



October 15, 2024

Eric Krueger
DEQ Petroleum Tank Cleanup Section
655 Timberwolf Parkway, Suite 3
Kalispell, MT 59901

Subject: Work Plan for Monitoring Well and Soil Vapor Probe Abandonment for the Petroleum Release at the Martinson Residence, 240 Park Avenue, Whitefish, Flathead County, Montana, Facility ID 60-15308 (TID 310007), Release 5215, Work Plan 34939

Dear Eric,

Water and Environmental Technologies (WET) is pleased to submit the enclosed DEQ AC-08 Form and associated work plan budget. The Montana Department of Environmental Quality (DEQ) requested a work plan in a letter dated September 20, 2024. As indicated in the attached documentation, the property owner has elected to abandon the monitoring wells and vapor probes.

WET will utilize MWC Viking Pump (or other licensed contractor) to complete monitoring well abandonment, which will be conducted in accordance with Administrative Rules of Montana ARM 36.21.810. Bids were not solicited as subcontractor costs will be \$2,500 or less. If possible, the well casing will be removed, and the borehole will be sealed with $\frac{3}{4}$ bentonite chips to within three feet of ground surface. The vapor probes will be removed and vapor probe boreholes will be sealed with granular bentonite to within 3 feet of ground surface. The flush-mount well vault and flush mount vapor probe vaults will be removed and the ground surface will be restored as a lawn by replacing the void left by the vaults with topsoil, leveling the area to the surrounding ground surface, and spreading grass seed. It is anticipated that work will be completed within six to eight weeks of receiving the DEQ work plan approval letter. WET will provide field oversight of well and vapor probe abandonment activities and site restoration and complete a summary report.

The following attachments are provided:

Form AC-08 – Monitoring Well Abandonment Work Plan
Project Cost Estimate

If you have any questions regarding this submittal or any of the supporting documents, please reach out to me via email at jgraham@waterenvtech.com or phone at (406) 309-6085.

Sincerely,

A handwritten signature in cursive script that reads 'Jamie Graham'.

Jamie Graham
Project Hydrogeologist, Water & Environmental Technologies

Form AC-08

Monitoring Well Abandonment Work Plan



AC-08
MONITORING WELL ABANDONMENT WORK PLAN
and BUDGET FORMAT

This Monitoring Well Abandonment Work Plan (WP) is for the routine abandonment of monitoring wells no longer needed for petroleum release investigation or cleanup, or needed by the owner/operator for their own purposes.

Administrative Rules of Montana (ARM) 36.21.810 sets forth the legal requirements for properly abandoning monitoring wells. ARM 36.21.810 is attached and may be found at the following Internet address: http://www.mtrules.org/gateway/RuleNo.asp?RN=36.21.810.

Return this WP to: Petroleum Tank Cleanup Section, Montana Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901. Please note that incomplete and/or unsigned WPs will be returned and may delay processing of claims submitted to the Petroleum Tank Release Compensation Board.

Facility Name Martinson Residence Facility ID# 60-15308 Release # 5215

Facility Address 240 Park Avenue, Whitefish, MT, 59937 (Street) (City) (Zip)

Owner/Operator Name Janet Martinson

Owner/Operator mailing address, if different from above:

Consultant's name, address, and phone number: Water & Environmental Technologies

102 Cooperative Way, STE 100, Kalispell, MT 59901 (406) 309-6085

List monitoring wells by name and number to be abandoned: MW-1, Shallow Vapor Probe, Deep Vapor Probe

List monitoring wells by name and number to be maintained: No wells or vapor probes will be maintained

Specify the method by which the monitoring wells will be abandoned: Casing will be pulled and the borehole will be backfilled with bentonite to a minimum depth of 3 feet bgs. Ground surface will be returned to ground level with topsoil and grass seed will be spread.

Target date for abandonment of the monitoring well(s): December 15, 2024

Unit cost per monitoring well for abandonment (include mobilization, Portland cement, grout or bentonite, equipment, and consultant or contractor labor costs): \$ 5,168.60 /well \$ 323.03 /ft

Total cost of abandoning the above-listed monitoring wells: \$ 5,168.60

* I elect to maintain the monitoring wells located at the above-referenced Facility and will monitor the wells at least every three years and in accordance with applicable requirements of the Montana Department of Natural Resources & Conservation Division.

[X] I elect to abandon the monitoring wells located at the above-referenced Facility and certify that the above-referenced monitoring wells are to be properly abandoned in accordance with the provisions ARM 36.21.810 and other applicable requirements of the Montana Department of Natural Resources & Conservation Division.

[Signature]
(Signature of Facility owner or operator or authorized representative)

10/15/24
(date)

36.21.810 ABANDONMENT

(1) Wells which have not been monitored for more than three years shall be deemed abandoned unless written permission is obtained from the board to maintain the well.

(2) Monitoring wells that have outlived their useful purpose shall be abandoned by one of the following methods:

(a) if the casing and screen are left in place, the casing and screen shall be sealed from the bottom up by the following methods:

(i) using a pump and hose or tremie pipe to conduct the sealing material to the bottom of the well; or

(ii) by filling the casing and screen with bentonite pellets or chips placed in a manner that will prevent bridging. Metal casings shall be cut off three feet below the ground surface and the last three feet backfilled with naturally occurring soils;

(b) the department recommends that the casing be removed in all possible instances. If the casing and/or screen are removed, the hole shall be filled with sealing material, concrete, or bentonite pellets or chips from the bottom up, as the casing and/or screen is removed. From six to three feet from the surface, bentonite shall be added to the well. The last three feet shall be filled with naturally occurring soils;

(c) the sealing material shall be bentonite pellets or chips, bentonite clay grout, neat cement grout, or concrete. The material may contain nonbiodegradable fluidizing admixtures, provided they will not contaminate the groundwater. Sealing materials which settle shall be topped to provide a continuous column of grout to within three feet of the surface; or

(d) other methods for abandonment with prior board approval.

(3) For flowing wells, the abandonment procedures outlined in ARM [36.21.671](#) shall apply.

(4) A properly abandoned well shall not produce water nor serve as a channel for movement of water.

(5) A water well log report, fully describing all abandonment procedures, shall be submitted to the Ground Water Information Center (GWIC) of the MBMG within 60 days of abandoning the well.

History: [37-43-202](#), MCA; [IMP](#), [37-43-202](#), MCA; [NEW](#), 1990 MAR p. 739, Eff. 4/13/90; [AMD](#), 1991 MAR p. 913, Eff. 6/14/91; [AMD](#), 1997 MAR p. 65, Eff. 1/17/97; [AMD](#), 2010 MAR p. 1614, Eff. 7/16/10.

For additional information or requirements for abandoning or maintaining monitoring wells, please contact the Montana Department of Natural Resources & Conservation, Board of Water Well Contractors at (406) 444-6643.