



Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

June 25, 2020

Mr. Joseph Ogren
Project Manager
ExxonMobil Environmental Services
38 Varick Street
Brooklyn, NY 11222

RE: APPROVAL OF MONITORING REDUCTION AND WELL ABANDONMENT
Case No. 2006-0303-BA
Former Exxon R/S No. 2-8077
14258 Jarrettsville Pike, Phoenix
Baltimore County, Maryland

Dear Mr. Ogren:

The Maryland Department of the Environment's (MDE) Oil Control Program (OCP) completed a review of the *Recovery Well Conversion Report of Results and Work Plan*, dated January 22, 2020. The *Work Plan* includes the results of the last sequential shutdown and conversion of select recovery wells to monitoring wells pursuant to the *Sequential Conversion of Select Wells Report of Results and Proposed Work Plan*, dated March 25, 2019, and MDE approval letter dated May 24, 2019. The proposed *Work Plan* includes the following:

- Dual-Phase Extraction (DPE) system shutdown;
- Sequential recovery well conversion of 16 additional recovery wells; and
- A reduction in groundwater monitoring (i.e., groundwater sampling and/or gauging), select monitoring well abandonment, and the cessation of monitoring at certain wells with retention for post-remedial monitoring (i.e., inactive status).

The MDE approved DPE system shutdown in separate correspondence dated April 21, 2020 and will respond to the request to convert 16 recovery wells separately. This letter specifically responds to the work plan request for the reduction of groundwater monitoring and well abandonment proposal.

The request proposes a reduction in groundwater monitoring (i.e., groundwater sampling and/or gauging), select monitoring well abandonment, and the cessation of monitoring at certain wells with retention for post-remedial monitoring (i.e., inactive status). The proposal is based on the decline of groundwater concentrations, the absence of liquid phase hydrocarbons since 2008, and the cleanup activities conducted since the release at the former gasoline station in 2006.

ExxonMobil's proposal requests the following:

- Abandonment of 86 monitoring wells based on groundwater concentrations that have remained below MDE groundwater standards or state action levels for at least 2 years and are not needed for gauging associated with the development of potentiometric surface maps.
- Conversion of 29 monitoring wells to "gauging only" status and the discontinuation of groundwater sampling based on concentrations remaining below groundwater standards or non-detect for a minimum of 4 years. Gauging will continue at these monitoring wells for potentiometric mapping purposes.
- Reduction in sampling frequency of 84 monitoring wells based on decreasing dissolved concentration trends over several years and the current concentration distribution.

The MDE approves the proposed schedule of monitoring well modifications and proposed abandonment of select wells with the modifications and exceptions provided in the enclosed table. Based on the current land use, the available information reviewed for this case including a review of the monitoring well network construction details, historical and current dissolved phase hydrocarbon concentrations, locations of the monitoring wells relative to remediation wells, and the retention of a comprehensive monitoring well network for continued monitoring during the remainder of cleanup activities and post-remedial monitoring, MDE approves the monitoring schedule with modifications. A summary of the proposed and approved monitoring activities is provided below.

Summary of Proposed/Approved Monitoring Activities and Well Abandonments

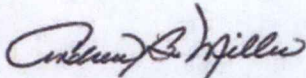
	Current Totals	EM Proposed Totals	MDE Approved Totals
Existing Wells	227	141	188
Monitored	128	101	117
- Quarterly Sampling	102	59	60
- Semi-Annual Sampling	26	28	57
- Annual Sampling	0	14	0
Gauge Only	56	29	26
Inactive Status	43	11	45
Abandoned Wells	82	168	121
Total Wells	309	309	309

The MDE requires that of the **227** wells currently remaining, **117** wells are to be retained for continued monitoring (i.e., sampling and gauging) at specified frequencies, **26** wells are to be retained for gauging only, **45** wells are to be retained in an inactive status (no specified sampling/gauging schedule) for potential future monitoring, and **39** monitoring wells are approved for proper abandonment. For monitoring wells retained for gauging only, MDE may require groundwater sampling in the future as warranted and required for long-term post-operation monitoring.

The monitoring wells approved for abandonment must be properly abandoned by a Maryland-licensed well driller in accordance with all applicable requirements of Code of Maryland Regulations (COMAR) 26.04.04.34-36. Provide copies of the required well abandonment reports to both OCP (Attn: Ms. Ellen Jackson) and the Baltimore County Department of Environmental Protection and Sustainability (Attn: Mr. Kevin Koepenick). Notify OCP at least five (5) working days prior to performing well abandonment activities so OCP staff has an opportunity to observe the work activities.

If you have any questions, please contact Ms. Ellen Jackson at 410-537-3482 or ellen.jackson@maryland.gov.

Sincerely,



Andrew B. Miller, Chief
Remediation Division
Oil Control Program

Enclosure: Current, EM Proposed, and MDE Approved Monitoring Activities

cc: Joseph P. Perez, Esquire, ExxonMobil Corporation
Mr. Mark Schaaf, Kleinfelder East, Inc.
Mr. Kevin Koepenick, Manager, Groundwater Management Section, Balt. County DEPS
Ms. Ellen Jackson, Case Manager, Remediation Division, Oil Control Program
Julie Kuspa, Esquire, Office of Attorney General
Mr. Christopher H. Ralston, Program Manager, Oil Control Program

**Current, EM Proposed, and MDE Approved Monitoring Activities
(Sorted by Well ID)**

Well ID	Current Monitoring Activity	EM Proposed Monitoring Activity	MDE Approved Monitoring Activity	MDE Response
MW- 1A [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 1	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 2A [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 2	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 3 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 4A	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 5	Semi-Annual	Abandon	Abandon	Approved
MW- 6 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 4 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 7 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 8	Gauging only	Abandon	Semi-Annual	Retain for post-op monitoring.
MW- 9	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 12	Gauging only	Abandon	Semi-Annual	Retain for post-op monitoring.
MW- 13P	Gauging only	Abandon	Abandon	Approved
MW- 13 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 14	Quarterly	Abandon	Abandon	Approved
MW- 15	Gauging only	Abandon	Semi-Annual	Retain for post-op monitoring.
MW- 16 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 16R [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 17	Quarterly	Quarterly	Quarterly	Approved
MW- 19 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 20	Gauging only	Gauging only	Gauging only	Approved
MW- 21	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 22 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 23 [R]	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 24	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 25	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 26	Retained	Gauging only	Semi-Annual	Retain for continued post-op monitoring.
MW- 27B	Quarterly	Quarterly	Quarterly	Approved
MW- 27 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 27R [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 28	Gauging only	Abandon	Abandon	Approved
MW- 29	Semi-Annual	Annual	Semi-Annual	Continue semi-annual sampling
MW- 30P	Gauging only	Abandon	Abandon	Approved
MW- 30	Semi-Annual	Annual	Semi-Annual	Continue semi-annual sampling
MW- 32	Quarterly	Quarterly	Quarterly	Approved
MW- 34P	Gauging only	Abandon	Abandon	Approved
MW- 36C	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 36P	Quarterly	Abandon	Abandon	Approved
MW- 36R	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 36	Semi-Annual	Abandon	Semi-Annual	Continue semi-annual sampling
MW- 37P	Quarterly	Abandon	Abandon	Approved
MW- 37 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 38B	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 38C [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 38P	Quarterly	Abandon	Abandon	Approved
MW- 38 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 40	Quarterly	Annual	Quarterly	Continue quarterly monitoring based on detections above action levels.
MW- 41A	Gauging only	Gauging only	Gauging only	Approved
MW- 41B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 41C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 42A	Gauging only	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 42B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring

**Current, EM Proposed, and MDE Approved Monitoring Activities
(Sorted by Well ID)**

Well ID	Current Monitoring Activity	EM Proposed Monitoring Activity	MDE Approved Monitoring Activity	MDE Response
MW- 134A	Retained	Abandon	Abandon	Approved
MW- 134B	Retained	Abandon	Abandon	Approved
MW- 135A	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 135B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 135C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 136	Gauging only	Abandon	Abandon	Approved
MW- 137	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 138D [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 138	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 139	Quarterly	Quarterly	Quarterly	Approved
MW- 140A	Gauging only	Gauging only	Gauging only	Approved
MW- 140B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 142	Gauging only	Abandon	Abandon	Approved
MW- 143	Retained	Gauging only	Gauging only	Retain for post-remedial monitoring
MW- 144	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 145P	Gauging only	Abandon	Abandon	Approved
MW- 146B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 146C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 146	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 150A	Gauging only	Abandon	Abandon	Approved
MW- 151 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 152 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 154	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 156	Retained	Abandon	Abandon	Approved
MW- 157P	Gauging only	Abandon	Abandon	Approved
MW- 159	Quarterly	Annual	Semi-Annual	Continue post-op monitoring
MW- 160	Quarterly	Annual	Semi-Annual	Continue post-op monitoring
MW- 162A	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 162B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 162C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 166A	Gauging only	Gauging only	Gauging only	Approved
MW- 166C	Retained	Retain	Retain	Approved
MW- 167	Semi-Annual	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 168	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 169 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 170 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 171C	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 171	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 176CC	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 176 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 177	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 178A	Gauging only	Gauging only	Gauging only	Approved
MW- 178B	Quarterly	Quarterly	Quarterly	Approved
MW- 178C [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 179A	Gauging only	Gauging only	Gauging only	Approved
MW- 179C	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 180A	Semi-Annual	Gauging only	Semi-Annual	Continue post-op monitoring
MW- 180C	Semi-Annual	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 181A [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 181B	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 181C	Quarterly	Quarterly	Quarterly	Approved
MW- 182	Quarterly	Quarterly	Quarterly	Approved
MW- 183 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 184 [R]	Quarterly	Quarterly	Quarterly	Approved

**Current, EM Proposed, and MDE Approved Monitoring Activities
(Sorted by Well ID)**

Well ID	Current Monitoring Activity	EM Proposed Monitoring Activity	MDE Approved Monitoring Activity	MDE Response
MW- 185 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 186D	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 187A [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 187B [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 187C [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 188D	Quarterly	Quarterly	Quarterly	Approved
MW- 189D (79)	Quarterly	Quarterly	Quarterly	Approved
PW- 3501	Retained	Retain	Retain	Approved
PW- 14311	Retained	Retain	Retain	Approved
SVE- 1 [R]	Quarterly	Quarterly	Quarterly	Approved
SVE- 2 [R]	Quarterly	Quarterly	Quarterly	Approved
SVE- 3 [R]	Quarterly	Quarterly	Quarterly	Approved

**Current, EM Proposed, and MDE Approved Monitoring Activities
(Sorted by Well ID)**

Well ID	Current Monitoring Activity	EM Proposed Monitoring Activity	MDE Approved Monitoring Activity	MDE Response
MW- 77R	Quarterly	Abandon	Abandon	Approved
MW- 78A	Gauging only	Quarterly	Quarterly	Approved
MW- 78C	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 80A	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 80B	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 81	Gauging only	Gauging only	Gauging only	Approved
MW- 82B [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 82D [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 82R [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 82	Quarterly	Quarterly	Quarterly	Approved
MW- 83R	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 83	Gauging only	Gauging only	Gauging only	Approved
MW- 84P	Quarterly	Abandon	Abandon	Approved
MW- 84	Quarterly	Retain	Semi-Annual	Continue post-op monitoring
MW- 85P	Gauging only	Abandon	Abandon	Approved
MW- 85	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 86	Quarterly	Abandon	Abandon	Approved
MW- 87P	Gauging only	Abandon	Abandon	Approved
MW- 87	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 88	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 89 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 90	Quarterly	Abandon	Abandon	Approved
MW- 91C [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 91D	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 91	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 92A	Gauging only	Gauging only	Gauging only	Approved
MW- 94	Gauging only	Gauging only	Gauging only	Approved
MW- 95	Gauging only	Gauging only	Gauging only	Approved
MW- 96A	Gauging only	Gauging only	Gauging only	Approved
MW- 97	Gauging only	Gauging only	Gauging only	Approved
MW- 99A	Gauging only	Quarterly	Quarterly	Approved
MW- 100B	Retained	Retain	Retain	Approved
MW- 101A	Gauging only	Quarterly	Quarterly	Approved
MW- 103	Gauging only	Abandon	Abandon	Approved
MW- 104	Gauging only	Abandon	Abandon	Approved
MW- 105	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 106	Gauging only	Gauging only	Semi-Annual	Continue post-op monitoring
MW- 107	Gauging only	Gauging only	Gauging only	Approved
MW- 108	Gauging only	Gauging only	Gauging only	Approved
MW- 109	Semi-Annual	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 110	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 119	Gauging only	Abandon	Abandon	Approved
MW- 121 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 122	Gauging only	Abandon	Abandon	Approved
MW- 125	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 128C	Retained	Retain	Retain	Approved
MW- 130	Gauging only	Abandon	Abandon	Approved
MW- 131A	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 131B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 131C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 132A	Gauging only	Abandon	Abandon	Approved
MW- 133A	Gauging only	Gauging only	Gauging only	Approved
MW- 133B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 133C	Retained	Retain	Retain	Approved

**Current, EM Proposed, and MDE Approved Monitoring Activities
(Sorted by Well ID)**

Well ID	Current Monitoring Activity	EM Proposed Monitoring Activity	MDE Approved Monitoring Activity	MDE Response
MW- 42C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 43A	Semi-Annual	Retain	Retain	Approved
MW- 43B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 44	Gauging only	Gauging only	Gauging only	Approved
MW- 45P	Quarterly	Abandon	Abandon	Approved
MW- 45 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 45R [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 46	Gauging only	Gauging only	Gauging only	Approved
MW- 47A	Gauging only	Gauging only	Gauging only	Approved
MW- 47BB	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 47C (212.5')	Semi-Annual	Semi-Annual	Semi-Annual	Approved
MW- 48A	Gauging only	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 48B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 48D (229')	Semi-Annual	Abandon	Semi-Annual	Continue semi-annual sampling
MW- 49	Semi-Annual	Abandon	Abandon	Approved
MW- 50B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 50C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 50	Gauging only	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 52	Retained	Abandon	Semi-Annual	Retain for continued post-op monitoring.
MW- 53A	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 53B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 53C	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 54B [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 54C (212.5)	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 54	Quarterly	Quarterly	Quarterly	Approved
MW- 56A	Gauging only	Gauging only	Gauging only	Approved
MW- 56B	Retained	Retain	Retain	Approved
MW- 56C	Retained	Retain	Retain	Approved
MW- 57P	Quarterly	Abandon	Abandon	Approved
MW- 57	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 58P	Quarterly	Abandon	Abandon	Approved
MW- 58R	Quarterly	Abandon	Abandon	Approved
MW- 58	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring
MW- 59A	Semi-Annual	Annual	Semi-Annual	Continue semi-annual post-op monitoring
MW- 59B [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 59D	Semi-Annual	Annual	Semi-Annual	Continue semi-annual sampling
MW- 60	Retained	Gauging only	Gauging only	Approved
MW- 61A	Gauging only	Gauging only	Gauging only	Approved
MW- 61B	Retained	Abandon	Retain	Retain for potential post-remedial monitoring
MW- 63	Gauging only	Abandon	Abandon	Approved
MW- 66	Gauging only	Retain	Retain	Approved
MW- 67	Gauging only	Gauging only	Gauging only	Approved
MW- 68	Gauging only	Gauging only	Gauging only	Approved
MW- 69	Gauging only	Abandon	Abandon	Approved
MW- 71	Gauging only	Abandon	Abandon	Approved
MW- 72	Quarterly	Annual	Semi-Annual	Continue post-op monitoring
MW- 73C	Quarterly	Quarterly	Quarterly	Approved
MW- 73	Gauging only	Gauging only	Gauging only	Approved
MW- 74 [R]	Quarterly	Abandon	Abandon	Approved
MW- 75 [R]	Quarterly	Quarterly	Quarterly	Approved
MW- 76P	Gauging only	Abandon	Abandon	Approved
MW- 76	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 77A	Quarterly	Semi-Annual	Semi-Annual	Approved
MW- 77B	Quarterly	Abandon	Semi-Annual	Continue post-op monitoring