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September 19, 2013

#### Federal Express

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#### Federal Express

Gary W. Pruessing, President Mobil Pipe Line Company 800 Bell Street Houston, TX 77002

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#### **Federal Express**

Anthony Foxx Secretary of Transportation U.S. Department of Transportation 1200 New Jersey Ave., SE Washington D.C. 20590

#### **Federal Express**

Roderick Seeley, Director PHMSA Pipeline Safety Southwest Region Office 8701 S. Gessner Road, Suite 1110 Houston, TX 77074

RE: Notice of Intent to File Citizen Suit Pursuant to the Pipeline Safety Act

#### Dear Gentlemen:

We are attorneys for Central Arkansas Water ("CAW"). The purpose of this letter is to notify ExxonMobil Pipeline Company, Mobil Pipe Line Company, ExxonMobil Corporation (collectively, "Exxon Mobil") and the Pipeline and Hazardous Materials Safety Administration ("PHMSA") that unless PHMSA is diligently pursuing an administrative proceeding for the violations set forth below, CAW intends to file suit in sixty (60) days under 49 U.S.C. §60121 against ExxonMobil in the United States District Court for the Eastern District of Arkansas for

September 19, 2013 Page 2

violations of the Pipeline Safety Act, 49 U.S.C. §60101 et seq., and regulations promulgated thereunder. PMHSA also will be named as an additional defendant in the lawsuit.

CAW is a consolidated public water authority that supplies drinking water for approximately 400,000 individuals residing in Central Arkansas. CAW's primary water source is Lake Maumelle, a 9,000 acre surface reservoir located several miles west of Little Rock, Arkansas. The watershed of Lake Maumelle is approximately 137 square miles and is traversed by ExxonMobil's Pegasus pipeline (the "Pipeline") for approximately 13.6 miles. The northeast corner of the watershed is located approximately 8 pipeline miles from the site of the March 29, 2013 rupture of the Pipeline at Mayflower, Arkansas (the "Mayflower rupture"), resulting in the release of at least 5,000 barrels of heavy crude oil into the environment.

The Pipeline runs from the northeast corner of the watershed to the southwest corner. It traverses the watershed near the north shore of Lake Maumelle for approximately five miles. It crosses numerous tributaries of the lake during this stretch and is less than a quarter mile from the lake at places. Most of the Pipeline is located in rugged, difficult-to-access terrain where it could take hours to simply reach the site of a Pipeline break. The Pipeline then swings toward the southwest at the west end of the lake and crosses the principal tributary to Lake Maumelle, the Maumelle River, in three places. A copy of a map of the watershed with the location of the Pipeline is enclosed as Exhibit "1."

The Pipeline was constructed in the late 1940's and runs from Patoka, Illinois to the Texas Gulf Coast (approximately 850 miles). The Pipeline is an electrical resistance welded ("ERW") oil pipeline with average thickness of .312 inches. ERW pipe is manufactured by cold-forming a sheet of steel into a cylindrical shape. Current is then passed between the two edges of the steel to heat the steel to a point at which the edges are forced together to form a bond without the use of welding filler material. Initially this manufacturing process used low frequency electrical current to heat the edges. This low frequency process was used until it was superseded in the 1970s by a high frequency ERW process which produced a higher quality weld. Over time, the welds of low frequency ERW pipe have been found to be susceptible to selective seam corrosion, hook cracks, and inadequate bonding of the seams, so low frequency ERW is no longer used to manufacture pipe.

From the late 1940's to 2002 the Pipeline was used to transport light crude oil and refined petroleum products from the Texas Gulf Coast to the midwestern United States. The Pipeline was purged and idled with nitrogen in December 2002. When the Pipeline was restarted in 2006, the flow of the Pipeline was reversed with an accompanying increase in pipeline pressure to at least 700 psig and was used, for the first time, to transport Wabasca heavy crude oil produced in Canada from the midwestern United States to the Texas Gulf Coast. We believe that this heavy crude oil is diluted with lighter hydrocarbons (commonly referred to as "diluted bitumen") to decrease its resistance to flow. According to a Material Safety Data Sheet revised by ExxonMobil effective January 9, 2013, this Wabasca heavy crude is a "hazardous" substance based on its extreme flammability, human health risk and toxicity to aquatic organisms. The MSDS lists numerous potential medical disorders resulting from exposure.

September 19, 2013 Page 3

A change in the direction of flow in a pipeline can affect the hydraulic and stress demands on the pipeline. Additionally, the integrity of ERW pipe manufactured before 1970 has been called into question. (See Pipeline Safety Alert Notices issued by the U.S. Department of Transportation in January, 1988 and March, 1989). The 1988 Alert Notice stated that ERW seams had been involved in 145 service failures in both hazardous liquid and natural gas pipelines since 1970 and all but two of those failures occurred on pipe manufactured prior to 1970. The Alerts noted that 12 hazardous liquid pipeline failures during 1986 and 1987 involved ERW pipe seams manufactured prior to 1970 and that an additional 8 such failures had occurred between January 1988 and March 1989.

Following the Mayflower rupture, ExxonMobil retained Hurst Metallurgical Research Laboratory, Inc. ("Hurst") to conduct metallurgical tests of the failed section of the Pipeline to determine the cause of the rupture. Hurst found a 22 foot long fracture along the ERW weld seam, which traversed diagonally, approximately 3 inches in length, into the base metal. The Hurst report found that hook cracks had been present in the ERW seam prior to the rupture for an unknown period of time. Hurst concluded that the rupture occurred because of a reduction of the wall thickness in the ERW seam caused by the "presence of manufacturing defects, namely the upturned bands of brittle martensite, combined with localized stress concentrations at the tips of the hook cracks, low fracture toughness of the material in the upset/HAZ, excessive residual stresses in the pipe from the initial forming and seam and girth welding processes, and the internal pressure creating hoop stresses." The report went on to state that "it is highly probable that some micro-cracking within the upset/heat-affected zones might have occurred immediately following the pipe manufacturing. The micro-cracks then likely would have merged by further cracking through the adjacent areas in the localized upset/HAZ zones during service, forming a continuous hook crack in each of the localized areas to the critical depths, at which point the remaining wall thickness, combined with the localized stress concentration and the residual stresses, could no longer support the internal hoop stresses and resulted in the final failure."

Prior to the Mayflower rupture, ExxonMobil conducted a hydrostatic pressure test of the Pipeline in 2006 (prior to the 2006 restart with accompanying flow reversal, pressure increase, and change to Wabasca heavy crude), and in the Lake Maumelle section of the Pipeline, an inline magnetic flux leakage and caliper tool inspection in 2010 and an in-line transverse flux inspection in 2013. As reported by ExxonMobil, neither the 2010 nor 2013 in-line tests revealed an anomaly in the failed Mayflower pipe section. However, as recently discovered by CAW, the Pipeline seam ruptured at two locations within the watershed (mile posts 294.1 and 298.1) during the 2006 hydrostatic test. Neither Exxon Mobil nor PHMSA reported these ruptures to CAW.

The Lake Maumelle watershed is an Unusually Sensitive Area drinking water resource within the meaning of 49 C.F.R. §195.6, because the sole alternative water supply, Lake Winona, can only supply approximately 38 percent of CAW's average daily consumption of water. As such, the watershed qualifies as a High Consequence Area under 49 C.F.R. §195.450.

The violations of the Pipeline Safety Act include, but are not limited to, the following:

(1) Failure to maintain and implement an adequate integrity management

program for that portion of the Pipeline within the Lake Maumelle watershed, as required by 49 C.F.R. §195.452 for a High Consequence Area. 49 C.F.R. § 195.452(b)(1) requires an operator to develop a written integrity management program ("IMP") for each segment in a High Consequence Area, including a baseline assessment plan, 49 C.F.R. § 195.452(c), considering, among other factors, results of previous integrity assessments. 49 C.F.R. § 195.452(e). After completing the baseline assessment plan, the operator must continue to assess and evaluate the integrity of each pipeline segment that could affect a High Consequence Area. 49 C.F.R. § 195.452(j). The continuing assessment must include selecting an assessment method capable of assessing seam integrity and detecting anomalies in low-frequency ERW pipe. 49 C.F.R. § 195.452(c)(i). ExxonMobil has failed to maintain and implement an adequate IMP as demonstrated by the following facts: (i) the pipeline was operating at a pressure of 708 psig at the time of rupture, well below its maximum operating pressure of 820 psig at the failure site and well below the 2006 hydrostatic test pressure of 1091 psig; (ii) the 2006 hydrostatic pressure test and the 2010 and 2013 in-line inspections detected no anomalies in the failed pipe section; and (iii) the welldocumented history of failures of ERW pipe manufactured before 1970;

- (2) Failure to select a pipeline assessment method capable of assessing seam integrity and determining the existence of hook cracks and other anomalies in low-frequency ERW pipeline as required by 49 U.S.C. § 60109(c)(3) and 49 C.F.R. § 195.452. Specifically, the 2006 hydrotest appears to have been structured solely to establish the maximum operating pressure for the pipeline. The portion of the pipeline in the Lake Maumelle watershed (Sections 14 and 15) were tested at pressures ranging from 83 percent of specified minimum yield strength ("SMYS") at the low elevation point to 66 percent of SMYS at the high elevation point. Testing at such low pressure was woefully inadequate for a test which should have been structured for an integrity management program. See B.N. Leis and J.B. Nestleroth, *Batelle's Experience with ERW and Flash Weld Seam Failures: Causes and Implications*, Final Interim Report Task 1.4 at page 64. (September 20, 2012);
- (3) Failure to change its integrity management program to respond to the results of the 2006 hydrotest and to continually evaluate the consequences of a failure in the Lake Maumelle watershed, as required by 49 C.F.R. § 195.452(f) (requiring an operator to continually change its integrity management program to reflect experience, assessments and data), 49 C.F.R. § 195.452(g) (requiring an operator to periodically analyze all available information about a pipeline), 49 C.F.R. § 195.452(h)(1) (requiring an operator to take prompt action to address all anomalous conditions "discovered" through integrity assessment or information analysis), 49 C.F.R. § 195.452(h)(2) (defining "discovery of condition" and requiring operator take steps within 180 days to obtain information about a condition that could present a potential threat to the integrity of the pipeline), 49 C.F.R. § 195.452(h)(4)(iii)(G) (requiring an operator to repair a crack condition

within 180 days of discovery) and 49 C.F.R. § 195.452(j) (calling for a continual process of evaluation and assessment to maintain a pipeline's integrity). ExxonMobil knew or should have known from its analysis of the ruptures which occurred along the Pipeline during the 2006 hydrotest that the pipeline seam was at high risk of failure due to the presence of manufacturing cracking threats, such as hook cracks; yet it failed to conduct subsequent in-line inspections in the watershed with tools designed for the purpose of determining the existence of such manufacturing cracking threats. Instead, in 2010 ExxonMobil used a High Resolution Magnetic Flux Leakage tool ("MFL"), with a caliper that is only capable of detecting corrosion and dents. See PHMSA Fact Sheet: In-Line Inspections (Smart Pig) (last revised 12/01/2011). Since the 2010 inspection could not determine the existence of such manufacturing cracking threats, ExxonMobil also violated 49 C.F.R. § 195.452(j) (requiring an operator to inspect a pipeline at intervals of no less than five years for defects discovered from the previous integrity assessment inspection or other sources of information), 49 C.F.R. 195.452(k) (requiring an operator to use methods to measure whether an integrity management program is effective in assessing and evaluating pipeline integrity and protecting a high consequence area) and Appendix C IV to 49 C.F.R. Part 195 (providing guidance on the use of crack detection tools for detecting hook cracks);

Failure to take adequate measures to mitigate the consequences of a (4) pipeline failure that could affect the Lake Maumelle watershed, including the failure to place a sufficient number of pipeline valves in the watershed as required by Section 195.452(i)(1) and (4) (requiring the installation of an adequate number of emergency flow restricting devices). The only valve station on the Pegasus Pipeline in the watershed is located at the western end of the lake near Highway 10. This valve station includes a check valve as well as two manually operated shutoff valves. Manual operation of this valve station would require at least one ExxonMobil representative to drive to the site and manually close it. We estimate that the time from the rupture to the time of the shut off would be two hours at an absolute minimum. Up to 800,000 to 1,200,000 gallons of diluted bitumen could potentially escape into the watershed during this two hour period, depending on the location of the break and speed of detection and pipeline shutdown. Further, the check valve is intended to stop the backflow of oil from the southwest should a break occur upstream of the valve. However, due to the location of the valve, the check valve would not prevent the loss of significant quantities of diluted bitumen from entering the Maumelle River if a rupture occurred downstream of the valve near the Maumelle River. This is due to the fact that the river is downstream of the valve station and at an elevation lower than approximately 6 miles of pipeline within the watershed (see draft pipeline profile developed by CAW attached as Exhibit "2"), indicating that approximately 6 miles of pipeline could drain unimpeded into the Maumelle River. Exxon has recognized this locational deficiency and has discussed installation of an additional valve in a more appropriate location. The inadequate number of valves and inadequate locations of valves shows that ExxonMobil has failed to consider all relevant risk factors, including the fact that the pipeline crosses three main tributaries and many smaller tributaries on the north side of Lake Maumelle in rugged, hard to reach terrain. 49 C.F.R. § 195.452(i)(2) (requiring assessment of risk factors presented by terrain, including small streams and elevation profile);

- (5) Failure to prepare and modify its oil response plans for the Lake Maumelle watershed to take into account that ExxonMobil began transporting diluted bitumen in the Pipeline for the first time in 2006. See letter from ExxonMobil to United States Environmental Protection Agency dated April 10, 2013, Response #3, a copy of which is attached as Exhibit "3." Undiluted Wabasca Heavy crude is reported to have the consistency of peanut butter and must be diluted with chemicals, including the human carcinogen benzene, so that the crude oil will flow through a pipeline. According to ExxonMobil's MSDS as revised January 9, 2013, the relative density of Wabasca Heavy crude ranges from 0.661 to 1.013 at 15 degrees C. When diluted bitumen spills into the environment, it may sink due to evaporation or separation of the diluting chemicals and the mixing of the crude oil with sediment and organic matter. This tendency to sink was proven by the Enbridge diluted-bitumen pipeline spill into the Kalamazoo River at Marshall, Michigan in 2010 when the oil sank to the river bed. The failure of ExxonMobil to so modify its oil response plans violates 49 C.F.R. §194.121 (requiring an operator to modify its response plans to address changes in operating conditions, including changes in "the type of oil transported") and 49 C.F.R. §195.452(e)(iv) (requiring assessment of the "product transported"); and
- (6) Failure to install adequate leak detection technology along the pipeline route capable of detecting releases in the watershed, and failure to create an emergency notification protocol providing for cross-platform monitoring by CAW's staff in violation of 49 C.F.R. §195.452(i)(1) (requiring modification of systems that monitor pressure and detect leaks), §195.408(b)(4) (requiring an operator to provide communications to appropriate public officials during emergencies), and §195.402(e)(7) (requiring procedures for notification to public officials of the need to respond to an emergency).

In addition to these violations, this notice covers all violations of the Pipeline Safety Act, and regulations promulgated thereunder, evidenced by information which becomes available to CAW after the date of this Notice of Intent to Sue.

Unless PHMSA diligently pursues an enforcement proceeding to address the violations discussed above, CAW will file a citizens suit against ExxonMobil under 49 U.S.C. §60121 in sixty (60) days for these violations. Pursuant to the Pipeline Safety Act, CAW will seek an injunction to prevent restart or continued operation of the Pipeline until ExxonMobil corrects existing violations within the Lake Maumelle watershed and to require relocation of the Pipeline outside the Lake Maumelle watershed within a time established by the Court. Alternatively, CAW will ask the Court to direct PHMSA to order ExxonMobil to take corrective actions

## HILBURN, CALHOON, HARPER, PRUNISKI & CALHOUN, LTD.

September 19, 2013 Page 7

deemed appropriate by the Court. CAW reserves the right to seek additional remedies.

Please feel free to contact the undersigned at 501-372-0110 if you require further information or wish to discuss this matter. Thank you for your cooperation.

Sincerely,

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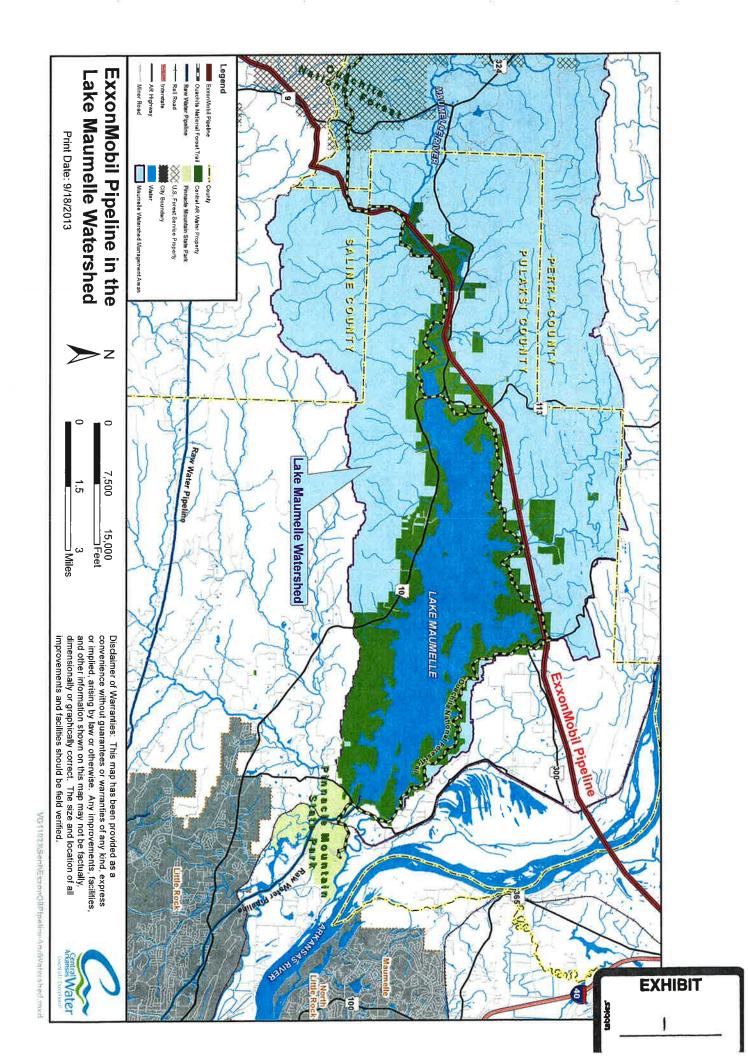
James M. McHaney, Jr.

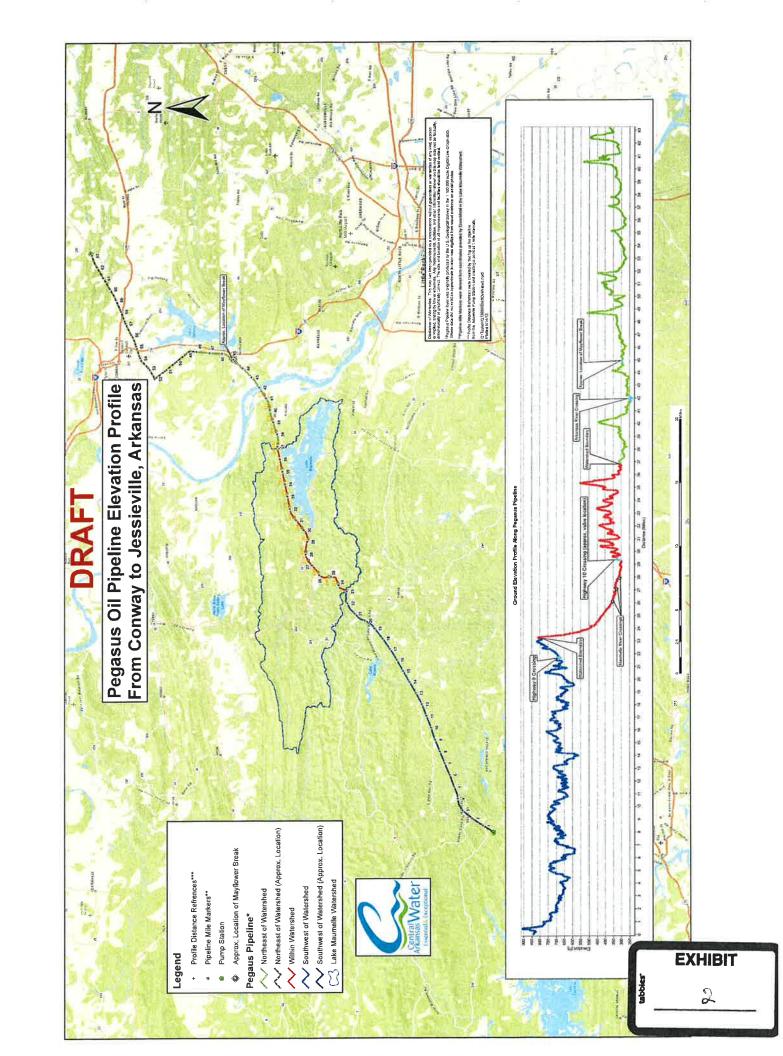
### JMM/ejc

cc:

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April 10, 2013

Mr. Edwin Quinones, Esq. U.S. EPA Region 6 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202-2733

Re: EPA Information Request Dated April 5, 2013 (NRC Report No. 1042466)

Dear Mr. Quinones:

I write on behalf of ExxonMobil Pipeline Company ("EMPCo") in response to the above referenced Information Request. Assistance in responding to this request was provided by EMPCo's parent company and affiliates (collectively "ExxonMobil"). This letter augments my letter dated April 8, 2013.

1. At the beginning of this response, Exxon provided EPA a Material Safety Data Sheet (MSDS) on WABASCA CRUDE OIL, which was revised in January, 2013. Does that MSDS sheet accurately describe all materials released/discharged from the pipeline in Mayflower, Arkansas on March 29, 2013?

Response #1: On April 8, 2013, EMPCo provided additional MSDS sheets reflecting the corrosion additives which it injected into the Pegasus pipeline as the Wabasca Heavy crude transited for downstream delivery. One of these same additives, Baker Hughes WAW3049 Water Treatment Additive, was injected by the operators of the Mustang pipeline from which the Wabasca Heavy crude was received at the Patoka, Illinois terminal. ExxonMobil has been advised that the two Canadian producers from whom the Wabasca Heavy crude is purchased add condensate to the Wabasca Heavy crude as diluent to meet pipeline specifications. Attached to this response is an additional MSDS from Cenovus Energy, Inc. for its Wabasca Heavy crude. To the extent EMPCo receives further information as to any other additives or diluents which may have been contained in the crude oil released on or about March 29, 2013 in Mayflower, Arkansas, EMPCo will supplement this response.

2. Identify the origin of the crude oil and describe in detail what changes, if any were made to the crude from the wellhead until it entered the pipeline and was released/discharged on March 29, 2013?



Response #2: As set out in my April 8<sup>th</sup> letter, an affiliate of EMPCo purchases Wabasca Heavy crude from two major Canadian producers, Canadian Natural Resources Limited and Cenovus Energy, Inc. Prior to its arrival at the Patoka terminal, Wabasca Heavy crude transits a number of pipelines, including the Pembina Nipisi pipeline, pipelines owned or operated by Enbridge, Inc., and a pipeline owned by Mustang Pipe Line LLC, a joint venture between Enbridge and Mobil Illinois Pipe Line Company. Beyond the information contained in my April 8<sup>th</sup> letter, and the additional information set forth in Response #1 above, should EMPCo receive further information regarding what other changes were made to the Wabasca Heavy crude from the wellhead to the point of release, EMPCo will supplement this response.

3. Can the oil accurately be described as tar sand oil, or a type of diluted bitumen (dilbit)? If not, how would Exxon accurately describe the oil released/discharged from the pipeline on March 29, 2013?

Response #3: The terms "tar sand oil" and "diluted bitumen (dilbit)" are subject to colloquial uses and varying understandings. ExxonMobil considers the oil released on March 29, 2013 to be conventionally produced Wabasca Heavy crude. ExxonMobil was advised today by the Government of Alberta's Energy Resources Conservation Board that Canadian producers report their production of Wabasca Heavy as bitumen. As referenced in Response #1 above, the two Canadian producers add condensate as a diluent to the Wabasca Heavy crude in order to meet pipeline specifications.

4. Identify any additional materials, including but not limited to solvents, additives or other diluents, that were mixed with this crude prior to and/or at the time of release/discharge on March 29, 2013.

Response #4: Please see EMPCo's Response #1 above, together with the information contained within my April 8th letter, along with the MSDS sheets provided therein.

5. Identify any potentially unique environmental and/or ecological impacts from the oil and/or any additives released/discharged on March 29, 2013.

Response #5: EMPCo is unaware of any environmental and/or ecological impacts from the oil and/or any additives released/discharged on March 29, 2013, other than those impacts which the Unified Command for the Mayflower Pipeline Incident, under the direction of the EPA Federal On-Scene Commander ("Unified Command"), have been addressing since the time of the release.

6. Provide any unique oil spill cleanup strategies implemented by Exxon or its response contractors due to the constituents of the material released/discharged on March 29, 2013.

Response #6: All oil spill cleanup strategies that have been implemented since March 29, 2013 have been made under the direction of the Unified Command. EMPCo has not implemented any

unique oil spill cleanup strategies due to the constituents of the material released/discharged on March 29, 2013, but has employed oil spill cleanup strategies that would ordinarily be done for a crude oil release of this nature and scope.

7. Provide any environmental monitoring and/or sampling strategies implemented by Exxon or its response contractors due to the constituents of the material released/discharged on March 29, 2013.

Response #7: EMPCo has not implemented any environmental monitoring and/or sampling strategies that are specifically due to the constituents of the material released/discharged on March 29, 2013, other than environmental monitoring and/or sampling strategies that would ordinarily be done for a crude oil release of this nature and scope.

8. Provide all analytical results of any samples collected from the pipeline after the release/discharge on March 29, 2013.

Response #8: On March 31, 2013, EMPCo took an oil/water sample from one of the vacuum trucks involved in the clean-up efforts. This sample has been preserved but was not sent for testing in light of how it was obtained. On April 5, 2013, split samples of the crude oil in and around the vicinity of the release point were taken by EMPCo and EPA. EMPCo will provide the analytical results of this April 5 sample upon receipt from the lab.

As mentioned previously, to the extent EMPCo receives further information responsive to the above requests, EMPCo will supplement this response. Please do not hesitate to call me with any questions. Thank you for your consideration and professionalism.

Very truly yours,

Richard E. Byrne

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Enclosure