



Petroleum Tank Cleanup Section 2019 Special Legislative Funding - \$1M Project Summary Report

Background

The 2019 Montana Legislature transferred one million dollars from the Petroleum Tank Release Cleanup Fund (PTRCF) to the DEQ Waste Management and Remediation Division's Petroleum Tank Cleanup Section (PTCS) to help address petroleum-tank release sites (Releases) during Fiscal Years 2020 and 2021 (July 1, 2019, through June 30, 2021). This 2019 Special Legislative Funding (SLF) was allocated to PTCS to address Releases where remediation work had not progressed due to lack of financial resources and no readily apparent liable person exists. The PTCS' goals were to investigate, cleanup, and resolve (close) as many Releases as possible. PTCS created a project plan to transparently and fairly allocate the funds to sites where other funding sources were not available.

Project Selection

Funding is limited for cleanup on Releases that are not eligible for the PTRCF, Federal Leaking Underground Storage Tank (LUST) Trust Grant, Brownfields, and/or where owners do not have the ability to pay for cleanup costs not covered by other funding sources. PTCS's backlog of unresolved legacy Releases includes about 570 of the 3,754 Releases confirmed prior to January 2000. These legacy Releases represent a variety of closure challenges including the following: access to the petroleum-contaminated source material to apply effective cleanup, responsible party and property ownership issues, and availability of funding for cleanup. The 2019 SLF was used to investigate, cleanup, and close legacy Releases that may have been PTRCF eligible and needed assistance to meet their co-pay, ineligible for PTRCF reimbursement because they pre-date the PTRCF, owners who do not have an ability to pay for cleanup, or if there was no other funding available and the owner did not meet Montana's definition of an owner or operator.

PTCS experience gained over the last decade with managing multiple funding sources has promoted significant program efficiencies in coordinating cleanups and closing Releases. Improved efficiencies include use of updated investigation and remediation methodologies, completing work on multiple sites using one Task Order, revising procedures, and improved stakeholder outreach and involvement.

PTCS effectively partnered and collaborated with other agencies, DEQ sections, non-governmental organizations, local governments, and the regulated public with a common goal to clean up the environment, protect communities, and redevelop Montana properties.

As an example, DEQ used 2019 SLF in part for a cleanup at the Sweet Peaks Ice Cream facility in Kalispell (Releases 338 and 2716) and collaborated with EPA Brownfields and the PTRCF to remove an underground storage tank (UST), excavate and dispose of contaminated soil, install monitoring wells, and install vent lines to remediate petroleum-contaminated groundwater. Release 2716 is eligible for PTRCF reimbursement and the EPA Brownfields funds from this collaborative effort has been used to meet the PTRCF co-pay requirements. EPA Brownfields funds were also used to remove the UST to gain access to the petroleum-contaminated soil. Release 338 is ineligible for PTRCF reimbursement and the 2019 SLF funding was used to significantly cleanup the petroleum contamination associated with the Releases.

How the Funding Was Spent

Legacy Releases comprised 70 of the 81 Releases addressed using the 2019 SLF; remediation work included on-site remedial investigations and cleanups, and detailed file reviews. The results of this work advanced the remediation of each of the 81 Releases, determined future remediation work required, and resolved seven (7) Releases (Table 1).

The 2019 SLF was used to conduct remedial investigations at 17 Releases (Table 2) and cleanup at three sites (four total Releases). Costs averaged \$42,600 per Release and ranged from \$5,000 to \$58,000 for remedial investigations and from \$62,800 to \$129,500 for cleanup of Releases.

Sixty Release files were reviewed in detail (Table 3), and release closure plans (RCP) were developed for each. Costs averaged \$1,700 per Release for file review and RCP development.

Legacy Releases were addressed by 15 of the 17 remedial investigations including all four (4) cleanups (Table 2), 51 of the 60 Release file reviews (Table 3), and five (5) of the seven (7) resolved Releases (Table 1).

Legacy Releases

DEQ PTCS has about 570 unresolved legacy Releases (as of October 2021). These represent 15% of the 3,754 Releases confirmed prior to January 2000. Over the past 20 years, PTCS has resolved an average of 80 Releases annually. 55% of these closures were legacy Releases. However, investigating, cleaning up, monitoring, and resolving legacy Releases is increasingly challenging due to lack of access to petroleum-contaminated soil and groundwater or other site-specific conditions.

Petroleum-contaminated soil is typically located beneath components of petroleum storage tank (PST) systems, buildings, streets, or other site-specific impediments. Petroleum-contaminated soil remains a petroleum source, leaches to groundwater, and maintains a petroleum-contaminated plume long after leaking components of a PST system have been repaired, replaced, or removed. Consequently, Releases remain unresolved for years or decades because petroleum sources remain inaccessible, remediation options are limited, and natural attenuation is a slow process. However, when a Release site upgrades PST systems or removes buildings, etc. there is a time-limited opportunity to access and cleanup petroleum sources and thereby move a Release toward resolution.

Example: Cleanup (2019) of petroleum-source soil at a legacy Release site...



... followed by redevelopment (2021) of the property as a new retail business



Resolved (Closed) Releases

Seven (7) Releases were resolved using the 2019 SLF. Review of Release files identified three (3) Releases that could be closed without additional work. Four (4) Releases were closed after the remedial investigations were completed and found not to need additional cleanup or monitoring. The seven (7) closed Releases are the following:

Facility Name	City	Release ID	Legacy Release	Remediation Work completed	Resolved / Closed
Former Garth Taylor Residence	Dillon	2167	X	Investigation	X
County Shop Maintenance Yard	Broadus	2894	X	Investigation	X
Judith Basin County Shop	Hobson	5417	X	Investigation	X
Bell Mont Properties	Great Falls	2275	X	Investigation	X
Laurel Dial Exchange	Laurel	3371	X	File Review	X
Bison Ford	Great Falls	4327	-	File Review	X
Billings Met Transit	Billings	4293	-	File Review	X

Remediation Work Performed at Petroleum Release Sites

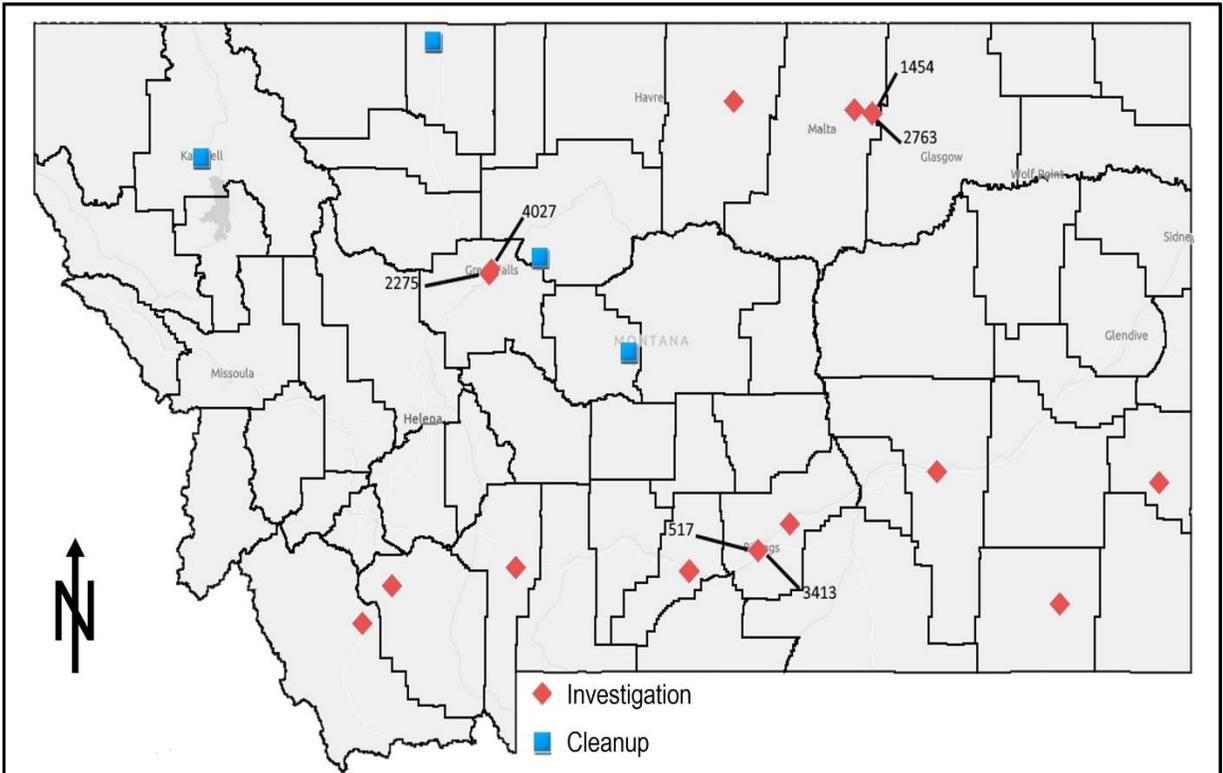
The 2019 SLF was used to perform remedial investigations at 17 Releases and perform cleanups on four (4) Releases (Map 1). The 17 remedial investigations led to resolution of four (4) Releases (Map 2) and recommended cleanup at six (6) Releases, compliance monitoring at nine (9) Releases, and further investigation at two (2) Releases. Three (3) of the four (4) Releases where cleanups were performed are prepared for compliance groundwater monitoring, and one (1) will require additional cleanup work.

The work performed using the 2019 SLF enabled the remaining 16 open Releases to advance to the next stage of remediation, either cleanup or compliance monitoring.

Table 2: Summary of the 21 Petroleum Releases Addressed using 2019 SLF

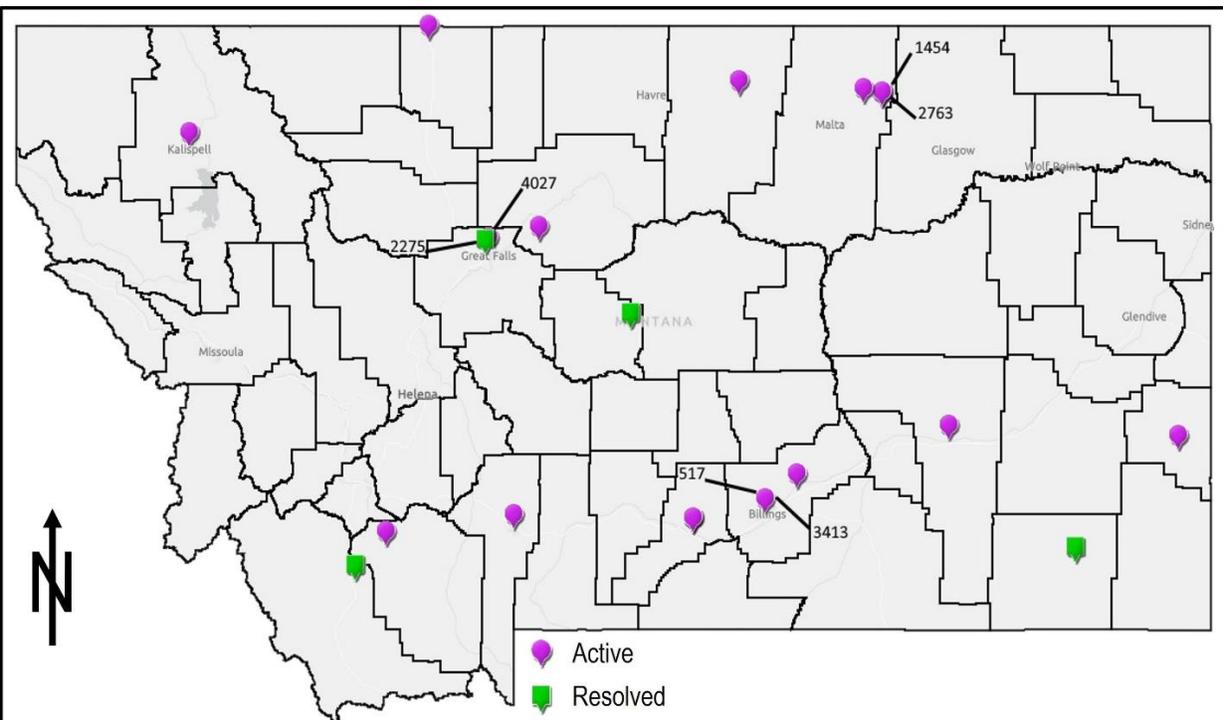
Facility Name	City	Release ID	Legacy Release	Remediation Work completed via 2019 SLF	Future Remediation Work	Resolved / Closed ¹	Summary Page (below)
Sweet Peaks Ice Cream	Kalispell	338	X	Soil Excavation	Monitoring	–	10
Sweet Peaks Ice Cream	Kalispell	2716	X	Soil Excavation	Monitoring	–	10
Former Tom’s Conoco	Billings	517	X	Investigation	Cleanup	–	11
Highwood Service Center	Highwood	692	X	Soil Excavation	Monitoring	–	12
Former Shady Lane Farm	Ballantine	1022	X	Investigation	Monitoring	–	13
Sports Hut	Columbus	1095	X	Investigation	Cleanup	–	14
Former Good Earth Recycling	Forsyth	1424	X	Investigation	Monitoring	–	15
Former Ezzie’s Saco Station	Saco	1454	X	Investigation	Cleanup	–	16
Former Gasamat	Bozeman	1744	X	Investigation	Monitoring	–	17
Former Garth Taylor Residence	Dillon	2167	X	Investigation	–	X	18
Saco Conoco	Saco	2763	X	Investigation	Investigation	–	19
County Shop Maintenance Yard	Broadus	2894	X	Investigation	–	X	20
Former Willard General Store	Willard	3216	X	Investigation	Monitoring	–	21
Big Sky Linen Supply	Billings	3413	X	Investigation	Cleanup	–	22
Sleeping Buffalo Hot Springs	Saco	4246	–	Investigation	Monitoring	–	23
Judith Basin County Shop	Hobson	5417	X	Investigation	–	X	24
Bell Mont Properties	Great Falls	2275	X	Investigation	–	X	25
Western Security Bank	Great Falls	4027	–	Investigation	Monitoring	–	26
Sutas Supply North	Sunburst	3061	X	Soil Excavation	Cleanup	–	27
Ted’s Carwash	Twin Bridges	3404	X	Investigation	Cleanup	–	28
Former Baker’s Service Center, Inc.	Harlem	3779	X	Investigation	Investigation	–	29

¹. Closed releases include releases resolved thru October 2021



2019 SLF – Remedial Investigations & Cleanups
On-Site Work at Petroleum Release Sites

Map 1



2019 SLF – Status of Releases: Active or Resolved
Release Sites after completion of SLF Investigations & Cleanups

Map 2

60 Release Files Reviewed

60 Release files were reviewed, and RCPs were developed for each of the Releases. The table below lists the Releases reviewed, and the next phase of work required. Highlighted releases were resolved without additional remediation work.

Table 3: Summary of the 60 Petroleum Release Files Reviewed using 2019 SLF

Facility Name	City	Release ID	Legacy Release	Remediation Phases Recommended			Resolved / Closed
				Investigation	Cleanup	Compliance Monitoring	
Georgetown Landing	Anaconda	3598	X	X	-	-	-
Universal Tire and Alignment	Baker	3772	X	X	-	-	-
Deaconess Billings Clinic 9th Ave.	Billings	1006	X	X	-	-	-
Broadwater Cenex	Billings	1564	X	X	-	-	-
Sysco Food Services of Montana	Billings	1647	X	X	-	X	-
Prince Inc. Billings	Billings	1808	X	X	-	-	-
Prince Inc. Billings	Billings	3754	X	X	-	-	-
Meridian Exxon	Billings	1949	X	X	-	-	-
Wilcoxsons Ice Cream Billings	Billings	2013	X	X	-	-	-
Pierson Construction Inc.	Billings	2078	X	X	-	-	-
Holiday Stationstore 266	Billings	2612	X	X	-	-	-
Ruan Leasing Co.	Billings	2980	X	X	-	-	-
Former Kwik Way 10	Billings	3160	X	X	-	-	-
Western Sugar Co.	Billings	3256	X	X	-	-	-
3 Gs Convenience Center 27th St.	Billings	3425	X	X	-	-	-
Billings Metropolitan Transit	Billings	4293	-	-	-	-	X
College Exxon Service Station	Bozeman	3383	X	-	-	X	-
Cenex Zip Trip #72	Butte	4397	-	X	X	-	-
Inman Property-Chinook	Chinook	4887	-	X	-	X	-
Clyde Park Hoffman's Machine & Welding & REPA	Clyde Park	1264	X	X	-	-	-
Dale's Conoco	Clyde Park	3013	X	X	-	-	-
7 Day Mart Art is Everywhere	Columbus	3540	X	-	-	X	-
Davey Motors	Columbus	3900	-	X	-	-	-
Indian Health Service 13	Crow Agency	1627	X	X	-	-	-
Indian Health Service 12	Crow Agency	1628	X	X	-	-	-
Trail Exxon Service	Custer	3235	X	X	-	-	-
Schillers Service	East Helena	735	X	-	X	X	-
Greenfields Irrigation District - UST	Fairfield	936	X	X	-	X	-
Richland County S Ellery	Fairview	3053	X	X	-	X	-
Restwel Motel	Forsyth	491	X	X	-	-	-
Top That Eatery Former V 1 Oil Co.	Forsyth	1152	X	X	-	-	-
Oasis BP 2	Great Falls	3302	X	X	-	-	-
Red Door Lounge Inc.	Great Falls	4210	X	X	-	-	-
Bison Ford	Great Falls	4327	-	-	-	-	X

Table 3, continued: Summary of the 60 Petroleum Release Files Reviewed using 2019 SLF

Facility Name	City	Release ID	Legacy Release	Remediation Phases Recommended			Resolved / Closed
				Investigation	Cleanup	Compliance Monitoring	
County Vehicle Fueling Station	Hardin	3766	X	X	-	-	-
Ray's Sports and Western S	Harlowton	1553	X	X	-	-	-
Tom's Body Shop	Harlowton	4990	-	X	-	-	-
Montana Rail Link	Harrison	3963	-	X	-	-	-
Guaranteed Muffler	Helena	4729	-	X	X	-	-
Schwartz Family Trust #4046	Huntery	4046	-	X	-	-	-
Friendly Corner	Hysham	2589	X	X	-	-	-
Fastlane C Stores (KW 15 Laurel)	Laurel	138	X	X	-	-	-
Francis M Mackey Ranch Estate	Laurel	2338	X	X	-	-	-
Interstate Exxon	Laurel	3228	X	X	-	-	-
Laurel Dial Exchange Building	Laurel	3371	X	-	-	-	X
Laurel Conoco Bulk Plant	Laurel	3773	X	X	-	-	-
Blue Sky Distributing	Melstone	2963	X	X	-	-	-
Plains and Prairie IMP	Miles City	812	X	-	-	X	-
Genex Supply and Marketing Miles City	Miles City	1057	X	X	-	-	-
Miles City Livestock Center UST	Miles City	1060	X	X	-	-	-
M and H Gas Miles City	Miles City	2442	X	X	-	-	-
Red Lodge Grizzly Peak Inc.	Red Lodge	824	X	X	-	-	-
Uncle Miltys Drive In	Red Lodge	3133	X	X	-	-	-
Conoco Convenience Center	Roundup	3082	X	X	X	-	-
Genex Harvest States Bulk Facility (CHS)	Sidney	3671	X	X	-	-	-
Genex Bulk Plant	Twin Bridges	715	X	X	X	-	-
Twin Bridges District Madison Co	Twin Bridges	764	X	X	-	-	-
Rabe's Auto Repair	White Sulphur Springs	2292	X	X	X	X	-
The Corner Store Whitehall	Whitehall	1984	X	X	X	X	-
Ehlert Brothers Service Center	Winifred	4228	X	X	X	X	-

Remediation Project Summaries



Sweet Peaks Ice Cream (Former Classical Gas)

Kalispell, Flathead County

Facility ID 15-04894 - Release IDs 338 and 2716

The Sweet Peaks Ice Cream (Former Classical Gas) facility is located at 343 S. Main Street, Kalispell. The Facility was a service station that operated since the 1940's and has had at least three separate underground storage tank (UST) systems with associated dispenser islands. The first release, Release 338 was confirmed in 1990 based on the results of a water sample collected from the sump of an adjacent building. The system was replaced, and Release 2716, was confirmed in 1995 when petroleum contamination was found during the removal of two USTs. Since the initial release confirmation, seven monitoring wells have been installed (five of which are still active), and groundwater has been monitored. The existing UST has been in official "inactive" status since 2006.

DEQ used the 2019 SLF in conjunction with funds from both the EPA Brownfields and Montana Brownfields 128(a) Programs and PTRCF to remove the inactive UST, excavate accessible petroleum contaminated soil, dispose of excavated soil at the Flathead County Landfill, collect confirmation soil samples, install/replace monitoring wells, and install passive vent lines to remediate potentially petroleum contaminated groundwater that may accumulate in the backfill.

Removal of the inactive UST and associated dispensing equipment have revitalized the site. UST removal made petroleum contamination accessible for remediation. The excavation effectively removed petroleum contaminated soil from under and adjacent to the inactive UST. Removal of petroleum contaminated soil reduces risk to human health and the environment and will expediate the attenuation of petroleum contamination in groundwater. Installation of the passive vapor vent system will further facilitate the attenuation of petroleum contamination in groundwater. Release 2716 is eligible for PTRCF reimbursement and the Funding from this collaborative effort has been used to meet the PTRCF co-pay requirements. Release 338 is ineligible for PTRCF reimbursement and the SLF Funding was used to significantly cleanup the petroleum contamination associated with the releases.

Photograph of partial excavation of the Sweet Peaks Ice Cream (Former Classical Gas) facility.



Former Tom's Conoco
Billings, Yellowstone County
Facility ID 56-06969 - Release ID 517

The Former Tom's Conoco operated as a service station from 1957 to 1998 with underground storage tank (UST) and dispenser systems for retail gasoline and diesel. The USTs were replaced in 1988; however, no cleanup confirmation samples were required at that time. Installation of wells in 1992, during an investigation of an adjacent facility, discovered petroleum-contaminated soil on Tom's Conoco Facility. That contamination was attributed to the USTs removed in 1988. The last UST systems were removed in 1998. The extent and magnitude of petroleum contamination to soil and groundwater remained undetermined. The Facility has been an auto repair shop and currently an electrical contractor's shop.

The Release was determined ineligible for PTRCF reimbursement because the Release occurred prior to the establishment of the PTRCF. The current property owner did not own or operate the Facility's former UST systems.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at this site. The results and laboratory analytical data from this investigation demonstrate that cleanup – excavation and removal of petroleum-source soil – followed by compliance monitoring are required to move the Release toward closure. DEQ is now working with the owner to prepare a cleanup plan for this Facility using LUST-Trust funding.



DEQ's contractors use a truck-mounted auger rig to install a soil boring and monitoring well at former dispenser location on the south side of Tom's Conoco. View is toward south; Central Avenue is in background.

Highwood Service Center

Highwood, Choteau County

Facility ID 08-12320 - Release ID 692

The Highwood Service Station is a former fueling station on the main highway through Highwood. The Release was discovered in 1991 after an inventory loss of 600 gallons of gasoline occurred from the UST system. In July 1991, two USTs were removed along with an unknown amount of soil and “landfarmed” at the facility. Despite the excavation, petroleum contaminated soil and groundwater remained.

The site was deemed not eligible for PTRCF reimbursement in 1998 and the original owner has since passed away. An investigation utilizing 2017 SLF included the installation of five soil borings completed as monitoring wells. An additional investigation was required in 2019 to completely define the extent of petroleum contamination in soil and groundwater.

DEQ used the 2019 SLF to excavate and treat 725 cubic yards of contaminated soils and install five additional groundwater monitoring wells. The post excavation groundwater sampling conducted in November 2020, indicates that all contaminated soils have been removed to the extent practicable and only additional groundwater monitoring will be required in the future until closure.

Photo of stained soils in former UST basin.



Photo post-excitation looking North.



Shady Lane Farm

Ballentine, Yellowstone County

Facility ID 56-04699 -Release ID 1022

The Shady Lane Farm is located about 2.5 miles southwest of Ballantine. The Facility – established as a residence and small farm of about 25 acres – operated an UST for gasoline and an aboveground storage tank (AST) for diesel. The Release was discovered in 1991 when petroleum-contaminated soil was found beneath the gasoline tank during removal of the Facility’s UST and AST systems. About 120 cubic yards of contaminated soil were excavated and remediated at a nearby offsite landfarm. A limited investigation of the Release in 1992 indicated petroleum-contaminated soil and groundwater remained around the former gasoline UST location. The extent and magnitude of petroleum contamination to soil and groundwater was not determined.

The Release is eligible for the PTRCF. Prior to this 2020 remediation work, ~\$15,000 of the \$17,500 copay had been met.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at Shady Lane Farm. The results and laboratory analytical data from this investigation indicate the groundwater plume requires some additional monitoring to evaluate pathways for future closure of the Release. Funding from this program has been used to meet the PTRCF co-pay requirements.



DEQ’s contractor operates a Geoprobe® track-mounted drill rig to install a soil boring and monitoring well at the location of the former AST basin. View is northward toward the Shady Lane barn and corrals.

Sports Hut

Columbus, Stillwater County

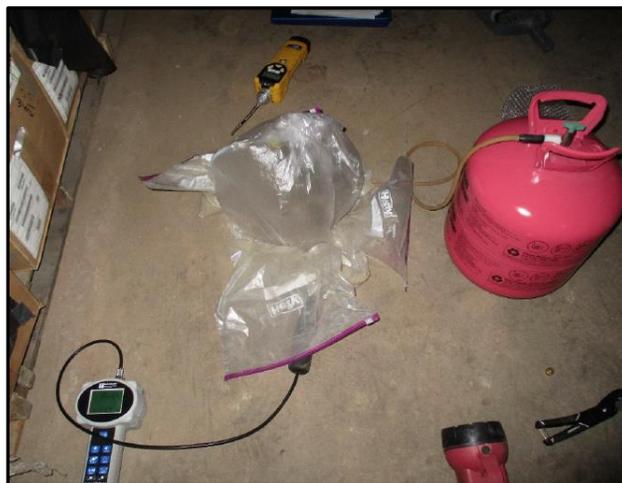
Facility ID 48-12653 - Release ID 1095

The Sports Hut Facility, located in Columbus, operated fuel storage and dispensing from 1973 to 1993. The Release was confirmed when petroleum contaminated soil was found during a water line repair project conducted by Stillwater County in 1987. Follow-up investigations revealed the source of the contamination to be from the USTs on the Sports Hut property. USTs and dispensers were removed in 1993 and the first remedial investigation of the release was completed. About 480 cubic yards of contaminated soil was excavated and disposed in 1987. The water line was replaced in 2012, additional monitoring wells were installed, and groundwater monitoring was completed. Due to a lack of funding, the former tank basin and onsite building were not completely investigated to determine if previous remedial activities were effective.

This Release is statutorily ineligible for PTRCF reimbursement. Additionally, the current property owner did not own or operate the facility's former UST systems.

DEQ used the 2019 SLF to install four soil borings and two additional groundwater monitoring wells. The July 2020 soil and groundwater sampling results indicated that soil and groundwater were impacted by gasoline constituents in wells adjacent to the eastern and southern walls of the Sports Hut building. As such, follow-up work using 2019 SLF was used in 2021 to assess petroleum vapor intrusion risk in the Sports Hut building. The data from the vapor investigation concluded that elevated concentrations of petroleum constituents remain beneath the building's concrete slab. However, indoor air analysis demonstrated that vapors are not presently entering the structure. Based on the available data, recommendations have been made to seal the slab and continue groundwater monitoring. The new property owners are presently engaged in redevelopment of the facility into Columbus' first micro-brewery.

Photo of sub-slab vapor sampling point with helium shroud to monitor cross-contamination.



Former Good Earth Recycling Facility

Forsyth, Rosebud County

Facility ID 44-03470 - Release ID 1424

The Former Good Earth Recycling Facility is located at 880 Front Street in Forsyth on the south side of US Highway 10. The Facility was established in the late 1940s and operated until the late 1970s as a Conoco service station with an UST system consisting of three gasoline USTs, a waste-oil UST, and a dispenser island. Since the gas station closed in the late 1970s, the Facility has been used for storing antique cars, recycling (glass, metal, cardboard), and a workshop.

Release 1424 was confirmed in 1992, during removal of the waste-oil UST on the west side of the service station building when petroleum-contaminated soil was found beneath the tank. The gasoline USTs were removed from the east side of the building circa 1987 prior to UST regulations. DEQ reviewed the available data from a limited remedial investigation conducted during the mid-1990s and determined the Release could not be resolved because the extent and magnitude of petroleum contamination to soil and groundwater was not adequately investigated. The Release is eligible for reimbursement from the PTRCF. Prior to this 2020 remediation work, ~\$6,500 of the \$17,500 copay had been met.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at this site. The results and laboratory analytical data from this investigation indicate the petroleum-contaminated soil and groundwater is limited to the vicinity of the former waste-oil UST. Additional groundwater monitoring is required to determine whether petroleum-compounds are leaching to groundwater, or the plume is naturally attenuating. Results of future monitoring will determine if additional cleanup of the waste-oil UST area is required to resolve this release. Funding from this program has been used to meet the PTRCF co-pay requirements.



DEQ's contractor operates a Geoprobe® track-mounted drill rig to install soil boring and monitoring well between former dispenser island (lower-right of view) and former UST basin (left of view) northeast of the facility building. View is toward the southwest.

Former Ezzie's Saco Station
Saco, Philips County
Facility ID 36-06672 - Release ID 1454

The Former Ezzie's Saco Station is located at the intersection of US Highway 2 and Highway 243 in Saco. The release was confirmed in 1992 when petroleum-contaminated soil was found during the removal of an UST system at the facility. This property has changed hands twice since the release was confirmed. Investigations were completed between 1997 and 2006. About 150 cubic yards of petroleum-contaminated soil were excavated during highway and sidewalk construction activities in 2003.

DEQ used the 2019 SLF to advance nine (9) soil borings, five (5) of which were completed as monitoring wells. Subsurface soil samples were collected during boring installation to assess the magnitude and extent of petroleum contamination in soil. Groundwater samples were collected from the one existing monitoring well and the five (5) new monitoring wells to assess the petroleum impact to groundwater.

The investigation identified the magnitude of petroleum contamination in soil and groundwater at the former UST and dispenser areas and the area to the east. Additional investigation is needed to determine the extent of petroleum contamination and determine remediation options for the site. This release is eligible for PTRCF reimbursement and the funding from this program has been used to meet the PTRCF co-pay requirements.



Image of Former Ezzie's Saco Station from Google Street View. Building shown in run-down condition and property underutilized due to presence of petroleum contamination. Building has been removed. Remedial investigation identified the magnitude of contamination and will facilitate selection of remedial technology to revitalize the site.

Former Gasamat
Bozeman, Gallatin County
Facility ID 16-08811 - Release ID 1744

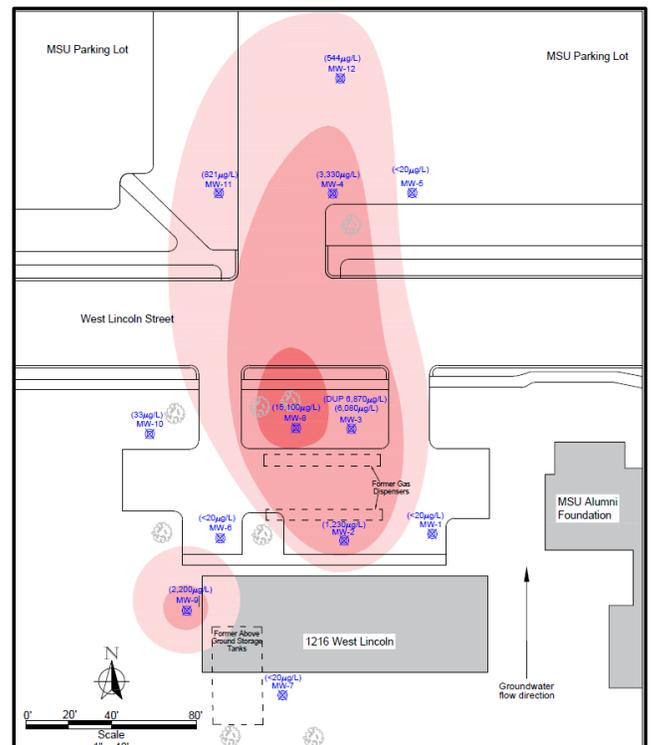
The Former Gasamat Facility is located on West Lincoln Street in Bozeman and is surrounded to the south, east, and west by commercial businesses and Montana State University (MSU) parking lots and dormitories to the north across Lincoln Street.

In 1981, the Release was discovered when gasoline appeared in drains beneath Hedges North and South dormitories at MSU. Gasoline vapors were also noted in the buildings. A pressure test of underground storage tanks (USTs) and piping at the Gasamat indicated that underground piping was the source of the gasoline release. The station was closed in February 1981 and a trench was installed between the Gasamat and Hedges South to recover free product. Corrective action efforts were successful at mitigating the petroleum vapor intrusion at the residence halls. The Gasamat station was subsequently dismantled later in 1981 and gasoline impacted soils remained under a fuel line. Additional investigations occurred in 1993, 2013, and 2014.

The Release was not eligible for PTRCF reimbursement because it occurred prior to the establishment of the Fund. The property has been bought and sold several times since the Release was reported in 1981.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at this site. The May 2020, soil and groundwater sampling results indicated that soils do not exceed Montana’s Risk-Based Screening Levels (RBSLs), however groundwater continues to exceed RBSLs and Human Health Standards. An RCP was also completed as part of the investigation and DEQ is currently working with MSU to determine if a petroleum mixing zone (PMZ) closure could be pursued for the Release. If a PMZ closure is not feasible the release will go into a long-term monitoring plan. The release has been fully investigated and cleaned up to the maximum extent practicable.

Photo: Benzene plume boundary (indicated in pink) shows contamination persists in groundwater at the facility and extends onto MSU property.



Former Garth Taylor Ranch
Dillon, Beaverhead County
Facility ID 01-07046 – Release ID 2167

The Former Garth Taylor Ranch is located about 5 miles north of Dillon on Montana Highway 91 North in Beaverhead County. The site is a 1-acre parcel surrounded by farmland. This release was confirmed in 1992 when petroleum-contaminated soil was found during the removal of two 500-gallon USTs that were removed from the north portion of this property. No additional work had been conducted at the site. The current property owners have lived there since 2015 and never owned or operated the former USTs.

DEQ used the 2019 SLF to install five soil borings to investigate the remaining petroleum-contaminated soil in the former UST location. The May 2021 soil sampling results were below Montana cleanup standards.

The release was reviewed by DEQ and approved for closure in July 2021.

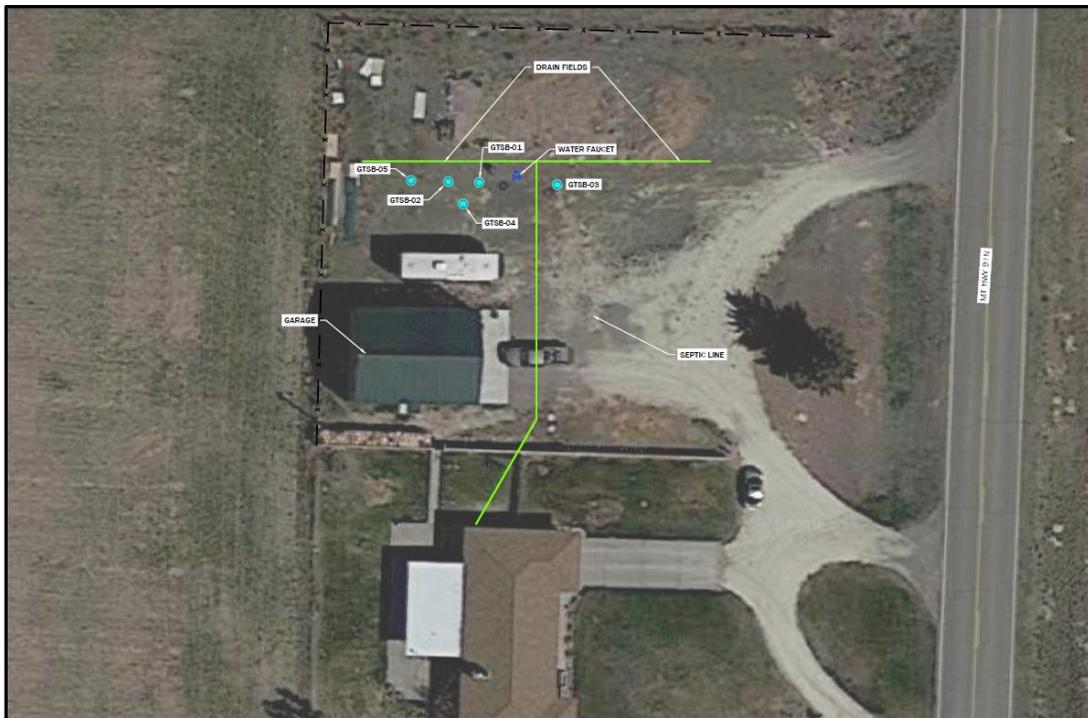


Photo: Aerial view of the former Garth Taylor Facility showing the location of the soil borings (teal-colored dots) installed during the 2019 remedial investigation in the former underground storage tank area.

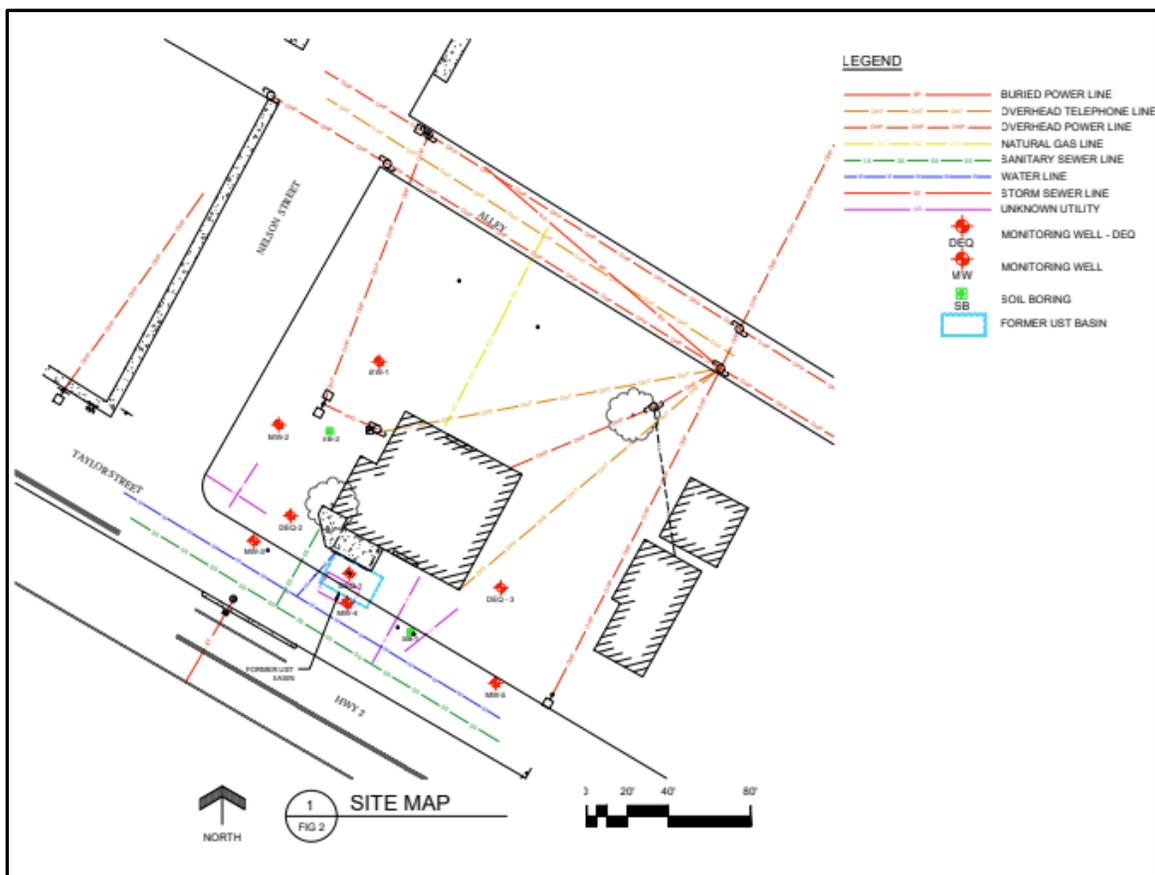
Former Saco Conoco

Saco, Philips County

Facility ID 36-00573 - Release ID 2763

The Former Saco Conoco Facility is located at 303 Taylor Street (Highway 2) in Saco. The property is no longer an active service station, and the on-site building is used as a residence. Nine USTs and associated product piping were removed in October 1995, at which time a release was confirmed. Approximately 80 cubic yards of petroleum contaminated soil were excavated and treated by landfarming. An investigation utilizing legislative funding was conducted in 2016 that included the installation of three soil borings completed as monitoring wells. Petroleum contamination in groundwater had been confirmed and the extent of which remained undefined.

DEQ used the 2019 SLF to install seven soil borings and five additional groundwater monitoring wells. The July 2020, soil and groundwater sampling results indicate that additional assessment and remediation of both soil and groundwater will be necessary in the future to resolve this release. This release is eligible for PTRCF reimbursement and the costs to complete this phase of assessment allowed the PTRCF deductible to be met.



County Shop Maintenance Yard

Broadus, Powder River County

Facility ID 38-00548 - Release ID 2894

The County Shop Maintenance Yard (Facility) is located at 3 County Shop Road on the eastern side of US Highway 212 about 1/2 mile south of Broadus. The Facility – a property more than 30 acres – is owned and operated by Powder River County as an equipment maintenance shop, storage yard, and fueling facility.

Release 2894 was discovered in 1996, when diesel-saturated soil was found on the ground surface near the 5,000-gallon underground storage tank (UST) operated at the Facility. About 10 to 25 cubic yards of diesel-contaminated soil were removed and remediated at an on-site land farm. Confirmation soil samples were collected from the excavation; however, no laboratory data were available for DEQ to evaluate the cleanup status of the petroleum-contaminated soil and resolve the Release.

The Release is eligible for reimbursement from the PTRCF. Prior to this 2020 remediation work, \$0 of the \$17,500 copay had been met.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at the Facility and monitor the soil-remediation status of the land farm. The results and laboratory analytical data from this investigation indicate the following: petroleum-contaminated soil is limited to a small surface area around the currently operated diesel dispenser; concentrations of diesel-associated compounds in the soil do not exceed site-specific RBSLs; and petroleum compounds do not contaminate groundwater.

DEQ reviewed the 2020 investigation results and resolved Release 2894 in September 2021.



DEQ’s contractor installed a monitoring well near the Facility’s water supply well to evaluate potential groundwater plume. The old shop building is in background. View is northward toward Powder River Valley.

Former Willard General Store
Willard, Fallon County
Facility ID 13-02181 - Release ID 3216

The Former Willard General Store is located at 12 East Willard Road about 12 miles south of Baker and about 500 feet east of Montana Highway 7. The Facility was established during the early 1900s as a general store and residence. By the 1940s, Willard General included a post office and sometime later a small gasoline storage tank and dispenser. A suspected leak at the gasoline UST was reported to DEQ in 1996; and gasoline-contaminated soil was discovered in 1997 during the removal of the 550-gallon gasoline UST. The UST area was excavated through the apparent zone of petroleum contamination and about 20 cubic yards of gasoline-contaminated soil were excavated and remediated at an onsite landfarm; however, the extent and magnitude of contamination to soil and groundwater were not determined in 1997.

The Release was determined ineligible for PTRCF reimbursement in 1997. The current property owners did not own or operate the Facility's former UST system. The Facility is now a private residence.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at this site. The results and laboratory analytical data from this investigation indicate that residual gasoline-contaminated soil is present at depths 17 to 25 feet beneath the former gasoline UST and at that depth it extends more than 30 feet to the east. The extent of soil contamination southward from the former UST basin toward the facility building could not be determined due to limited accessibility. The analytical data for soil samples demonstrate there are no risks for direct contact or leaching to groundwater.

However, the proximity of the facility building and residence to the residual petroleum-contaminated soil beneath the former UST poses a potential vapor-intrusion threat. Additional soil borings are required along the building foundation to evaluate the risk of petroleum-vapor intrusion before the Release can be resolved.



DEQ's contractor operates a track-mounted drill rig to install soil borings in former UST basin at front of the Willard General Store building (now residence). View is to east along the former Main Street.

Big Sky Linen

Billings, Yellowstone County

Facility ID 56-04214 - Release ID 3413

Big Sky Linen is an industrial laundry facility located at 715 Central Avenue in Billings. The Facility operated an UST system from 1985 to 2009 in the parking area north of their building. The Release was discovered in 1998 when petroleum-contaminated soil was found during replacement of the initial UST. About 40 cubic yards of contaminated soil were removed from the UST basin and a replacement UST was installed in the excavation. The replacement UST was removed in 2009, and the extent and magnitude of petroleum contamination to soil and groundwater remained undetermined.

The Release is eligible for reimbursement from the PTRCF. Prior to this 2020 remediation work, \$0 of the \$17,500 copay had been met.

DEQ used the 2019 SLF to evaluate the extent of soil and groundwater contamination at this site. The results and laboratory analytical data from this investigation demonstrate excavation and removal of petroleum-source soil at the former UST basin is required to clean up the petroleum contamination that remains a risk for direct contact and leaching to groundwater. The groundwater plume may extend offsite at the eastern property boundary; residential property to the east may overlie the plume. Additional investigation of the plume extent, evaluation of petroleum-vapor intrusion threat to down-gradient structures, and compliance monitoring are required to move the Release toward closure.



Drill core of subsurface soil collected from a soil boring illustrating petroleum-contaminated soil. The left half of core sample (black) has a heavy petroleum stain, and the right half (gray) has a lighter petroleum stain.

Sleeping Buffalo Hot Springs Resort

Saco, Philips County

Facility ID 36-06664 - Release ID 4246

The current owner of the Sleeping Buffalo Hot Springs Resort (Facility) has refurbished and restored the hot springs resort as a destination for tourists and recreationists. Release 4246 was discovered in 2001, under previous ownership when two gasoline USTs were removed from the Facility. In 2011, approximately 200 cubic yards of contaminated soil were removed and treated at an offsite landfarm. In 2012, DEQ approved a work plan to conduct a remedial investigation, but the previous owner was unable to complete the work due to lack of funds. The property was transferred through foreclosure and transferred again to the current owner. In June 2015, an additional 480 cubic yards of petroleum-contaminated soil were removed, and additional monitoring wells were installed. Results of a 2019 groundwater sampling event indicated the groundwater plume was not completely defined onsite or offsite.

DEQ used the 2019 SLF to completely define the petroleum impact to groundwater and determine risks to domestic and public supply wells at the Facility. The April 2021 groundwater sampling results indicate that not only is the groundwater plume defined but due to the two previously conducted excavations, groundwater contamination has attenuated naturally to a level where closure of the release may be possible in a year or two. This release was deemed ineligible for PTRCF reimbursement.



Sleeping Buffalo Hot springs resort looking northward

Former Judith Basin County Shop

Hobson, Judith Basin County

Facility ID 23-08390 - Release ID 5417

The Former Judith Basin Co. Shop is located on Central Avenue in Hobson, Montana. The site is bordered to the south by additional parcels of the former county shop, including the old county warehouse Quonset hut. The site is bordered to the north and east by 1st Avenue South and Central Avenue, respectively. Two private residences are located to the west of the property.

The Judith Basin County Shop operated fuel storage and dispensing from 1956 to 1993. Following Judith Basin County Shop ownership, the site sat empty with multiple owners until August of 2019, when the current owners purchased the property from the Twisted Sisters Barber Shop.

Release 5417 was reported to DEQ on October 3, 2019, when petroleum contamination was reported during a domestic well drilling project. A review of historical records indicate that the subject contamination was first discovered in May of 1986 when petroleum-contaminated groundwater was formerly detected in the Barber Shop’s nearby domestic well. The source of the contamination was traced back to a buried leaking pipe union in the product line of the above-ground diesel tank at the Judith Basin County Shop. Shortly after release discovery, the piping was replaced, and the tank continued operation. By 1993 the County Shop discontinued use of the facility and all aboveground and underground storage tanks, piping, and dispensers had been removed from the property. No additional investigation, remediation, or monitoring of petroleum contamination related to the 1986 diesel release occurred between petroleum system shutdown in 1993 and 2019. In response to the domestic well installation complaint in 2019, DEQ requested additional investigation of soil and groundwater to assess risks.

DEQ used the 2019 SLF to complete an investigation of the petroleum contaminated soil and groundwater. The July 2020 sampling results indicate petroleum impacts in soil and groundwater have attenuated to below DEQ’s RBSLs and Human Health Standards. This Release was statutorily ineligible for PTRCF reimbursement, and the current owner never operated the fueling systems.

Release 5417 was closed in September of 2020.

Photo: Judith Basin County Shop map with groundwater contours and wells

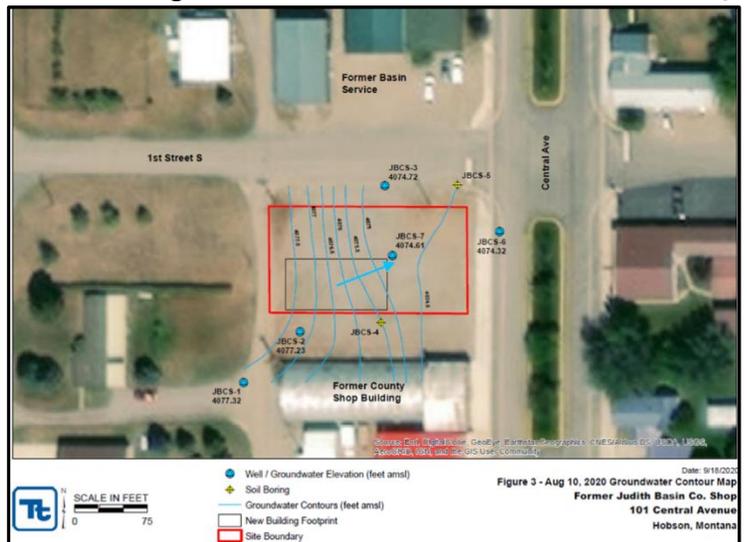


Figure 3 - Aug 10, 2020 Groundwater Contour Map
Former Judith Basin Co. Shop
101 Central Avenue
Hobson, Montana

Petroleum Tank Cleanup Section

Bell Mont Properties

Great Falls, Cascade County

Facility ID 07-05800 – Release ID 2275

The Bell Mont Properties (Facility) is located at 1340 13th Avenue SW in Great Falls at an industrial area about 350 feet south of the Sun River. The Facility was established in the mid-1950s and operated since then as a trucking freight transfer service. An above-ground storage tank (AST) system – used to store and dispense diesel fuel for the truck fleet – was installed during the mid-1950s and operated until March 1990. Bell Mont Properties purchased the Facility in September 1990 and did not operate the AST system.

The AST system was removed in 1994 and Release 2275 was confirmed when subsurface petroleum-contaminated soil was found beneath the underground piping connecting the dispenser and tank. Approximately 15 cubic yards of petroleum-contaminated soil were removed and disposed at the High Plains Sanitary Landfill. A remedial investigation conducted during the mid-1990s determined the extent and magnitude of petroleum impacts to soil and groundwater via four soil borings with three completed as monitoring wells. Several years of compliance monitoring demonstrated petroleum-contaminated groundwater was limited to a single well; but due to a miscommunication, the owner’s consultant abandoned the wells thinking the Release had been resolved. The Release is eligible for reimbursement from the PTRCF; 2019 SLF has been used to meet the PTRCF co-pay.

DEQ used the 2019 SLF to install a temporary monitoring well and collected confirmation soil and groundwater samples in 2020. Laboratory analytical data for these samples demonstrated the petroleum-related compounds were all below DEQ’s RBSLs. DEQ reviewed the investigation results and resolved Release 2894 during 2021.



Western Security Bank
Great Falls, Cascade County
Facility ID 07-11830, Release ID 4027

The former Western Security Bank (Facility) is located at 16 5th Street North within a mixed residential and commercial area in downtown Great Falls. The property is bounded on the north by 1st Avenue North, on the east by 5th Street North, on the west by a parking garage owned by the City of Great Falls, and on the south by an alley separating the Facility from commercial rental space currently housing insurance offices. The property was established in 1921 as a gasoline station and operated until 1966 by the former Johnson's Gasoline Alley. The property was redeveloped as a banking facility in 1966; it is currently operated as a drive-up and walk-up bank owned by Stockman Bank.

Release 4027 was confirmed in 2001 at the Facility during a Phase II Environmental Assessment; and investigation in 2002 documented on-site gasoline-contaminated soil and groundwater.

2019 SLF has been used to meet the PTRCF co-pay.

DEQ used the 2019 SLF to determine the extent of soil and groundwater contamination at this site. Soil borings were installed to collect subsurface soil samples. Groundwater samples were collected from temporary wells and from four existing monitoring wells during 2020. Laboratory analytical data from these soil and groundwater samples demonstrate that gasoline and diesel compounds exceed DEQ's RBSLs. Additional groundwater monitoring has been recommended for the site.



Suta Supply North
Sunburst, Toole County
Facility ID 51-01073 - Release ID 3061

Suta Supply North (Facility) is located at 1st Street NW in Sunburst on the eastern edge of town near the Interstate 15 off ramp. The Facility operated a bulk/retail fuel business. Release 3061 was confirmed in 1996, during upgrades to the Facility's PST system, and operation of the Facility was discontinued in late 1999. The current owner purchased the Facility circa 2009 from the original owner.

Remedial investigations in 2013 and 2014 installed trenches, borings, and monitoring wells to determine the extent and magnitude of petroleum-contaminated soil and groundwater. Laboratory analytical results documented gasoline compounds and some diesel-related compounds that exceeded DEQ's RBSLs.

2019 SLF has been used to meet the PTRCF co-pay.

DEQ used the 2019 SLF to perform cleanup at the Release. Approximately 700 cubic yards of petroleum-contaminated soil were excavated and removed from the Facility during March 2021 and disposed at the North Montana Joint Refuse Disposal District. Several borings and monitoring wells were installed to evaluate residual petroleum contamination. Laboratory analytical data from confirmation soil samples and groundwater monitoring demonstrate that some gasoline compounds and diesel-related compounds continue to exceed DEQ's RBSLs. The RCP identifies that a primary data gap is the lack of plume definition in soil and groundwater. Additional subsurface investigation and groundwater monitoring is proposed to bridge these gaps. Future remedial actions are limited due to site constraints.



Former Ted's Car Wash Facility

Twin Bridges, Rosebud County

Facility ID 28-08832 - Release ID 3404

The Former Ted's Car Wash Facility is located at the southeast corner of Main Street and 3rd Avenue in Twin Bridges. The property was last operated as a service station with an UST system consisting of 2 gasoline USTs (one 1,000-gallon and one 2,000-gallon). The Facility has not dispensed fuel since at least 1978 and the two USTs were closed in place.

Release 3404 was reported when a boring was advanced in the public right-of-way near the northwest corner of the property and benzene was present in the groundwater. At one time, petroleum vapors had been reported in a basement on Main Street.

DEQ has used the 2019 SLF to install eight soil borings and five groundwater monitoring wells. The May 2021, soil and groundwater sampling results indicated that soil and groundwater continue to exceed DEQ's RBSLs and Human Health Standards. Both USTs were also encountered during the investigation. An RCP was completed during the remedial investigation to determine a pathway to cleanup and closure of the Release. The USTs will need to be removed along with contaminated soil, installation of additional groundwater monitoring wells and soil vapor probes, and compliance monitoring.

DEQ is currently assisting the Walker's in applying for PTRCF eligibility. If the release is found eligible the 2019 SLF funds used for the remedial investigation will be applied towards their co-pay.



DEQ Contractor using a Geoprobe® rig to install soil borings at the Former Ted's Car Wash in Twin Bridges.

Former Baker's Service Center, Inc

Harlem, Blaine County

Facility ID 03-04515 - Release ID 3779

The former Baker's Service Center (Facility) is located at 31 Central Avenue East in Harlem. The property was developed as a gas station in the 1920s or 1930s; the Facility began operation as Baker Service Center in 1967. Mr. Baker stopped operating the site as a fueling facility and the USTs were removed in 1999.

Release 3779 (Release) was confirmed in 1999 when petroleum-contaminated soil was found during removal of the UST system. Remediation work conducted between 2001 and 2007 included excavation and removing 60 cubic yards of petroleum-contaminated soil from the UST basin, installing soil-test pits, and wells, groundwater monitoring, and free-product recovery.

2019 SLF was used to meet the PTRCB co-pay requirements. Future work will occur using PTRCB funding.

DEQ used the 2019 SLF to complete an assessment of current site conditions – including groundwater monitoring during February 2020 – to determine a path forward for cleanup and resolution of the Release. Petroleum impacts to soil and groundwater associated with the Release remain above RBSLs. The 2020 laboratory analytical data for groundwater samples demonstrate that concentrations of gasoline-related compounds remain high, several orders of magnitude above DEQ's RBSLs. Petroleum-contaminated soil in the source area likely continues to leach gasoline compounds to the groundwater plume. Additional investigation is required to determine the dimensions of the extent and magnitude of the petroleum contamination. Additional cleanup of petroleum-source soil is required to move Release toward closure.



Photo looking NE towards the former Baker's Service Center