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7/20/2021

COLORADO
Department of Public Health & Environment

Air Pollution Control Division

Stack Test Memo

AIRS ID:	**069-0373**	TEST RECEIVED:	**July 15, 2021**
TESTING DATE(S):	**June 25, 2021**	MEMO DATE:	**July 20, 2021**
COMPANY:	**Connell Resources, Inc. – Timnath Connell Pit**		
SITE LOCATION:	**5150 SE Frontage Road, Fort Collins, CO**		
MAILING ADDRESS:	**5150 SE Frontage Road, Fort Collins, CO**		
INSPECTOR:	**Joe Ricchiuto**		
CONTACT PERSON:	**Brandon Martin**	COUNTY:	**Larimer**
TELEPHONE NO.:	**(970) 223-3151**	EMAIL:	[redacted]
SOURCE CLASS:	**Synthetic Minor**	PERMIT NO.:	**00LR0746**
INSPECTION TYPE:	**Stack Test Oversight**		
PURPOSE OF TEST:	**Initial PM, CO, and NOx emissions compliance test for the asphalt baghouse at the Timnath Connell Pit (Condition 19 of Permit 00LR0746).**		

HOURS: Travel & Prep: **0.0** Oversight: **0.0** Report: **2.5** Total: **2.5**

COMPLIANCE STATUS: **OUT OF COMPLIANCE**

INTRODUCTION

On June 25, 2021, an unobserved, initial compliance test was conducted at the Connell Resources, Inc. – Timnath Connell Pit (Connell) located at 5150 SE Frontage Road in Fort Collins, CO. Connell operates the facility as a hot mix asphalt plant and operations include the heating, drying and mixing of asphalt cements. Connell contracted Erthwrks, Inc. (Erthwrks) to conduct the initial compliance testing for the HMA plant (AIRS Point 001). The purpose of the initial compliance test on AIRS Point 001 was to demonstrate compliance with the self-certification and emission limit requirements of Construction Permit 00LR0746, Issuance 4 (Issued November 20, 2020). Connell was required to conduct testing as a result of an updated permit and after modifications to the baghouse process. This test program was conducted to determine the carbon monoxide (CO) and nitrogen oxides (NOx) emission rates from the asphalt baghouse. Additionally, oxygen (O2) and carbon dioxide (CO2) were measured to calculate the source's mass emission rates. The initial compliance testing was not completed in its entirety. The source stopped the testing because of mechanical and process issues at the facility. The incomplete test results that were submitted indicated a failed test. Details of the initial compliance test can be found in the sections to follow.

TEST METHOD AND PROCEDURES

EPA Reference Methods (RM) 1, 2, 4, 3A, 7E, and 10 were conducted to determine exhaust concentrations and mass emission rates of NOx and CO from the asphalt baghouse.

EQUIPMENT DESCRIPTION

AIRS 069-0373-001 is a HMA plant that includes a Cedarapids Counter Flow Drum Mixer (design rated at 400 tons per hour), a waste oil fired Hauck burner, associated control equipment (Venturi scrubber, fabric filter bag house, cyclone, and knock-out box), and storage silos.

DISCUSSION

Evaluation of the test results and the corresponding compliance determination for the AIRS 001 is based on Conditions 7 and 19 of Construction Permit Number 00LR0746, Issuance 4, which state:

7. Emissions of air pollutants must not exceed the following limitations. Quarterly records of the actual emission rates must be maintained by the applicant and made available to the Division for inspection upon request. (Reference: Regulation Number 3, Part B, II.A.4.)

Annual Limits:

AIRS Point	Tons Per Year							Emission Type
	PM	PM10	PM2.5	**NOx**	SO2	VOC	CO	
001	2.6	0.8	0.3	**8.5**	8.7	6.9	19.9	Point
001	41.8	9.1	1.9	-	-	-	-	Fugitive

19. A source initial compliance test must be conducted on the main stack to measure the emission rate(s) for the pollutants listed below in order to demonstrate compliance with the pollutant emission rates listed below. The compliance test must be conducted in accordance with the APCD Compliance Test Manual (as updated and amended by the Division), including deadlines for preparation and submittal of the protocol for Division review and approval and for submittal of the test report. All compliance testing must be approved by the Division prior to conducting the test. Any compliance test conducted to show compliance with a monthly or annual emission limitation must have the results projected up to the monthly or annual averaging time by multiplying the test results by either the allowable number of operating hours for that averaging time or the Process Limit(s) for that averaging time as indicated in the Process Limitations and Records section of this permit. (Reference: Regulation Number 3, Part B, Section III.G.3)

Particulate Matter (PM): 2.6 tons per year
0.084 pounds per ton of asphalt produced
0.04 grains per dscf of exhaust. (NSPS Subpart I)

Carbon Monoxide (CO): 19.9 tons per year
0.13 pounds per ton of asphalt produced

Oxides of Nitrogen (NOx): **8.5 tons per year**
0.0550 pounds per ton of asphalt produced

Source Description of Testing:
The HMA plant began operation at 7:00 am and had to shut-down between 7:10 – 7:15 am because the auger was malfunctioning. The stack testing began at 7:34 am. Approximately 25 minutes into the test, Erthwrks advised Connell Resources that they would not pass the test with the current NOx/CO readings. A decision was made to stop the testing and see if the HMA plant could be adjusted to operate in compliance with the permit limits. The next 2.5 hours were spent by operations staff diagnosing the HMA plant trying to get the NOx and CO at a low enough level to restart. At approximately 11:00 am, a decision was made by the source to stop testing due to the fluctuating NOx/CO readings. Erthwrks did not collect particulate matter (PM) samples during this test program.

The table below shows the calculated emissions based off of the only run that was reported. The run was reportedly conducted from 7:34 AM – 9:04 AM.

Ton/year results are based on 1500 hours of operation.

Pollutant Measured	Mass Emission Rate	Applicable Limit	Pass/Fail
NOx	**15.59 tons per year** **0.0770 lb/ton asphalt produced**	8.5 tons per year 0.055 lb/ton asphalt produced	FAIL
CO	8.01 tons per year 0.040 lb/ton asphalt produced	19.9 tons per year 0.13 lb/ton asphalt produced	Not Applicable (calculation is not based off of three, one hour runs)
PM	No PM Testing Conducted	2.6 tons per year 0.084 lb/ton asphalt produced 0.04 grain per dscf of exhaust	N/A

CONCLUSION

Connell Resources owns and operates the Timnath Connell Pit hot mix asphalt plant located at 5150 SE Frontage Road in Fort Collins, CO. The facility is subject to the terms and conditions of Construction Permit Number 00LR0746 (Issuance 4), Colorado Air Quality Control Statutes, and AQCC Regulations.

This compliance evaluation, based on the test report received on July 15, 2021, finds Connell Resource (AIRS 069-0373) is **NOT** in compliance with the requirements of Construction Permit Number 00LR0746.

Specifically, the source was in violation of the following:

A. Pursuant to Permit Number 00LR0746, Conditions 7 and 19, emissions of Nitrogen Oxides (NOx) shall not exceed 0.055 lb/ton asphalt produced and 8.5 tons per year. Based on the incomplete testing conducted on June 25, 2021, the source stopped the testing because results from a singular run indicated that the test

results would be a failure. The results from the singular test run conducted indicated NOx emissions of 15.59 tons per year and 0.0770 lb/ton asphalt produced. The source exceeded the NOx emission limits of Conditions 7 and 19 of the permit and did not complete testing in its entirety.

Based on the violation identified above, **ENFORCEMENT ACTION** is recommended.
COMPLIANCE STATUS: **OUT OF COMPLIANCE**