
FILE ID NO.: 2015-CA00021
DATE OF REPORT: JULY 27, 2017

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Randall J. Meyer
Ohio Inspector General



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REPORT OF INVESTIGATION

FILE ID NUMBER: 2015-CA00021

SUBJECT NAME: Ohio Department of Transportation
Division of Materials Management

POSITION: ODOT Highway Technicians Assigned to 448
Asphalt Concrete Testing

AGENCY: Ohio Department of Transportation
Division of Materials Management
1980 West Broad Street
Columbus, Ohio 43223

BASIS FOR INVESTIGATION: Agency Referral

ALLEGATIONS: Falsification of Asphalt Test Documents

INITIATED: April 27, 2015

DATE OF REPORT: July 27, 2017

INITIAL ALLEGATION AND COMPLAINT SUMMARY

On April 21, 2015, the Office of the Ohio Inspector General received notification from John Shore, chief investigator of the Ohio Department of Transportation (ODOT), Office of Investigative Services (OIS) concerning suspected falsification of documents related to 448¹ asphalt concrete testing. Shore provided information that indicated ODOT employees in districts 8 and 11 had obtained a demonstrated pattern of results that were statistically improbable for 448 asphalt concrete tests. Michael Green, an engineer in the Division of Materials Management in ODOT District 6, identified the statistically impossible results. Green compiled and conducted a statistical analysis of the asphalt testing results for the 2014 statewide paving season and forwarded the results of his analysis to ODOT management, who subsequently forwarded the information to the Office of the Ohio Inspector General for review.

The Office of the Ohio Inspector General opened an investigation on April 27, 2015.

BACKGROUND

Ohio Department of Transportation

The Ohio Department of Transportation (ODOT) is responsible for maintaining the state's system of highways, as well as overseeing the state's rail, aviation, and public transportation systems. The department has 12 districts along with a central office located in Columbus, Ohio. The director, who serves as the agency's chief executive officer, is appointed by the governor and confirmed by the Ohio Senate. The majority of ODOT's funding comes from federal and state taxes on motor fuels.²

The Ohio General Assembly enacted Ohio Revised Code §121.51, effective July 3, 2007, which created the deputy inspector general for the Ohio Department of Transportation. This statute designated this deputy inspector general "... shall investigate all wrongful acts or omissions that have been committed or are being committed by employees of the department" and provides the deputy inspector general the same powers and duties regarding matters concerning the

¹ 448 – A particular type of asphalt binder mix.

² Source: Biennial budget documents.

department as those specified in sections 121.42, 121.43, and 121.45 of the Ohio Revised Code for matters involving ODOT.

Applicable Rules, Policies, and Procedures

ODOT Policy 15-008, and an April 7, 2011, memorandum from the chief counsel, Governor's Office, Subject: "*Policy and Procedures for Notification of Suspected Illegal or Improper Activity within State Departments and Agencies.*"

ODOT Policy 15-008 ([Exhibit 1](#)) states in part, that,

All managers, administrators, labor relations officers, and deputy directors of a district or Central Office division must report suspected illegal activity or wrongdoing. Managers, administrators, labor relations officers and deputy directors shall contact the Office of Investigative Services within the Division of Chief Legal prior to initiating any type of inquiry or investigation.

The policy further specifies that the terms "illegal activity" and "wrongdoing" include, but are not limited to, a list of 10 activities identified in the policy. "Falsification" is listed as number six. The procedure requires immediate notification of the chief legal counsel for the department and/or the department director. The chief legal counsel for the department and/or the department director shall promptly provide the information to the chief legal counsel for the governor, the State Highway Patrol Office of Investigative Services, and the Office of the Ohio Inspector General.

INVESTIGATIVE SUMMARY

On April 27, 2015, the Office of the Ohio Inspector General opened an investigation into the possible falsification of 448 asphalt sieve test³ results conducted by ODOT lab personnel. ODOT OIS Chief Investigator Shore said he became aware of the problem of possible falsification of 448 test results after receiving an inquiry from the ODOT Human Resources section on April 14, 2016. ODOT Human Resources Director Nick Nicholson had received a Personnel Action Request to demote a District 11 testing laboratory employee because of

³ Asphalt sieve tests involve placing asphalt aggregate in a shaker and then weighing the contents in sieve pans.

possible falsification of 448 test documents. Shore noted that on April 20, 2015, he contacted ODOT Transportation Engineer 5 Lisa Zigmund and discovered that the information on the possible falsification of the 448 test results had been provided to all ODOT district deputy directors and testing managers in February 2015. Shore added that he discovered there were meetings conducted regarding the matter with ODOT Assistant Director James Barna, other senior management, and the U.S. Department of Transportation, Federal Highway Administration. Shore said he then completed an incident report and forwarded it and the 2014 test analysis spreadsheet prepared by ODOT Transportation Engineer 4 Michael Green to the Office of the Ohio Inspector General.

On June 17, 2005, the Office of the Ohio Inspector General interviewed ODOT Transportation Engineer 5 Lisa Zigmund. Zigmund informed investigators that she is the administrator of the ODOT Office of Materials Management and has been employed with ODOT for nearly 28 years. Zigmund stated that she is responsible for the Central Office test lab and the integrity of the asphalt testing program. Zigmund noted to investigators that she does not supervise the district testing staff and they do not work for her directly.

Zigmund stated that the problem with 448 test results was initially discovered during the 2014 paving season when Transportation Engineer 4 Marla Penza, the district engineer of tests (DET) in District 4, noticed a pattern of repeating number results with 448 tests performed by an employee from Shelly and Sands, a company contracted by ODOT. After Penza spoke with Zigmund and Transportation Engineer 4 Dave Powers at the ODOT Central Test Lab, Zigmund said that Penza brought the problem to the attention of the quality control manager for Shelly and Sands who subsequently terminated the employee.

Zigmund told investigators that after the problem with the 448 test results was identified, the matter was also discussed at a DET meeting in the spring of 2014. Michael Green was in attendance at this DET meeting. During the meeting, Green expressed concern about the matter. At the end of the 2014 paving season, Green analyzed the 448 test data obtained for ODOT District 6 and discovered a pattern of statistically improbable test results that indicated ODOT

employees were not completing tests or were back calculating⁴ test results. Zigmund said Green then completed an analysis of 448 tests conducted for all 12 ODOT districts, using the 2014 paving season data available in Site Manager.⁵

Zigmund explained to investigators the difference between quality assurance (QA) testing of asphalt concrete mix that is performed by ODOT, and quality control (QC) testing of asphalt concrete mix, which is performed by the contractor. To complete the ODOT QA test, an ODOT employee obtains a sample of asphalt from the designated asphalt plant and splits it between ODOT and the contractor for separate testing. Zigmund noted that the range of test results that are deemed acceptable is very broad and there is no monetary benefit to contractors with these results. Zigmund said she believed it would be very rare for any sample of asphalt to fail the 448 sieve test. Zigmund stated that the ODOT QA test minimum is one asphalt concrete mix sample for every four samples generated at the paving site or plant, and the contractor's QC test minimum is one sample of asphalt concrete mix per day. Zigmund added that asphalt testing is conducted continuously during the ODOT paving season.

Zigmund told investigators that she became aware of Green's analysis in the fall of 2014. In early 2015, the DETs from all ODOT district offices were shown Green's data, and they evaluated various causes and decided to look closely at the contractors' and ODOT employees' tests results. Concerning the matter of the questionable test results performed by ODOT employees, Zigmund told investigators that some DETs thought the employees were negligent, while other DETs believed the employees were having difficulty keeping up with their workloads.

Zigmund noted to investigators that the U.S. Department of Transportation, Federal Highway Works Administration (FHWA) approved the ODOT QA and QC programs. When the 448 asphalt testing problem was discovered, Zigmund discussed the matter with her supervisor, Deputy Director 6 Brad Jones, and the decision was made to share the information concerning

⁴ In the context of this report, "back calculating" is a means to determine a desired result by selectively using previous calculations to validate that desired result.

⁵ Site Manager is a project management software application used by ODOT.

the problem with the FHWA. Zigmund said Jason Spilak from FHWA reviewed the data and the FHWA had determined it would allow ODOT to address the issue, while the FHWA would monitor the problem for the upcoming paving year and would re-evaluate the program at a later date.

Investigators asked Zigmund about her inter-office memos ([Exhibit 2](#)) sent to management that used the terms “falsification, fudged and forgery.” Zigmund said that when the asphalt testing issues first became apparent, that is what ODOT officials believed. Zigmund noted to investigators that none of the testing employees worked for her, and her responsibility is to administer the QA and QC testing program. She did not believe she should be involved in labor management issues. Zigmund said no one admitted cheating to her, and no one reported to her that they had witnessed any wrongdoing. Zigmund said she noted in her inter-office memos that the DETs should “... handle it at your district.”

Investigators asked Zigmund why the ODOT policy for reporting wrongdoing was not followed concerning possible “falsification” of data. Zigmund said the ODOT director was concerned about a coring case that was quickly forwarded to the Office of the Ohio Inspector General a couple years prior and had “... caused a very touchy situation with contractors. The director did not like that that we went right to the IG’s [Office of the Ohio Inspector General].” Zigmund said, “In this instance, I was more cautious. I didn’t want the director being upset that we went right to the IG’s before total investigation.”

On August 18, 2015, the Office of the Ohio Inspector General interviewed ODOT Transportation Engineer 4 Michael Green. Green stated he has been employed with ODOT for approximately 24 years and is assigned to District 6 testing. Green added that he has been involved with asphalt testing for nearly 20 years.

Green told investigators that he first became aware about a problem with the 448 test data in ODOT District 4 in the spring of 2014. He indicated that the problem involved a contractor technician who ODOT believed might be fabricating test result numbers. Green said that he decided to review his District 6 data at the end of the 2014 asphalt paving season. After he reviewed the District 6 data, Green said he decided to examine the 2014 paving season test data

for all 12 ODOT districts. Green said that once he analyzed the test data for all 12 districts, he worked with others to calculate approximate odds of manipulation for each set of the 448 asphalt test results, and created a spreadsheet. ([Exhibit 2](#))

Green noted that he does not regularly perform asphalt testing, and told investigators it is generally completed by technicians in the laboratory. However, Green added that he is familiar with the process. Green said that as part of the Quality Control (QC) process, contractors test the asphalt concrete mixes being used every day; while ODOT, at a minimum, spot checks for Quality Assurance (QA) by testing one asphalt sample for every four samples generated. Green said ODOT provides contractors with the specifications book containing all the guidelines for asphalt concrete testing, and contractors forward their test results to ODOT technicians for each job mix. Green told investigators that ODOT technicians pick up from the asphalt plant the split of the sample and the contractor's results from their QC testing. The ODOT technicians then enter the data into Site Manager.

Green told investigators that when a project is approved and an asphalt concrete mix is specified for the job by ODOT, the job is assigned an identifying number that follows the samples to be tested and provides the percentage of different size aggregates according to the 2013 specification book. A 448 aggregate sieve test is run for every quarter lot, which is a sub-lot weighing 750 tons.

Green told investigators that ODOT employees performing asphalt testing are required to have a level 2 certification and be recertified every five years. Green noted that many ODOT employees performing asphalt testing have level 3 asphalt training certification. Green stated that all ODOT testing data is entered into Site Manager. Not all of the contractors' test data generated is consistently entered into Site Manager, but the paper forms are retained and added to the project file.

Green noted to investigators that a 446 asphalt mix that fails testing may result in a decrease in pay factor⁶ for the contractor. However, 448 asphalt that fails testing has virtually no monetary impact for the contractor and is rarely a disincentive. Green said that ODOT management's initial thoughts concerning the issues with the asphalt mix testing were that ODOT had a problem with the contractors who were performing 448 asphalt testing. Green told investigators that it was during his examination of the data from Site Manager that ODOT managers discovered there was a problem with some ODOT testing laboratory staff.

When asked by investigators how some test results were so statistically improbable, Green speculated that either the test was not performed or the test numbers were changed to pass the sample. Green could not provide any specific information about changed or falsified data but did provide a summary explanation of his statistical analysis process. [\(Exhibit 3\)](#) Green stated that all of his results were solely the product of statistical analysis of data in Site Manager.

Green indicated that he met with the DETs from the 12 ODOT districts in February 2015 and shared the results of his analysis. Green said that he and Zigmund met with the contractor testing managers about the potential problem sometime around February 2, 2015. Green stated that on February 17, 2015, he attended a meeting to explain his findings with ODOT Assistant Director Barna, Deputy Director Jones, and ODOT engineers Powers and Zigmund. Green told investigators that prior to the meeting, he met at the Central Office test lab with Jason Spilak and Spilak's boss from the USDOT FHWA to present his findings. Green recalled that Jones, Zigmund, and Powers were also in attendance at this meeting. Green told investigators that changes to the monitoring of the testing process and data were made, and that USDOT FHWA agreed to monitor the situation for the 2015 paving season. Green stated that he would provide a copy of the 2015 448 asphalt testing data analysis to the Office of the Ohio Inspector General.

On February 2, 2016, the Office of the Ohio Inspector General interviewed ODOT Transportation Manager 3 Bryan Lehigh who supervises the District 11 testing laboratory. Lehigh described the asphalt gradation testing process for 448 asphalt concrete in District 11. He

⁶ Pay factor is the percentage of the contract amount to be paid, per ton, for each approved section of asphalt placed. Asphalt testing within specifications has a pay factor of 1.0.

stated that approximately 25 percent of samples taken from each 3,000-ton lot are tested and samples are obtained, one from each 750-ton sub-lot. Lehigh said that the samples are taken from both the roadway during paving and the asphalt plant after the trucks are loaded. Lehigh noted that the samples for two-lane roads are obtained by laying a plate on the roadway and that the paver then lays asphalt over the plate. The plate is then picked up and the sample taken to the lab. For four-lane roads, Lehigh said that samples are obtained by contractor coring.⁷

Lehigh told investigators that 448 asphalt concrete is primarily used on secondary, two-lane roads. He indicated that the issues in this matter involved 448 testing of the sub-lots. The binder content and the material gradation averages are calculated separately during testing and the pay factors for the contractors are adjusted according to tables in the ODOT Construction & Materials Specification (C&MS) book. Lehigh said that normally all four sub-lot samples must fail testing before pay factors are adjusted.

Lehigh described to investigators the laboratory process. He said it begins with a sub-lot sample pan being heated in an oven, then the sample is removed from the pan and is tested using a nuclear density gauge, which prints a ticket containing the current date, time, and result. The ticket follows the sample through the remainder of the testing process. The sample is then placed in an oven and heated until all the liquid binder is burned off. Lehigh said that the remaining aggregate is allowed to cool, then is weighed before being placed in the sieve tester. The aggregate is then shaken and the sieve (pan) for each size of aggregate is weighed and the results calculated by the tester using a calculator. Lehigh said that the results of each step are written on a paper gradation testing form then later entered into Site Manager.

Lehigh said that he was made aware of the 2014 paving season report in early 2015. Lehigh noted Zigmund had her staff conduct a review with all 12 district laboratory testing supervisors. Lehigh said that while his district had relatively moderate issues, he was concerned that some tests that were highlighted were statistically questionable. Lehigh indicated that when he began examining some of the testing sheets, some of the handwriting was not the same. Lehigh speculated that it may have been due to more than one person being involved in the testing

⁷ Coring - The act of removing a core or of a cutting from a central part. –Dictionary.com

process. He believed that a once weekly test graded for aggregate content was not being performed, “just penciled.” He had no other explanation for the results.

Lehigh told investigators he did not believe the problem was with Bart Busby, a retired, rehired test lab employee, because he believed Busby was a good employee. Lehigh indicated that his two part-time employees made a few changes to testing sheets, but nothing significant. Lehigh said that he suspected Cyril Leyda for possible back calculating, changing, or forging the 448 test data forms. Lehigh indicated that the handwriting on samples on the penciled sheets that were changed appeared to match Leyda’s handwriting.

Lehigh said that after the 2014 paving season, he reviewed the paving season report with all testing lab employees. Lehigh noted that all his staff participated in a review of the testing process and ethics training. Lehigh noted that currently, testers are required to enter data directly into Site Manager after each step of the testing has been completed, and the program performs a pass or fail calculation. Lehigh said that District 11 was the first to implement the “enter as you go” testing process. Lehigh said ODOT management continues to closely monitor the testing results and indicated there were minimal problems in the 2015 paving season.

Lehigh told investigators that he contacted Nick Nicholson, ODOT Central Office Human Resources, in April 2015 and expressed his concerns with Leyda and the “penciled” forms. Lehigh said that he recommended that Leyda, who is a highway technician 3, be demoted and removed from working in the laboratory for possible back calculating, changing, or forging the 448 test data forms. Lehigh said he did not discuss his suspicions with any of his employees except for Bart Busby. He said they both believed the penciled data was not Busby’s handwriting. He indicated that ODOT management was very open with the supervisors and he did not suspect any attempt to cover up or minimize the problem. Lehigh did say that once he reported his suspicions to human resources and the labor relations officer, he was told not to discuss the matter with his staff, due to pending disciplinary and personnel action.

On September 2, 2016, the Office of the Ohio Inspector General interviewed ODOT Highway Technician 4 Gayle Davis (Stanfield). Davis stated she has been employed with ODOT since

February 1990 and was assigned to asphalt quality control in the District 8 asphalt lab. Davis retired June 1, 2016. Davis stated she was certified in multiple areas of asphalt and concrete testing, and she described to investigators the process for sampling and testing asphalt samples. Davis indicated that she worked alone 95 percent of the time, and while she has experience in the field and working at asphalt plants, her last five years on the job were spent working in the District 8 asphalt testing laboratory. Her supervisor in the lab was Transportation Manager 3 Tommy Wallace.

Davis said she was contacted about the testing concern when she was off work from January 2015 to April 2015. Davis stated that when she returned to work, she met with ODOT managers John Muleskey and Tommy Wallace, who reviewed the 2014 testing results with her and advised her about the new procedures to be followed in the asphalt testing laboratory and how results were going to be calculated and recorded.

Davis was able to describe to investigators the steps involved in aggregate sieve testing and noted that she wrote down her results after completing each step of the testing process. When she returned to work in 2015, Davis said she was required to retain the tested aggregate samples until the results were properly entered into Site Manager and wait until she received approval to dispose of them. Davis added that she was the primary person responsible for 448 testing from 2009 until 2016.

Investigators presented to Davis some of the results from the District 8 laboratory and asked how she would backfill the numbers in the calculation for 448 tests to provide passing results. Davis said she would always refer to the number 4 sieve because it was her control sieve for most samples. Davis noted it would be more work to create the numbers to backfill what was used in the calculation than it would be to perform the actual work. Davis said that she got no benefit from having passing tests. She said her job was to perform the tests and compare her results to the results obtained by the contractor's tester for each lot tested. Davis noted she did recall a few times when the samples failed, maybe 2-3 percent of the time, and told investigators that the contractor's pay factor could be reduced. Any decisions to reduce a pay factor would need to be approved by her supervisors and the project engineer.

Davis said that the new testing procedures, entering the results on a laptop, were implemented after she returned in April 2015. She noted to investigators that she was off work again in September 2015 until her retirement on June 1, 2016, and did not perform much testing using the new procedures. Davis said she was never approached by anyone to change any test results and could provide no explanation for the statistically improbable results from her 2014 tests. Davis stated she has always completed the tests the same way and correctly. Davis was shown a spreadsheet containing red highlighted results of her tests where the probability of her obtaining the 2014 test results reported ranged from 10,000 to 1 to 1.8 billion to 1. Davis could not provide to investigators any explanation for the variance between her 2014 results and the vastly improved 2015 test results.

On January 18, 2017, the Office of the Ohio Inspector General interviewed ODOT Highway Technician 1 Bart Busby. Busby stated he retired from ODOT in 2013, but returned as a 1,000 hour-per-year temporary employee. Busby's duties are divided between asphalt testing in the summer and finalization in the non-paving season. Busby described finalization as compiling project paperwork for completed contracts in District 11. Busby noted he has over 20 years of experience performing asphalt testing with ODOT.

Busby told investigators that he was familiar with the 2014 paving season report that was shared with him by his supervisor Bryan Lehigh and knew he had some tests that were highlighted as statistically questionable. Busby indicated that on further examination, some of the writing on the testing sheets was not his and he attributes the issues to more than one person being involved in the tests. He had no other explanation for the results.

Busby described to investigators the testing process and noted that testing is completed for every paving "lot." Busby explained that a "lot" is 3,000 tons of asphalt and that four samples are obtained for testing; one from each of 750-ton batches labeled A, B, C, D for each lot number. Busby said some samples are obtained from the asphalt plants and others are obtained from the roadway during the paving operation.

Busby stated that the four samples are retained at the lab and one of the four samples is selected for testing. Busby explained that the testing process principally involves five steps. Step 1 is to heat the sample and remove it from the steel pan. During Step 2, the sample is tested for density with a nuclear density gauge. The ticket printed out from the nuclear density gauge includes the current date and time and follows the sample through the rest of the testing process. In Step 3, the asphalt binder is burned off and the remaining material is allowed to cool, which takes 3-3 1/2 hours. In step 4, once the material cools, the aggregate material is weighed. Step 5 involves placing the aggregate in the shaker and then weighing the contents of each sieve pan. The shaker testing, known as sieve analysis, takes approximately 10 minutes. Busby said that during the 2014 and earlier paving seasons, the results of each step were entered on a paper gradation form and the result calculations were completed manually, using a calculator. The final numbers, if the sample passed, were then included in the project file, and more recently in Site Manager.

Busby was asked by investigators what would happen if a sample should fail. He said another sample from the same lot would be selected and the test process repeated. Busby noted that he could not recollect a single occurrence when every sample in a lot failed the sieve analysis aggregate testing. Busby added that should that scenario occur, the contractor could lose a portion of payment, depending on the specifics of their contract. Busby said that after the 2014 paving season, supervisors reviewed the paving season report with all testing lab employees. Busby stated everyone participated in a review of the testing process and ethics training.

Busby told investigators that ODOT changed to a new sieve aggregate testing process after the 2014 paving season. Busby noted that the new process involved the elimination of paper forms. Each tester was assigned a laptop and a direct link to the Site Manager application. Busby explained that when a sample is to be tested, the tester logs in to Site Manager, enters the sample identification number, and a gradation testing form appears on the screen. As the sieve testing process is performed, each step is entered on the electronic form and once all the blanks are completed in order, the program calculates the figures and confirms the sample as “pass” or “fail.” Busby said the current process eliminates the paper and pencil forms and calculator work. Busby said that the 2015 and 2016 paving seasons have been uneventful, with fewer statistical abnormalities.

On January 30, 2017, the Office of the Ohio Inspector General interviewed ODOT Highway Technician 4 Mark Rapp. Rapp stated he has been employed with ODOT for approximately 23 years, and has been assigned to the asphalt testing lab in District 9 for eight to nine years. Rapp told investigators that he has completed the level 3 asphalt training. Rapp also stated he recalled the discussions regarding the 2014 paving season report that were shared with him by his supervisor Paul Maravy, and knew he had some test results that were highlighted as “too good.” Rapp stated he was surprised that any of his test results were included in the report, since he had just completed the tests and wrote his results on the gradation testing form. He had no other explanation for the results.

Rapp described the asphalt testing process and said testing is completed for every paving “lot.” A “lot” is 3,000 tons of asphalt, and four samples are taken; one sample from each 750-ton sub-lot which are then labeled A, B, C, D. Rapp said some samples are obtained at the asphalt plants, and others are obtained from the roadway during the paving operation.

Rapp told investigators the samples are retained at the lab and one sample is selected at random for testing. Rapp said the testing process basically involves five steps. Step 1 is to heat the sample and remove it from the steel pan. During Step 2, the sample is tested for density with a nuclear density gauge. The ticket printed out from the nuclear density gauge includes the current date and time and follows the sample through the rest of the testing process. In Step 3, the asphalt binder is burned off and the remaining material is allowed to cool. Once the material cools, the aggregate material is weighed. The aggregate is then placed in a shaker and the contents of each sieve pan is weighed at the end of the process. Rapp noted that the entire test process takes three to four hours for each sub-lot sample.

Rapp recalled that during the 2014 and earlier paving seasons, the results of each step were entered on a paper gradation form and the test result calculations were done manually, using a calculator. Rapp said he was not very good with the math and he gave his test sheets to Highway Technician 5 Karen Grooms, who completed the calculations and if the sample passed, entered the final numbers in the project file, or more recently, in Site Manager.

Rapp was asked by investigators what would happen should a sample fail the test. Rapp responded that another sample from the same lot would be selected and the testing process repeated. Rapp noted he could not recollect a single occurrence when every sample in a lot failed the aggregate testing, and added that he did not know what would happen if that did occur. Rapp said that in early 2015, supervisors reviewed the 2014 paving season report with all testing lab employees. Rapp stated everyone participated in a review of the testing process and ethics training.

Rapp told investigators that he did not know the outcomes from the review of the testing for the 2015 and 2016 paving seasons, and noted that no one informed him of any problems. Rapp added that ODOT changed to the new process of eliminating paper forms for the 2015 paving season. Rapp explained that when a sample is to be tested, the tester logs into Site Manager, enters the sample identification number, and a gradation testing form appears on the screen. As the sieve testing process is performed, each step is entered by the tester on the electronic form and once all the blanks are completed in order, the program calculates the figures and confirms the sample as “pass” or “fail.” Until he became more familiar with the computer work, Rapp said he had continued to use the paper and pencil forms and had Grooms enter them into Site Manager. Rapp told investigators that he currently uses the computer.

Rapp was asked by investigators whether it was possible for a tester to enter in passing test result calculations without doing any testing. Rapp replied that, “... it can probably be done, but I don’t know enough about it to do it.”

In June 2016, the Office of the Ohio Inspector General obtained a copy of the statistical analysis of the 448 asphalt test data for the 2015 paving season. The analysis was again completed by ODOT Engineer Michael Green using the same methodology as the analysis of the 2014 data. A review of the spreadsheet and comparison with the 2014 data shows a marked improvement in the statistical probability of all the districts’ 448 test results.

The Ohio Department of Transportation has provided the department’s asphalt testing information to the U.S. Department of Transportation, Federal Highway Administration.

CONCLUSION

In April of 2015, the Office of the Ohio Inspector General opened an investigation into the possible falsification of 448 asphalt sieve test results conducted by Ohio Department of Transportation (ODOT) Division of Materials Management lab personnel. The initial allegation that brought this matter to the attention of the ODOT Office of Investigative Services and subsequently to the Office of the Ohio Inspector General was a report forwarded by ODOT management to the ODOT Human Resources section recommending a demotion and transfer of an employee who worked in the District 11 test laboratory. The reason given was, "... falsification of paperwork based on information received from Central Office Material Management."

The Office of the Ohio Inspector General found that a statistical analysis of 448 asphalt test data for the 2014 paving season showed indications that changes were made during the testing process, or testing was not performed in districts 8 and 11. The probability of some testing results being possible in District 8 and District 11 was calculated at several hundred thousand to one, and in one case, 1.8 billion to one. Irregularities were also apparent in test data for other ODOT districts. Interviews with test lab employees in the districts disclosed no admissions to making changes or failing to perform the testing. All of the testers interviewed claimed to have performed the testing properly.

Lisa Zigmund, ODOT administrator of Materials Management, led the effort to address and correct the problem. The results of the analysis were shared with each of the district testing supervisors, who then addressed it with their respective staffs. Testing staff were given additional training and an ethics review. Procedures were changed so that during the 2015 paving season, testers were required to enter results of each testing step into a computerized testing form in the Site Manager program. Monitoring was instituted during the 2015 paving season and the resulting analysis of the 448 asphalt test data showed a marked improvement over 2014, virtually eliminating all the statistically improbable testing results statewide.

The Office of the Ohio Inspector General reviewed the statistical analysis of the 448 asphalt test data in both the 2014 and 2015 paving seasons. After conducting interviews with asphalt test lab

personnel and noting the remedial training and closer monitoring of the test lab employees by supervisory personnel, investigators found a marked reduction in improbable 448 asphalt test results in 2015, compared to the 2014 paving season.

According, the Office of the Ohio Inspector General finds cause to believe an appearance of impropriety occurred in this instance.

During the investigation of the complaint, the Office of the Ohio Inspector General found evidence that ODOT management did not follow existing policy by investigating a falsification complaint concerning an ODOT employee. ODOT District 11 was made aware of asphalt testing irregularities in early 2015 and subsequently investigated the actions of an employee, following the direction of an ODOT transportation engineer, who advised the district laboratory testing supervisors to “manage as appropriate.” ODOT district management then recommended discipline for the employee, first notifying ODOT Central Office Human Resources of the matter on April 14, 2015. Human Resources then made notification to ODOT chief legal. In this instance, according to ODOT Policy 15-008, forgery and falsification by an ODOT employee is specifically listed as a matter requiring management to immediately notify the department’s chief legal counsel, who should then notify the governor’s chief legal counsel, the Office of the Ohio Inspector General, and the Ohio State Highway Patrol Office of Investigative Services.

Accordingly, the Office of the Ohio Inspector General finds reasonable cause to believe a wrongful act or omission occurred in this instance.

RECOMMENDATION(S)

The Office of the Ohio Inspector General makes the following recommendations and asks the Ohio Department of Transportation to respond within 60 days with a plan detailing how the recommendations will be implemented. The Ohio Department of Transportation should:

1. Review the actions of all the ODOT employees involved in the 2014 asphalt 448 testing to determine whether their conduct warrants administrative action.

2. Conduct a review with management and supervisory employees of ODOT Policy 15-008.

REFERRALS

The Office of the Ohio Inspector General has determined that no referrals are warranted for this report of investigation.



STATE OF OHIO
OFFICE OF THE INSPECTOR GENERAL

RANDALL J. MEYER, INSPECTOR GENERAL

NAME OF REPORT: Ohio Department of Transportation

FILE ID #: 2015-CA00021

KEEPER OF RECORDS CERTIFICATION

This is a true and correct copy of the report which is required to be prepared by the Office of the Ohio Inspector General pursuant to Section 121.42 of the Ohio Revised Code.

Jill Jones
KEEPER OF RECORDS

CERTIFIED
July 27, 2017

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