

# EXHIBIT D

Appeal Case No.: 18-4132

**UNITED STATES COURT OF APPEALS**  
**FOR THE SIXTH CIRCUIT**

Appeal from the United States District Court  
for the Southern District of Ohio, Eastern Division  
Case No. 2:16-cv-658

CYNTHIA MADEJ; ROBERT MADEJ :

Plaintiffs-Appellants :

v. :

JEFF MAIDEN, Athens County Engineer :

Defendant-Appellee :

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**APPELLANTS' BRIEF**

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Counsel for Appellants:

David T. Ball (#0078885)  
Rosenberg & Ball Co., LPA  
395 North Pearl Street  
Granville, OH 43023  
Phone: (614) 316-8222  
Fax: (866) 498-0811  
Email: dball@rosenbergball.com

Fazeel S. Khan (#0078875)  
Haynes, Kessler, Myers & Postalakis, Inc.  
300 W. Wilson Bridge Road, Suite 100  
Worthington, OH 43085  
Tel.: (614) 764-0681  
Fax: (614) 764-0774  
Email: fazeel@ohiolawyersgroup.com

PgID 1280-1281; Deposition of Dr. Lieberman (ECF 91), PgID 2953, 2959-2960, 3085, 3207, 3244). Consistently, whenever she was exposed to new asphalt for any extended period of time, such as when she was stuck in traffic in road construction areas, Ms. Madej experienced symptoms of increasing severity and duration, dependent on relative exposure time. Symptoms included shortness of breath (sometimes severe), chest tightness, severe headache, throat and eye burning, palpitations, and neurological impacts such as dizziness and impairments in coordination. Even relatively short asphalt exposures, especially asphalt application, caused symptoms that could persist for days, initially, and for weeks and months in later years. Symptoms of chest tightness, nausea, headaches, and throat and eye burning, were most persistent. (Supplemental Affidavit of Cynthia Madej (ECF 129) ¶ 2; Affidavit of Cynthia Madej (ECF 115), ¶¶ 64, 65, 80; Supplemental Affidavit of Robert Madej (ECF 130), ¶ 14; Affidavit of Dr. Molot (ECF 122), Exhibit A, ¶ 1; Deposition of Robert Madej (ECF 79), PgID 1280-1281; Deposition of Cynthia Madej (ECF 76), PgID 663-664, 679-683, 697, 705-706, 735-736, 753, 756, 856; Preliminary Injunction Hearing (ECF 96-1), PgID 3843, 3922-3923, 3930).

These symptoms are consistent with those listed on Defendant's Material Safety Data Sheet (MSDS) for chip seal asphalt. (ECF 100-1, PgID 4381). It lists as hazards from inhalation "irritation to nasal and respiratory tract and central

nervous system effects. Symptoms may include labored breathing, sore throat, coughing, wheezing, headache, and nausea.” (*Id.*) Some people are more susceptible to these hazards than others. According to the World Health Organization regarding asphalt, “[I]n the general population, *there are individuals who may be more sensitive to exposures and therefore exhibit more symptoms or other effects.*” (World Health Organization. 2004. Concise International Chemical Assessment Document No.59. Asphalt (Bitumen), p. 6 (Deposition of Anthony Kriech, ECF 105-1, Exhibit I, PgID 5268) (emphasis added)).

Ms. Madej turned to Dr. Allan Lieberman, a pioneer in the field of environmental medicine. Initially visiting him at the Center for Occupational and Environmental Medicine (COEM) in 1999, she reported her symptoms resulting from exposure to asphalt products and other petrochemicals.<sup>1</sup> (Deposition of Dr. Lieberman (ECF 91), Pg ID 3244, 3256). Subsequently, COEM performed a test for sensitivity to “petroleum-derived ethanol, which is the parent compound” of asphalt, and found that Ms. Madej was indeed extremely sensitive to it. (ECF 91, PgID 2953). Dr. Lieberman subsequently included information about Ms. Madej’s petrochemical reactions, symptoms, and risks on a FMLA request in 2010. (ECF

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<sup>1</sup> The district court and Defendant have stated, “It is undisputed that prior to such time [September 1, 2015], there was no medical evidence (via either objective medical evidence, or subjective report of symptoms) regarding any sensitivity to asphalt or petroleum based products....” (ECF 147, Pg ID 6426; ECF 117, Pg ID 5628). This statement is simply incorrect.

91, PgID 3250). He also listed asphalt exposure as a risk to Ms. Madej in the letter of medical necessity that Plaintiffs gave to Defendant's predecessor, Archie Stanley, in 2010 and to Defendant in 2013. (ECF 96-1, PgID 3792; Deposition of Cynthia Madej (ECF 76), PgID 661-662, 674; Affidavit of Robert Madej (ECF 116), ¶¶45-46; Affidavit of Cynthia Madej (ECF 115), ¶¶91, 93). In January 2012, Dr. Lieberman's post-examination notes recorded that "petrochemicals are esp. difficult." (Deposition of Dr. Lieberman (ECF 91), PgID 3161). At his deposition, Dr. Lieberman explained, "Asphalt is a petrochemical. She will react to petrochemicals." (ECF Doc. 91, PgID 3040). When asked, "Does anything in this history that she [Ms. Madej] gave indicate a sensitivity to asphalt or petroleum-based products?" he replied, "Oh, yes. That's where the - - that's the whole reason for coming. That's why she came to us." (ECF Doc. 91, PgID 2959-60). Tests also determined that Ms. Madej's "detoxification process was altered and abnormal, and that placed her at increased risk when she's exposed to any type of a chemical." (*Id.*, PgID 2988).

Ms. Madej's sensitivities worsened over the years. (Affidavit of Cynthia Madej (ECF 115), ¶¶ 64, 65, 80; Deposition of Cynthia Madej (ECF 76 & 77), PgID 753, 856, ECF 77; PgID 999; Supplemental Affidavit of Robert Madej (ECF 130), ¶ 14; Deposition of Dr. Lieberman (ECF 91), PgID 2954, 2978, 2996). She "no

training, or education” with respect to evaluation of patients with MCS is exceptional, and he is clearly qualified to offer relevant opinion regarding Ms. Madej’s disability and her request for accommodation.

Dr. Molot summarized his extremely thorough evaluation of the extensive medical information about Ms. Madej and the opinions he formed based on that information in his report, in which he cited 243 peer-reviewed publications in support of his evaluation of Ms. Madej. (ECF 95-1, PgID 3480-3489). His evaluation and the literature cited include the biological basis (including differences in odor processing and identifiable chemical signatures for MCS), the prevalence of MCS, case criteria, definition for MCS, etiology, difference from psychological disorders, and central sensitization. His Affidavit states:

9. ... From the history obtained, Ms. Madej has demonstrated severe sensitivity to a variety of petroleum based products, which is very common in patients with MCS. In particular, MCS patients have problems with exposures to volatile organic compounds (VOCs). The MSDS for Chip and Seal lists asphalt, No. 2 fuel oil, polymer modifier, sulfur compounds, anionic emulsifier, naphthalene and hydrogen sulfide. Asphalt fumes are complex mixtures of aerosols and vapors that contain various organic compounds, such as aliphatic hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), and heterocyclic compounds.

Given the extreme sensory hyperreactivity identified in this case, and the previously observed (by Ms. Madej) significant sensitivity to the odor of asphalt, it is highly likely that the well-known odors of asphalt and hydrogen sulfide (rotten eggs) would be provocative of symptoms. *It is my opinion that Ms. Madej would suffer harm if chip and seal asphalt is applied to the section of her road that is the subject of the Court’s preliminary injunction. Because of her severe degree of*

*sensitivity and frailty with respect to her CFS, FM and MCS, which are linked, all her symptoms, including fatigue, pain, dyspnea, poor cognitive functioning, sleep disturbance, etc. would be exacerbated. She would be unable to remain in her present home.*

(*Id.*, PAGEID # 3478 (emphasis added)).

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11. Based on the patient history of the close temporal proximity between when Ms. Madej is exposed to asphalt and her suffering reactions including very bad headaches, chest tightness, shortness of breath/difficulty breathing, as well as light-headedness, nausea, unsteadiness, pain, palpitations, and burning in her eyes and throat, symptoms which sometimes lasted for months, this confirms my prior conclusion, which was to a reasonable degree of medical certainty, that Ms. Madej is highly sensitive to asphalt products, and that exposures cause severe negative impact on her health and ability to perform major life activities such as breathing, caring for herself, walking, learning, sleeping, eating, and working....

\* \* \* \*

16. I did complete a differential diagnosis in diagnosing Ms. Madej with MCS as follows: I reviewed all the medical records for Ms. Madej as well as other pertinent information regarding this case (notably lab tests), and conducted an extensive history from birth to present requiring more than 5 hours to complete. That history included an environmental exposure history. I also administered and reviewed approximately 80 pages of validated and standardized medical test questionnaires to assess other conditions as well as function and disability and reviewed all laboratory data (including blood work, an x-ray, and an EKG which were performed on Ms. Madej at the request of her treating physicians within a week prior to the physical exam), all of which were used to identify potential medical or psychological conditions that would require further consideration.

17. I conducted a physical exam of Ms. Madej including vital signs, evaluating her appearance and effect, mobility, examining her eyes,

ears, nose, and throat, performed a NASA lean test, Romberg and tandem gait with multitasking to rule out balance disorders. .... I observed her coordination, affect, mood, and body language. Nothing from this examination, Ms. Madej's history, or the recent blood work and tests were indicative of a need for further tests. .... I used case criteria to evaluate her for multiple conditions, and eliminated a multitude of possible explanations for her complaints. Some of my findings include:

- Ms. Madej meets the case criteria for both CFS and FM, demonstrates a high number of tender points, and her scores on validated test questionnaires show very high severity levels of both conditions;
- Capsaicin inhalation challenge is a standardized technique to study cough and sensory sensitivity. There are 16 single- and double-blind studies to date, published in peer reviewed medical journals, that have compared patients who meet the criteria for the diagnosis of MCS to normal controls after capsaicin inhalation challenges. They “consistently describe patients with unexplained respiratory and other symptoms” due to sensitization of TRPV1 receptors, and Ms. Madej’s symptoms are consistent with those described in these studies, including ‘heavy breathing’, ‘difficulty in getting air’, ‘pressure across the chest’, cough, hoarseness, phlegm, nasal blockage, rhinorrhea, and eye irritation. Other symptoms seen in the study patient populations and in Ms. Madej include headache, dizziness and fatigue.
- The Chemical Sensitivity Scale-Sensory Hyperreactive Questionnaire (CSS-SHQ) is a validated questionnaire developed to quantify reactions stemming from odorous/pungent substances.... In this questionnaire, Ms. Madej achieved the maximum score, indicating exquisite sensitivity to chemicals....
- The diagnosis of Multiple Chemical Sensitivity (MCS) can be established when the history is compatible with the case criteria. If MCS exists without comorbid conditions, the patients are well when not exposed. In this case, Ms. Madej has the chronic, frequently comorbid conditions of CFS and FM.
- The Generalized Anxiety Disorder Scale (GAD-7), a validated and standardized medical questionnaire used to identify probable cases of generalized anxiety disorder and to assess symptom severity,



demonstrated a normal score for Ms. Madej, indicating she does not meet the criteria for anxiety or panic disorder.

- From the medical information provided in the records, the history taken in my assessment and the results of the functional assessment including the GAD-7 and BDI-11, there is very little evidence for psychiatric illness in Ms. Madej. ....
- Ms. Madej reported an ability to distinguish her symptoms relative to specific exposures and reported consistent symptoms temporally related to repeat exposures.
  - From the history obtained, Ms. Madej's level of chemical sensitivity is extreme....

(Affidavit of Molot (ECF 122), ¶¶ 9, 11, 16, 17).

Crucially, Dr. Molot specified that it is precisely because of Ms. Madej's disability, and not because of some other fact she shares with the public generally, that she needs an accommodation to the exposure to asphalt that would result from Defendant's chip seal application to her section of Dutch Creek Road. Dr. Molot testified as follows to the medical basis for the proposed accommodation:

With regard to the recommended 1-mile buffer from asphalt exposure, I reviewed Ms. Madej's file as well as test results she provided from her treating physicians, Dr. Singer and Dr. Lieberman. I also reviewed additional information relevant to this case including the MSDS for MWS-150 (the product used by the Defendant), MSDSs for alternative road products, information on Ms. Madej's housing, additional laboratory results, journal and other notes from Ms. Madej, additional questionnaires, and expert reports and transcripts for this case. Ms. Madej is in a frail and precarious state, and requires avoidance of chemical stressors. She is highly sensitive to asphalt, exhibiting symptoms to small amounts that are tolerated by healthy individuals. I discussed with Ms. Madej her past experience with asphalt exposure, her symptoms and their severity, with respect to the proximity, magnitude, and duration of her exposure.<sup>5</sup> I considered the nature of

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<sup>5</sup> Plaintiffs' expert Zannetti demonstrated pollutants from the chip seal would reach